THE PARADOX OF REVOLUTION

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Revolutions are a favorite subject of many modern "committed scholars." The volume of their work, in my opinion, greatly exceeds its penetration. Indeed, it is the purpose of this essay to demonstrate that the image of revolution which we find in the literature (both by the committed scholars and by more traditional scholars) is a false one. I shall also, I hope, demonstrate why this false image is so appealing to intellectuals and historians.

Let us consider, for a start, a very simple situation. Ruritania is governed by a vicious, corrupt, oppressive, and inefficient grovernment. A group of pure - hearted revolutionaries are currently attempting to overthrow the government, and we know with absolute certainty that if they are successful they will establish a good, clean, beneficial, and efficient government. What should an individual Ruritanian do about this matter? He has three alternatives: He can join the revolutionaries, he can join the forces of repression, or he can remain inactive.[1] Let us compute the payoff to him of these three types of action. Equation (1) shows the payoff to inaction. This simply indicates that the payoff is

$$(1) \qquad\qquad P_{In} = p_g .L_v$$

the benefit which he would receive from an improved government times the likelihood that the revolution will be successful. Note that this payoff is essentially a public good. He will, of course, himself benefit from the improved government and he may well benefit from his feeling that his fellow citizens are well - off. But in this case, he will receive no special, private reward.

The payoff for participating in the revolution on the side of the revolutionaries is shown by equation (2). This differs from equation

$$(2) \qquad P_r = P_g .(L_v + L_i) + R_i (L_v + L_i) - P_i [1-(L_v + L_i)] - L_w .I_r + E$$

$$(2a) \qquad P_r = P_g .L_v + P_g .L_i + R_i L_v + R_i L_i - P_i + P_i L_v$$
$$+ P_i L_i - L_w .I_r + E$$

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[1] In the real world, of course, there are various shades between these clear - cut alternatives, but our simplification will cause no great damage.

(1) in two respects. First, the individual's participation on the side of the revolutionaries increases the likelihood of revolutionary victory to some extent, presumably to a very small extent in most cases. Second, the individual now has a chance of reward, perhaps in the form of government office, if the revolution is successful and a chance of being penalized by the government if the revolution fails. Finally, he runs an additional risk of being injured or killed.

Note, however, that generally speaking the individual's entry into the revolution will actually change the likelihood of revolutionary success very little. Indeed, the value of l_i is approximately zero. Assuming this is so, then equation (2) simplifies to the approximation (3).

(3) $P_r \cong P_g \cdot L_v + R_i L_v - P_i (1-L_v) - L_w \cdot I_r + E$

Approximate equation (3), however, shows the total payoff for participation in the revolution. The individual should be interested in the net, i.e., the participation in the revolution minus the payoff he would receive if he were inactive. This is shown by equation (4).[2] It will be noted that

(4) $G_r \cong R_i \cdot L_v - P_i (1 - L_v) - L_w \cdot I_r + E$

the public good aspect of the revolution drops out of this equation. The reason, of course, is that we are assuming that the individual's participation in the revolution makes a very small (in fact approximately zero) difference in the likelihood of success of the revolution.

If this approximate line of reasoning seems dubious, we may go back to equation (2a), rearrange the terms a little bit, and get equation (5) which is an exact rather than an approximate expression. Once again,

(5) $G_r = (R_i + P_i) L_v + (P_g + R_i + P_i) L_i - P_i - L_w \cdot I_r + E$

it is obvious that unless L_i is large (say at least 10 percent of L_v), equation (4) is a very good approximation. What we have been saying is, once again, that the revolution itself is a public good. Individuals, we have known since Samuelson's basic article, are likely to underinvest in production of public goods.

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[2] Note the rather peculiar algebraic role of P_i, the punishment the individual is likely to receive if he participates in the revolution and it fails. Due to the rules of algebra, this turn up as a minus quantity for the entire punishment with certainty, which is offset by a positive figure which is that punishment discounted by the probability of victory. It would be intuitively much simpler if our equation showed this expression in some more lucid way. It is still true, however, that increasing the weight of the punishment, something which is clearly within the control of the government, would greatly reduce G_r.

TABLE OF SYMBOLS 1

Symbol	Definition
D_i	Private reward to individual for participation in putting down revolt if government wins.
E	Entertainment value of participation.
G_r	Opportunity cost (benefit) to individual from participation rather than remaining neutral.
I_r	Injury suffered in action.
L_i	Change in probability of revolutionary success resulting from individual participation in revolution.
L_v	Likelihood of revolutionary victory assuming subject is neutral.
L_w	Likelihood of injury through participation in revolution (for or against).
P_d	Payoff to participation in revolt on side of existing government.
P_g	Public good generated by successful revolution.
P_i	Private penalty imposed on individual for participation in revolution if revolt fails.
P_{In}	Total payoff to inaction.
P_p	Private cost imposed on defenders of government if revolt succeeds.
P_r	Total payoff to subject if he joins revolution.
R_i	Private reward to individual for his participation in revolution if revolution succeeds.

Let us now, however, turn to the opposite possibility – entering the revolution on the side of the government. Equation (6) shows the payoff

(6) $P_d = P_g (L_v - L_i) + D_i [1 - (L_v - L_i)] - P_p (L_v - L_i) - L_w \cdot I_r + E$

for this activity. Note that the individual's intervention by lowering the probability of revolutionary victory lowers the probability that he will receive the public good. Once again, assuming that the individual's participation has very little effect, i.e., L_i is approximately equal to zero, we find equation (7) which corresponds to equation (3), i.e., it is

(7) $P_d \cong D_i \cdot (1 - L_v) - P_p \cdot L_v - L_w \cdot I_r + E$

the net return from participating on the side of reaction. The equivalents of equations (5) and (6) could also be produced easily.

It will be noted that the approximate result we get indicates that the individuals would ignore the public good aspects of the revolution in deciding whether to participate *and* on which side to participate. The important variables are the rewards and punishments offered by the two sides and the risk of injury during the fighting. Entertainment is probably not an important variable in serious revolutionary or counter - revolutionary activity. People are willing to take some risks for the fun of it, but not very severe ones. If, however, we consider such pseudorevolutions as the recent student problems in much of the democratic world, it is probable that entertainment is one of the more important motives. The students in general carefully avoided running any very severe risks of injury or heavy punishment, while the chance of rewards was also very slight because they directed the revolutionary activity toward such institutions as universities where little was to be gained. The fact that E is not readily measurable would raise problems in empirical testing. Fortunately it is a minor factor in serious revolutions. Thus it could be left out in testing the equation.

If we change from our approximate equation to exact equations, it makes really very little difference. Under these circumstances, the public good remains in the equation, but has very slight weight unless the individual feels that his participation or nonparticipation will have a major influence on the outcome. Since most participants in revolution should have no such illusions, it would appear that the public good aspects of a revolution are of relatively little importance in the decision to participate. They should, therefore, be of relatively little importance in determining the outcome of the revolution. The discounted value of the rewards and punishment is the crucial factor.

This is the paradoxical result which gives this essay its title. It immediately raises a number of questions in the mind of any reasonably skeptical scholar. For

example, why is the bulk of the literature of revolution written in terms of the public good aspects rather than in terms of the private rewards to participants if public good aspects are, in fact, so unimportant? Second, may we not have obtained our results by over - simplifying the situation? Third, what is the empirical evidence as to the truth of falsity of what is, so far, a completely *a priori* argument? We shall take these questions up *seriatum.*

Beginning with the question of the image of revolution, we should note that this image is essentially an intellectual one. Consider an historian in his study contemplating the French Revolution. He is not going to be either penalized or benefited by participation in this revolution which happened some two hundred years ago. Under the circumstances, the only things that concern him are its public good aspects. He may have been benefited or injured by the change in society which resulted from the revolution. He surely was not benefited or injured by the system of rewards and punishments for participation in the fighting. The parts of the revolution which concern him, then, are almost entirely the public good aspects. As the potential participant disregards the value of the public good generated because its value falls to nearly zero in his personal cost - benefit calculus, the historian disregards the private payoffs to participants because their value falls to almost zero in *his* calculus. They are costs and benefits for other people, not for him.

Similarly, the reporter filing stories on a revolution or the editorial writer in New York are affected, if they are affected at all, by the public good aspects of the revolution rather than by the private rewards/punishments which might lead to direct participation in the fighting. Putting the matter more directly, each participant or observer is interested in that part of the total situation which is of maximum importance for him. That part which is important for the observer is rarely important for the participant and vice versa.

There is one class of participants who also formally emphasize the public good aspect. A great deal of our information about revolutionary overthrows comes from the memoirs of people who have participated in them, either on the winning or the losing side. These people rarely explain their own participation or nonparticipation in terms of selfish motives. Indeed, they very commonly ascribe selfish motives to rivals or to the other side, but always explain their own actions in terms of devotion to the public good.[3] Thus, they present themselves in the brightest light and their opponents in the darkest. We should not, of course, be particularly surprised by this quite human behavior on the part of these human beings, but we should also discount their evidence.

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[3]It should be noted that a somewhat similar phenomenon affects the nonparticipant observers like scholars and reporters. If they have become partisans of one side, they are apt to accuse the partisans of the other side of having individualistic motives.

If we turn to arguments that are used during the course of a revolution to attract support — either recruits to the fighting or, perhaps, foreign aid — we will normally observe a mixture of appeals to public and private benefits. In general the approach is much like that of the army recruting sergeant. He will undoubtedly tell his potential customers that joining the army is patriotic, etc. He will also tell them a great deal about the material benefits of military service. Indeed, this is a very common practice in all fields of life. I happened one day to be walking through the Marriott Motor Hotel in Washington at a time when they were engaged in instructing new waitresses in their duties. As I walked by, I heard the women who was giving the lecture explaining to them what an honor it was to operate at Marriott, that the customers at Marriott Hotels are superior customers, and that the employees there are generally speaking exceptionally good. This appeal to what we might call the public good aspect of employment is not uncommon in any walk of life.

Since the recruiting sergeants, the people asking for support for (or oppostion to) revolutions, and the Marriott Hotels all make use of this appeal as well as more individualistic appeals, it is clear they have some effect. I would guess, however, that the effect is small. The army, in attempting to attract recruits, puts far more money into the salary of its soldiers than it does into propaganda about patriotism. Still, the joint appeal is sensible; people to some extent are motivated by ethical and charitable impluses.

We have thus explained why the intellectuals and other nonparticipant observers of revolutions normally discuss them almost exclusively in terms of public goods. We have also explained why the participants probably are more strongly motivated by direct personal rewards than by these public goods. I should like to emphasize here, however, that I am not criticizing the intellectuals for their field of concentration. Clearly, if we are evaluating the desirability or undesirability of a revolution in general terms, the public good aspect is the one which we should consider. It is only if we are attempting to study the dynamics of the revolution that we should turn to examination of the utility calculus of the participants. Generally speaking, intellectual observers have been making judgments on the desirability or undesirability of revolution, rather than explaining the revolution. It must be conceded, of course, that in many cases they have attempted to use the public good criteria to explain the dynamics, too. This is unfortunate, but we cannot blame them too much. The public good aspect, for the reason we have given above, dominates the reports of the revolution by historians and reporters. Analysts have been misled by this dominance of public good aspects of the literature. As a result they have been led to believe that it also dominates the calculus of the participants. We should avoid this error.

Thus, if we choose to evaluate revolutions in terms of their general desirability or undesirability, we would look at equation (1). If we are attempting to

understand the activities of the revolutionists and their opponents, we should look at equations (4) and (7). People planning revolution or a counterrevolutionary activity should use equations (4) and (7) in their actual planning and equation (2) in their propaganda.

So much for our first problem. Let us turn to the second problem — the possibility that we have oversimplified the situation. Clearly our equations *are* very simple and it is *a priori* not obvious that we have not left out some important variable. First, we have assumed a very simple revolutionary situation in which a vicious and corrupt government is being attacked by a pure and good revolution. Obviously the real world is not this simple. If we define revolution as a violent overthrow of the government,[4] then it is clear that bad governments have been overthrown by good revolutions and good governments have been overthrown by bad revolutions; but in the overwhelming majority of cases, it is difficult to decide between the two parties. Historically, the common form of revolution has been a not-too-efficient despotism which is overthrown by another not-too-efficient despotism with little or no effect on the public good. Indeed, except for the change in the names of the ruling circles, it would be hard to distinguish one from the other.

In those cases where there is little public good aspect to the revolution, even the historians and observers discuss them in terms of the personal participant's gain. For example, most accounts of the War of the Roses pay little or no attention to the propaganda which was issued by both sides about good government, Christianity, ethics, etc. The only exception to this concerns the very successful propaganda by Henry Tudor about the viciousness of the man he killed at Bosworth Field.

Such revolutions are, of course, the overwhelming majority. If we turn to that more limited number of revolutions where there is a significant change in regime, I think it would be hard to argue that those cases in which the revolution was an improvement outnumbered those in which it was a detriment. In the judgment of most modern editorial critics, the military overthrows of the previous regimes in Greece, Brazil, and Argentina were all distinct reductions in the public welfare of these countries. Whether this judgment is correct or not is irrelevant for our particular purposes. Surely there are, in fact, many cases in which such overthrows are detriments. Further, it seems likely that the mere cost inflicted by the fighting and confusion is quite significant in most cases, and hence one would only favor a revolution for public goods reasons if one felt that the net benefit of the change of regime was great enough to pay this cost.

[4]Some people seem to define "revolutions" as desirable violent overthrows of a government. With this definition, what we are to say below will not follow. Presumably they would be willing to accept some other word to mean violent overthrow of government, regardless of its moral evaluation, and that could be substituted for "revolution" in the rest of our discussion.

Thus our equations as they are now drawn should be modified to indicate that the public good values from the revolution may be negative. If the revolutionary party proposes to put up a less efficient system — let us say it is in favor of collective farming, and we know the historically bad results of that method of running agriculture — then, the public good term in our equations would be negative rather than positive. Again, however, this bit of realism does not detract from the conclusions' which we have drawn. The individuals would participate in the revolution or in its repression in terms of the private payoffs with little attention to the public goods. Reporters, on the other hand, would talk mainly about the public good aspects.

Another aspect in which our equations might be thought to lack realism concerns their generalist approach. The public good in our equations as we have so far interpreted them is a public good for the entire society. Note that this is not a necessary characteristic of the equations. Let us suppose that some particular group within the society has some chance of gaining from the revolution and there is some other group that will probably lose. Here the public good would apply only to these two groups. This, however, would make no difference in our equations. Indeed, in this respect, our equation is very similar to Mancur Olson's analysis of pressure groups in political society.[5] Following Olson, we are in essence espousing the byproduct theory of revolutions.

Another element of possible unrealism in our equations is basic to most discussion of public goods. From the time that Samuelson began the current interest in this field, public goods have been normally analyzed in terms of their private benefits for the individual. Thus, if we regard the police force as a Samuelsonian public good and look at Samuelson's equations, I am benefited by the police force because I do not wish to be robbed, murdered, etc. I do not necessarily take into account the benefit to other people. Clearly, most human beings have at least some interest in the well - being of others and hence this is unrealistic. It is, however, an element of unrealism in almost the entirety of the formal public goods literature and is not confined to our analysis of revolutions alone.

This element of unrealism, however, is not a necessary aspect of the public goods literature. Further, individual scholars have avoided this particular simplification. My benefit from the police force is not entirely represented by the fact that I am protected against various crimes. I may also gain something from my knowledge that other people are also benefited. Clearly, most people are — to at least some extent — interested in the well - being of others.[6] Thus my evaluation of

[5]Mancur Olson, The Logic of Collective Action (Cambridge, Mass.: Harvard Press, 1965).

[6]Perhaps negatively. Kenneth Boulding has done a great deal to call attention to the role of malevolence in human life.

my gain from the revolution would include not only my direct personal gain, but also any pleasure or pain which I receive as a result of interdependence between my preference function and that of others. In this respect, the revolution would be much like any other charitable activity.

The issue here, however, is basically one of size. The scholars who have discussed public goods without paying any attention to this type of interdependence have been simplifying reality, but not by very much. As far as we can see, for most people marginal adjustment between benefit to themselves and the benefit to other people is achieved when something under 5 percent of the resources under their control is allocated to help "others." Thus we could anticipate that individuals might be willing to do something to aid the revolution for reasons of the benefit which this will give to other people, but probably not very much. We have here, however, a difficult empirical problem, the measurement of the degree to which individuals are willing to sacrifice for the benefit of others. The work that has been done so far is not very impressive. Still, it does not seem likely that it is wrong by an order of magnitude and it would have to be wrong by at least that much to make this particular aspect of our equation dangerously oversimplified. Indeed, the equations would not be incorrect even if it turned out that individual evaluation of the well-being of others was very high. It would simply mean that the public good aspect of revolutions would have a larger value than it would if the individual put little weight on the well-being of other persons.

This brings us to our third problem, the empirical evidence. The first thing that should be said is that there have been no careful empirical tests aimed at disentangling the motives of revolutionaries. The literature is overwhelmingly dominated by the "public goods" hypothesis. Indeed, so far as I know, this paper is the first suggestion that it might be falsified. Under the circumstances, it is not surprising that no one has run a formal test.

Furthermore, no one has collected the type of detailed data which would be necessary to test the two hypotheses. It does not seem to me that formal statistical tests would be at all impossible, although they might be difficult. The difficulty would, of course, be particularly strong in the case of unsuccessful revolutions, since few records would have been kept. Still, approximating the ex ante value of the private rewards to be expected from participation in a revolution should not be impossible. It seems to me that such research would be most important and I would be delighted to see someone undertake it.

It is not, however, my intention to engage in such research here. Instead I propose to look rather superficially at the actual history of revolutions and see whether this data seem to contradict or support my byproduct theory of revolutions. First, it must be admitted that most revolutions do have some effect on government policy. The personnel at the top is changed and normally that would

mean at least some change in government policy. It is hard to argue, however, that in most cases this was the major objective of the revolution. In most cases, after all, the new government is very much like the one before. Most overthrows are South American or African and simply change the higher level personnel. It is true that the new senior officials will tell everyone – and very likely believe it themselves – that they are giving better government than their predecessors. It is hard, however, to take these protestations very seriously.

One of the reasons it is hard to take these protestations seriously is that in most revolutions, the people who overthrow the existing government were high officials in that government before the revolution. If they were deeply depressed by the nature of the previous government's policies, it seems unlikely that they could have given enough cooperation in those policies to have risen to high rank. People who hold high, but not supreme, rank in a despotism are less likely to be unhappy with the policy of that despotism than are people who are outside the government. Thus, if we believed in the public good motivation of revolutions, we would anticipate that these high officials would be less likely than outsiders to attempt to overthrow the government.

From the private benefit theory of revolutions, however, the contrary deduction would be drawn. The largest profits from revolution are apt to come to those people who are (a) most likely to end up at the head of the government, and (b) most likely to be successful in overthrow of the existing government. They have the highest present discounted gain from the revolution and lowest present discounted cost. Thus, from the private goods theory of revolution, we would anticipate senior officials who have a particularly good chance of success in overthrowing the government and a fair certainty of being at high rank in the new government, if they are successful, to be the most common type of revolutionaries. Superficial examination of history would seem to indicate that the private good theory is upheld by this empirical data. Needless to say, a more careful and exhaustive study of the point is needed.

Another obvious area for empirical investigation concerns the expectations of the revolutionaries. My impression is that they generally expect to have a good position in the new state which is to be established by the revolution. Further, my impression is that the leaders of revolutions continuously encourage their followers in such views. In other words, they hold out private gains to them. It is certainly true that those people that I have known who have talked in terms of revolutionary activity have always fairly obviously thought that they themselves would have a good position in the "new Jerusalem." Normally, of course, it is necessary to do a little careful questioning of them to bring out this point. They will normally begin by telling you that they favor the revolution solely because it is right, virtuous, and preordained by history.

As another piece of evidence, Lenin is famous for having developed the idea of professional revolutionaries. He felt that amateurs were not to be trusted in running a revolution and wished to have people who devoted full - time to revolutionary activity and who were supported by the revolutionary organization. Clearly, he held a byproduct theory of revolution, although I doubt that he would ever have admitted it.

Last, we may take those noisest of "revolutionaries" — the current radical left students. It is noticeable that these students, although they talk a great deal about public goods, in fact do very little in the way of demonstrating their devotion to such goods. Indeed, the single most conspicuous characteristic of their "revolutionary" activities is the great care that they take to minimize private cost. Always and everywhere, one of the major demands is that no private cost be imposed on unsuccessful revolutionaries by way of punishment. Further, they normally carefully arrange their activities in locations — such as universities — where they feel confident that no great punishment will be imposed upon them. This is in spite of the fact that it is obvious that totally overthrowing *all* of the universities in the modern world would not significantly affect any government. The attack on a university may bring very little benefit — either private or public — but it is also accompanied by very small costs. Indeed, this may be one of the rare cases where the entertainment value of revolution is the dominant motivation.

I should not like to argue that the empirical information contained in the last few paragraphs is decisive. Clearly, however, it does prove that the evidence is not overwhelmingly against the byproduct theory of revolutions. Further, granted the fact that all previous theoretical discussions of revolutions have been based on the public goods theory, it is quite encouraging that material collected by scholars holding this point of view can be used to support the byproduct theory.

In sum, the theoretical arguments for the view that revolutions are carried out by people who hope for private gain and produce such public goods as they do produce as a byproduct seem to me very strong. As of now, no formal empirical test has been made of it, but a preliminary view of the empirical evidence would seem to support the byproduct theory. This, of course, is the paradox. Revolution is the subject of an elaborate and voluminous literature and, if I am right, all of this literature is wrong.