

## Charity and Evolution

Why do people give to charity? Our thesis is that charity is a signal that a person can be trusted in interpersonal relationships. People signal by engaging in socially approved activities at some cost to themselves. We also recognize a “conscience” motivation, where conscience is defined as the internalization of social norms, a desire to follow social rules because one feels better by so doing. Given these motivations, charity has a different meaning in different societies to the extent that social rules vary.

Our thesis differs considerably from the traditional view that charity is determined by altruism, defined as concern for the well-being of others, or in the language of economics, having the utility of others in one’s utility function.<sup>1</sup> We use a somewhat narrower definition, but, in fact, the one that economists operationally employ. Altruism means being concerned with the utility of people who can be directly affected by one’s actions. It thus does not include helping somebody because of the approval of some other person whom one loves.

This standard definition is different from another definition of altruism sometimes used—any action benefiting others at some material cost to oneself. To avoid confusion please remember we are *not* using this latter definition. Given that definition, charity is of necessity altruistic.

The focus of this chapter is this battle of ideas—altruism versus signaling and conscience. It has important consequences not only for charity but for the political behavior we examine in later chapters. We show in this chapter the assorted deficiencies of altruism. Even if it were an important part of individual behavior, it won’t work for contributions to charity because of the free-rider problem. Altruism is not evolutionarily stable. A lot of cooperative behavior cannot be explained by altruism. In contrast, we show that none of these deficiencies are shared by our hypothesized combination of signaling and conscience. We further show that this combination leads to implications that we test in later chapters.

**Altruism versus Self-Interest: The Free-Rider Problem**

Much of the current economic literature on charity is dominated by the issue of how much of charity is attributable to altruism and how much is the result of “warm glow”—some return to the donor other than through altruism. It is generally recognized that altruism by itself cannot explain the totality of charitable contributions. The argument is simple. Altruism implies that an increase in government expenditures in an activity reduces by the same amount charitable contributions for that activity, yet such perfect “crowding out” is not observed. (See, for example, Andreoni 1990.) Suppose, for example, that a person initially gives one hundred dollars to a charity. Then the government taxes that person fifty dollars and uses that money for the same charitable activity. The rational response of that person if he were altruistic would now be to give only fifty dollars to charity. Perfect crowding out should occur. In fact, it does not.<sup>2</sup>

But a far stronger proposition also holds. Altruism, at best, explains only a minuscule amount of charity. If one person helps a poor person, he increases the utility of all others who have that poor person in their utility function. Given widespread altruism, charity is a *public good*. But in the altruism case something more is required to produce the standard free-rider problem associated with public goods. To be even vaguely related to actual behavior altruism must be a very limited kind of altruism. People must value the utility of themselves and their family more than the utility of others. Otherwise, they would make sure that others had more income than they. Given this limited altruism, a person wishes to help the poor only because the marginal utility of a dollar to them is so much higher than the marginal utility of a dollar to that person and his family. While he might also be concerned with the well-being of his fellow donors, this will not be enough to offset his preference that others with the same marginal utility of income as he do the helping in his place. It is this preference that creates a free-rider problem in the public goods case whether one is dealing with a limited altruist or with a totally self-interested person.

To determine the amount of altruistically determined charity, we must guess the percentage of income a typical person would give to a single charity for altruistic reasons if he were the sole contributor to charity. Since that last clause is contrary to fact, such a guess is not easy. Fortunately, the guess does not have to be precise. The actual total charity-to-income ratio is an upwardly biased estimate of the hypothetical ratio for a single charity, if for no other reason than peo-

ple give to many charities. In the United States the actual ratio is less than 3 percent (U.S. Census 1999). As will become obvious below, our case against altruism as the explanation of charity could easily withstand charitable contributions to a single charity in the order of magnitude of 95 percent of income. At that level of giving most donors would become poorer than the beneficiaries they are trying to help. It is not quite clear what actual amount of charity would be produced if this limited altruism were the only source of charity. On the one hand, because of his altruism a person would like to see some charity. On the other hand, because his altruism is limited, he would prefer that others do the contributing. The person would also realize that if others were similarly motivated, the more he contributes to charity, the less others will contribute. The marginal utility of their charitable contributions would fall because this person's charitable contributions would reduce their needs to give to charity.

As in many strategic games, there is no single solution. But, as we shall see below, all the possible solutions are confined to a limited range—somewhere between no charity and some small multiple (in the order of magnitude of 1.03) of the charity that a person who most wants to contribute to charity would contribute if he were the sole contributor to charity.

One possible outcome is no charity. That occurs if everybody simply waits for somebody else to make the first move. However, a person aware of this possible outcome unless he contributes might be willing to make the first move. The most that person will contribute is the amount that makes the marginal utility of his so doing just equal the marginal utility to him of his alternative purchases. But these contributions reduce the incentives of anybody else to make a charitable contribution. The crowding out will not be perfect, as it is in the case of government expenditures that Andreoni (1990) discusses. In the fellow contributors' case other potential donors' real income is increased by one's charitable contributions. Their utility is increased by, say, the poor being better off, because the utility of the poor is in their utility function. These others are, then, faced with the option of giving more to charity (because their utility function would so dictate given their higher income) or waiting for somebody else to do so. The most another person would give would be less than the amount the person who most wants to contribute would give if he were the sole contributor. Suppose this second person does so. That act, then, has the same joint effects as the initial charitable contribution: a crowding out and an increase in real incomes. Others might also give now, but less than

they would have given had current donors not given. But they also might wait for others. At most, this process continues until the pool of potential donors is exhausted. We can show that at most the total amount of charitable contributions will be 3 percent more than the greatest amount any one individual would make if nobody else contributed to charity.<sup>3</sup>

Given the indeterminacy associated with the strategic considerations involved in the private provision of a public good, there are other possible solutions. The solution above is the least egalitarian solution among donors. The most egalitarian solution is one where every donor gives the same amount up to the point that their utility is maximized by the amount of their charitable contributions. We can show that the result of this process is approximately the same as the outcome of the least egalitarian solution.<sup>4</sup> This is far less charity than the total contributions to many specific charities that are many times the average income of the actual donors, so necessarily many times the amount that individuals would wish to contribute to charity for altruistic reasons if they were the sole donor. In 1999 the American Red Cross, for example, collected \$817 million in direct donations (American Red Cross 1999). This is thousands of times greater than the average income of its contributors.

Not only do we expect small total contributions to charity if altruism were the total story. We expect even a smaller amount of contributions attributable to altruism if some charity is generated by warm glow, that is, any motivation other than altruism. A contribution from somebody else has the same crowding-out effect on a person's altruistic charitable contributions whether somebody else made his contributions for altruistic or warm-glow motives (with, of course, the same income effects on the altruistic component). The already insignificant amount of charity that could be attributable to altruism will probably become negligible for all reasonable specifications of altruism.<sup>5</sup>

An obvious objection to this analysis is the question, "How can one donor's charity 'crowd out' another's when for most charities donors do not know how much others give?" First of all, crowding out does not require knowledge of individual contributions, just knowledge of total contributions. So the question has to be rephrased in terms of information about the total contributions of a given charity, rather than individual contributions. While ignorance of total contributions among potential donors is also rampant, it need not be. The expense of including that number in a charitable solicitation is minimal. That charities largely do not do so is evidence that potential donors do not

demand such inclusion.<sup>6</sup> But if altruism were motivating charitable contributions, we would expect all charities to publicize their total contributions.

For the analysis of this section to be relevant, actual crowding out is not required. The analysis only requires potential crowding out if altruism were important. That potential donors do not care about total contributions is further evidence that altruism is not motivating charity.

This analysis requires the hypothetical charity/income ratio for altruistically motivated charity for a person if nobody else contributed to charity. However, for our estimates we used the actual ratio. The absence of much crowding out because of lack of information strongly suggests that the actual ratio is at most biased downward a minimal amount by crowding out.

There are, indeed, some charities, such as the United Way, that do publicize their total contributions. Even in these cases we believe that these charities are not driven to do so by altruistically motivated donor demand. Charities can have another interest in this publicity. With reputationally motivated charity there is likely to be a “bandwagon” effect rather than “crowding out.” Chapter 3 shows that people are sometimes interested in their reputation for trustworthiness *relative* to others. As a result, they want to keep up with others in their charitable contributions. In chapter 3 we develop the necessary theory and present regression evidence that supports the “bandwagon” effect, though, admittedly those tests are not overwhelmingly convincing.

How do we distinguish between donor-demanded disclosure of total contributions for a charity and “bandwagon” reasons for disclosure? For the “bandwagon” effect the important reputational competition is among members of the same group. Donor-demanded disclosure is disclosure about total charitable contributions over all people making contributions. Hence, the “bandwagon” effect predicts disclosure about specific group contributions when such disclosures do not reveal implicitly to others that their group made less contributions. Disclosures about total United Way contributions within a firm fit that bill, since these disclosures are made only to those who work for the firm. So our university tells us what fraction of employees contribute and how much the university has collected, but does not reveal the total contributions in the county.<sup>7</sup>

It should be emphasized that the crowding out whose publicity implications are not observed is the crowding out of one individual’s charity in response to another’s. This is quite different from the possible crowding out of private charity by government. Our theory of char-

ity developed in chapter 3 predicts big differences between the two phenomena. As chapter 3 shows, the “bandwagon” effect is produced by a reputational contest. Individuals vie with one another to be considered more trustworthy. There is no similar reputational contest between individuals and government.

Economists often test for the proportion of altruism to warm glow by looking at crowding out of private charity by government. They usually find some crowding out and conclude that some substantial part of charity must be due to altruism. But this is not good evidence for the existence of altruism. We will see later that this same sort of crowding out is also consistent with our reputational theory of charity. So the presence of crowding out does not confirm the presence of altruism.

Altruism makes another prediction about charity that is inconsistent with the evidence. If altruism motivated charity, it would pay most individuals to give to only one charity. The contribution of any one individual to any one charity is usually a very small part of total contributions to that charity. As a result, the marginal benefit to the cause of the giver’s first dollar of contributions to a charity is virtually the same as the marginal benefit of his last dollar. Suppose, for example, one is providing as much as ten thousand dollars to famine relief in Ethiopia. There are more than ten thousand Ethiopians in approximately the same degree of distress, and a dollar is not going to make that much difference in the marginal utility of dollars to any given Ethiopian.

If, then, a donor were determining his charity by these marginal benefits, it would be in his interest to devote all his dollars to the same cause. The only exception would be the case where his marginal utility of the first dollar from so giving were approximately the same for more than one charity, which one would expect to be a quite unusual occurrence. In fact, people give to many charities—a phenomenon easily explained in terms of the theory developed in chapter 3.

In sum, altruism does not do a very good job of explaining charity.

### **Altruism versus Self-Interest: Evolution**

We have shown in the previous section that if altruism existed, it would not have a significant effect on charity. In this section we show that we would expect evolution to make altruism a very minor phenomenon at best even were there no free-rider problem. That sounds like double kill. But the issue is so important that double kill is well worthwhile.

More importantly, this section also shows that warm glow must be so specified that it is consistent with self-interest in an evolutionary sense.

The paragraph above made an important assumption: that the survival that counts in evolution is individual rather than group survival. Such an assumption accords with the dominant view of sociobiologists that emphasizes individual over group selection. But there is a growing group of sociobiologists who believe that group selection is important.

The advocates of the importance of group selection base their case on the Price equations (Price 1972). In terms of those equations, the amount of group relative to individual selection increases with an increase in two ratios: (1) the ratio of group benefits in survival terms relative to individual benefits in the same terms, and (2) the ratio of intergroup variances in the trait relative to within-group variances. Most of the group selection advocates concede that if groups are just random collections of individuals, then individual selection would dominate because the intergroup variance (a variance of the means) would be small relative to intragroup variances. They find, however, three sources of nonrandomness in the formation of groups.

1. Conformity (Bowles 1998; Boyd and Richardson 1985). There is an obvious self-interest in conformity. But, in criticism, there seems no obvious way in which self-interested conformity generates any behavior that is not self-interested.
2. Assortative interactions (Wilson and Dugatkin 1997). If altruists associated predominantly with altruists, and the relevant group effects are confined to association groups, then one expects group selection to become important. (In terms of the Price equations, the intergroup variance becomes large relative to the intragroup variance.) But altruists will not do as good a job restricting their associations as do self-interested reciprocators. The latter are more motivated to avoid moochers than are altruists, with their love of humanity, including moochers. Not only will self-interested reciprocators do better than altruists in terms of individual survival, but they will form groups with fewer moochers, facilitating group survival of these reciprocators relative to the mixed bag of altruists and moochers.
3. Kin selection (Hamilton 1963). During the hunter-gatherer stage, when man's preferences were evolving, groups were small enough that all members of the group were kin, and so shared genes. Hence, genetic selfishness would generate some

altruism toward members of the group. But can kin selection explain altruism among nonkin, especially nonkin that are strangers to one another? It is this latter kind of altruism that is required if altruism is the motivation for most charity. It would pay hunter-gatherers to vary the altruism by the degree of relationship, rather than treating the group as one homogenous happy family. There surely was far greater altruism within the immediate family than between clan members than between other tribal members than between strangers. It is hard to see how altruism toward strangers can be generated by kin selection.<sup>8</sup>

However, some human and animal behaviors seem difficult to explain except by altruism: volunteer warriors facing high probabilities of death, for example. Two things should be noted, however. First, what one observes is progroup behavior rather than altruism as we define it. As discussed below, there are alternative explanations for progroup behavior. However motivated, though, this progroup behavior would still be bothersome to our approach if it were inconsistent with the evolutionary interests of the individuals engaging in such behavior. But there are genetic returns to warriors: rape and the abduction of women of the enemy and more and better sexual partners within the group. It is not clear, however, that this is enough to compensate genetically for the shorter time period available for the production and raising of children. In any case, we must admit that in terms of the Price equations, there can be circumstances where the group return is so enormous compared to the individual costs, that group selection will operate. The exceptions that we have discussed and these troublesome cases are irrelevant to the issues examined in this book. Charity is not usually defined as aid to relatives and friends.

### **Self-Interest and Conscience**

In the next chapter we develop a simple self-interest explanation for charity. One of the big returns to social interactions is receiving favors from others. To get those favors, one must be considered likely to reciprocate. Charity can increase one's reputation for being trustworthy, that is, likely to reciprocate.

Obviously, reciprocity is not the sole possible return from social interactions. There are emotional returns and costs. We like others to smile at us rather than frown. Yet our emotional responses to others are

closely related to the nonemotional consequences of their behavior toward us. A smile from a boss or a spouse is more important emotionally and otherwise than the same expression from a casual acquaintance. In this context, emotionally controlled behavior might very well lead to similar implications as behavior determined only by nonemotional consequences. Of course, emotions might often be nonfunctional, as Elster (1999) maintains. But since neither Elster nor anybody else has derived any implications from such a position, we have no option but to treat such emotions simply as noise, and to hope that a theory that ignores nonfunctional emotions will successfully predict behavior.

An obvious problem with this explanation is the existence of anonymous contributions, which provide no signal to anybody. The magnitude of anonymous charity can be exaggerated, since there usually is somebody, maybe one's spouse, who knows that one has given to charity. But certainly, there are charitable contributions of which very few people are aware.

Moreover, people believe that charity is not simply a response to "what others think." Morgan (1977) asks: "Do you think a person is likely to give more if the amount he gives is made public?" 45 percent answered "Yes," while 29 percent said, "No," with the rest giving equivocal answers. The way the question is phrased assumes that there is something other than reputation involved in charity. The answers suggest that both reputation and something else motivates charity.<sup>9</sup>

More generally, reciprocal activities are not totally explained by simple self-interest, as most economists use that term. Fehr and Gächter (2000) provide an excellent summary. So, for example, they construct a one-shot experimental employer-employee game where it is in a rational employer's interest to pay low wages (because of excess labor supply and low opportunity costs of labor), and in the rational employee's interest to shirk (because they cannot be observed and punished for it). The average employer offers wages above the competitive level and the average employee works more than required to maximize income.

How is almost anonymous charity and the Fehr and Gächter behavior consistent with self-interest evolutionarily defined? Frank (1988) provides one answer. He both explicitly and implicitly uses a conscience concept. His implicit definition is the same as ours: conscience is an internalized desire to follow the social rules even in cases where so doing would be unobserved by others. Such a definition accords with the dominant view of sociologists and social psychologists, for example, Coleman (1990).

Frank sees two possible ways a conscience can help its possessor evolutionarily. First, a conscience might generate an aura that others can detect. In consequence, others will be more likely to trust those with a conscience. Second, a conscience might lead a person to act more in her self-interest than she would otherwise by bringing a future cost into a decision process that might otherwise weight immediate rewards too highly. Without rejecting the first process, we defend the second. Its existence plays an important role in our analysis beyond the role of conscience.

A person's evolutionary self-interest can be served by a conscience only if that interest is not maximized by conscience-free behavior. Self-interest as the behavior posited by economists need not lead to evolutionary self-interest. Look at evolutionary self-interest's stringent demands on behavior. Only the future is of importance (albeit it is the future of past generations).<sup>10</sup> Present consumption has no value in its own right. It is simply productive consumption, contributing to the future: the reproduction of traits.

That is not man's utility function. Our behavior arose out of animal roots where the animal moves toward favorable immediate experiences and away from unfavorable immediate experiences. There is a standard animal solution to this discrepancy between the present as motivator and the future as survival engine: make the immediate experiences favorable that have favorable future consequences. The squirrel need have no sense of the future to squirrel nuts. The instinct is built into what he wants to do in the present.

But such simple solutions take many generations, reducing survival probabilities for some environmental changes. Fortunately, human beings can conceptualize the future. In their thoughtful decisions they explicitly take the future into account. They balance future joys against present joys when the latter have not fully incorporated the former. But this still does not give the future the proper survival weight: everything.

Thoughtful decisions are also hard work, fighting bodily tendencies to simply maximize present utility. Witness the struggles people have to lose weight who have thoughtfully decided that they would be better off if they did so. Both Elster (1984) and Thaler and Shefrin (1981) provide evidence for the existence of this problem.

Conscience also incorporates the future into present decisions. By definition, a conscience makes an individual follow social rules more than he would in its absence. There are two sources of gain to an individual in his following social rules: (1) avoiding the response of others to

the individual violating those rules (he might, for example, be ostracized for misbehavior); (2) the evolutionary interests of the individual in following the rules independently of the social response to his behavior.

This second process works for reasons developed in chapter 1 and amplified in chapter 6. In long-run equilibrium there will be a tendency for social rules to maximize group survival. Part of this process of maximizing group survival is to help individuals maximize individual survival, a goal that is only imperfectly achieved by individual decision-making, as we have seen. Social rules that are directed to help the individual rather than society as a whole are designed to protect that individual against present temptation. For example, being “good” by staying away from drugs generates favorable future consequences to the abstainer.

On the other hand, social rules develop to maximize group survival rather than individual survival. By doing what others want or what would serve them, one can act against one’s own evolutionary interests. But one’s fitness can be maximized by giving conscience the appropriate weight in one’s behavior.

Conscience reflects the dual character of social rules. One can feel guilty about not helping others, or one can feel guilty about behavior, like drinking too much alcohol or neglecting one’s children, that is harmful to one’s long-run interests. Wilson (1993) provides evidence for a connection between beneficent (his sympathy) and future-oriented behavior (his self-control) by way of a conscience. Psychopaths show by their behavior no concern about others, nor do they show any concern about the future.

Conscience has another advantage over thoughtful decision-making. The former is built in to allow it to compete directly with other bases for spontaneous decision-making. The case for a conscience is particularly strong for the hunter-gatherer stage of development, when our innate preferences were formed. Throughout this stage there was close social contact, so that the probability of others actually finding out what one did was extremely high. It paid to assume that they would, in fact, do so and to have such an assumption built into present preferences.

### **Altruism versus Being “Good”**

There are reasons besides those previously discussed to believe that altruism is not an important phenomenon in predicting behavior outside of the kin and friendship relationships that have been previously

discussed. It must be stressed, however, that our theoretical needs do not require a demonstration that altruism is insignificant. All we need to show is that altruism is sufficiently unimportant that reputation and conscience have predictive power.

Consider a society trying to determine efficient ways to enforce its rules. It can try to admonish its members to be altruistic or to be “good,” that is, follow the social rules. The society is, then, free to impose whatever sanctions it chooses to enforce its will. There are two reasons why a society will choose the “be good” strategy. First, in discussing individual selection we saw that a conscience could promote survival of an individual’s genes, whereas altruism was not so conducive. So we would expect a greater built-in predisposition toward being good than being altruistic.

Second, there is a far more serious monitoring problem associated with imposed altruism. When the individual is not being observed by others, he might be bad or not love without loss of social approval. However, even in this case, unobserved badness can often be discovered through observed consequences. The relative monitoring deficiencies of altruism are even greater when others observe a person’s behavior. It is obviously easier to observe deeds than emotions. We, therefore, expect greater returns to the individual in “being good” than in being altruistic. These greater returns make it easier for others to convince a person to “be good.” In consequence, we would expect society to concentrate on the “be good” strategy.

That proposition can be tested directly. We predict that others will try to influence individual behavior by admonitions to “be good” or to act in an approved way rather than encouragements “to love.” Our own unsystematic observations of child rearing support that contention. A nonrandom sample of five mothers, when asked individually, agreed that they used sentences such as, “Be good,” “Don’t be naughty,” “Good girl” much more often than sentences like “Love mommy,” “Do not hate Johnny.” The probability of chance agreement to such a proposition would be less than 5 percent if this were, indeed, a random sample. These results support common observation. Focusing on this common observation is important, however, because it is inconsistent with the standard views of economists who attempt to explain prosocial behavior by altruism rather than “being good.”

Furthermore, altruism is insufficient. One needs the “Be good” rule in any case. For example, tithing was the biblical formula for charity. Jews were encouraged to give between one-tenth and one-fifth of their income to public causes, including charity (Domb 1980), a practice

continued in many Christian congregations. The tithing lumps charity to the poor in with religious and other contributions. It is hard to see how altruism by itself could generate a comparison between the well-being of others and religious duties. Obviously, the rules determining how to be good could do so. In general, social rules often involve much more than interpersonal comparisons. For example, “Go to church” and “Salute the flag” were social rules in the old days. Altruism is insufficient to enforce such rules.

There has been considerable emphasis in the literature on social rules. Most of that literature does not concern itself directly with altruism versus warm glow. Neither is relevant if the social rule is enforced by police power. But to affect individual behavior in any other fashion, either altruism or warm glow must operate. Altruism would do the job by the prescription, “Love and, therefore, obey the social rules.” In terms of our version of warm glow the social rules would be enforced by, “You will be considered good by others if you follow the rules” or “You will consider yourself good if you do so.” Since altruism is irrelevant for a great many social rules, the importance of these rules is significant evidence for the operation of warm glow.

Hoffman and Spitzer (1982) ran an interesting experiment that sheds some light on these issues. Essentially, one person, the controller, decided among alternative payoffs to himself and another person. This decision was made after consulting the other person, who could offer side payments to influence the first person’s decisions. This experiment was run under all the combinations of two dichotomous variables. The first variable was how the controller was chosen: in one case by a flip of a coin, in the other case by the winner of a game that required a modicum of skill. The second variable was a moral authority variable. In the no-moral-authority case the instructions specified, “If you win the game (or the coin toss) you are designated controller.” In the other, moral authority, case the instructions stated, “If you win the game (or the coin toss) you have earned the right to be controller.” Hoffman and Spitzer found significant differences in results between each combination of the variables. The differences were particularly large between the coin toss, no-moral-authority combination and the game, moral-authority option. In the first case 61 percent of the outcomes were nearly equal splits, while in the second case only 32 percent of the choices fell within this range.

This difference in results can be explained by the social rules. One social rule is that it is all right not to share equally money that one has earned. The simple substitution of the word *earned* for *designated* sug-

gests that the experimenters do not regard a nonsharing controller as a bad person. The message that one has “earned” the right to be controller is fortified if, in fact, one has. Winning a game that does not entirely depend upon luck provides a justification for the controller’s getting more than his share of the payoff. As we shall see later, there are group survival reasons for both the social rule that encourages sharing and that which provides incentives for effort by larger returns to those who have earned them. These social rules will have an impact on the controller’s behavior either through conscience or by the prospects of meeting his fellow player later.

In contrast, altruism does not explain this behavior. Clearly, altruism cannot explain the differences in behavior among options. As far as altruism itself is concerned, all the options are the same, yet there are exceedingly large differences in outcomes between these options.

Even more importantly, the overwhelming altruism required to explain the dominance of equal sharing in the no-moral-authority, coin-tossing game is unbelievable. The payoffs in these experiments are small relative to the incomes of the participants, and controllers have the same average income as the other players prior to the experimental payoffs. In consequence, controllers would have approximately the same income as their fellow players after the payoffs even if these controllers kept all of the gains in the game for themselves. To get equal sharing by way of altruism under these circumstances requires controllers’ decisions to give the same weight to the utility of their fellow player as they give to themselves.<sup>11</sup> Yet 61 percent of the controllers behaved in this saintly way. However the rule of equal sharing arose, it is clear that it is not altruism that is enforcing that rule. Rather it is some combination of externalized and internalized returns to following social rules.

It should be emphasized that this particular experiment is one in which the players communicate with one another. There is less egalitarianism in experiments with no communication between players (Ostrom 2000). Altruism cannot explain that difference. Wanting the approval of your fellow player can.

There is a rather interesting contrast in the behavior of economists and others that cannot be simply explained by altruism differentials. Beginning with Marwell and Ames (1981), many studies look at prisoner’s dilemma games where cooperating and cheating are the options and simple self-interest is maximized by the cheating. They find that economics students cheat more than do others. Frank, Gilovich, and Regan (1993) confirm this. (They also show that after an economics

course students give higher subjective estimates that both they and others will not return clearly marked envelopes with cash to their rightful owners or will not pay the full amount rather than a clearly understated invoice.)<sup>12</sup> However, Laband and Beil (1999) show that economists do not cheat more than political scientists and cheat less than sociologists in voluntarily paying income-based dues to the American Economic, Political Science, or Sociology Associations, respectively. Altruism would not produce this difference in behavior for economists relative to others in the Maxwell and Ames and the Laband and Beil cases. But a desire to follow the “rules of the game” will. Economists are often taught that self-interested behavior in business or business-like games is all right. Others are often taught the opposite. Neither economists nor others are taught that lying is all right or that not voting or failure to give to charity is acceptable behavior. None of this evidence demonstrates that altruism among nonkin, nonfriends does not exist. The evidence does show, however, that altruism by itself cannot explain the behavior examined. Something else is required. It is this “something else” on which this book focuses.

Palfrey and Prisbrey (1997), however, run experiments in which they observe no altruism effect. Players are given the option of contributing however much they like to a public good, which is the equally shared product of a fund to which all who wish can contribute. Palfrey and Prisbrey vary both the sacrifice required of the players to contribute to the public good and the productivity of the public good, that is, how much a dollar contribution translates into a return to all players. They find that players are willing to make sacrifices for the public good, but that contributions do not increase with increases in the productivity of the public good except to the extent that the player’s own returns are a function of this productivity. (In their experiments group size is sufficiently small that there is a significant return to the player from his own public good’s contribution.) Since altruism predicts this latter relationship, they conclude that no altruism is observed where it should be observed if it existed.

However, it should be noted that players within any one experiment do not have the option of choosing between public goods. Since there is a social rule, “Help others,” one expects some tendency for higher productivity public goods to be chosen more frequently than less productive public goods. This seeming “altruism” is perfectly consistent with no real altruism, as observed by Palfrey and Prisbrey.

Brandts and Schram (2001) get similar results. Again, altruism has no impact on contributions. However, they show that contributions to

public goods are also increased by an increase in returns from reciprocity. Since reciprocity plays a fundamental role in our analysis, this finding is of some importance.

There are, however, social psychologists who do believe that there is some altruism. But most of them concede that there is some helping behavior that cannot be explained without warm glow, and they do not provide any evidence that warm glow is not important. And because of the free-rider problem, none of their tests are relevant to the charitable or political behavior that we examine in this book.<sup>13</sup>

### **Reciprocity and Other Social Pressure**

Most people are aware at least to some extent that social pressure is one of the determinants of charitable contributions, as revealed in the Morgan (1977) data previously discussed. That social pressure can take several forms. Eskimos were willing to kill the nongenerous (Posner 1980). Ostracism of those who broke social rules was also frequently practiced in primitive societies. Yet we concentrate on a particular form of punishment—refusal to engage in reciprocity.

The reason for this focus is that the information requirements for the other punishments of the noncharitable are rarely satisfied in modern society. The information requirements to make them work are much more severe than the requirements for trustworthy signaling. One is much more likely to know that another person has contributed to a particular charity than that a person has made no charitable contributions at all. The latter knowledge is required for ostracism to operate, while the former knowledge is all that is usually required for charity signaling to work. Ivan's charitable contribution that signals that he wishes to be friends with John is the charitable contribution that John is most likely to know about—a charity that both are interested in. However, to ostracize a person for being noncharitable demands that one knows that the person hasn't made the required charitable contributions among all possible charities. That knowledge existed in closely knit primitive communities for the prosocial acts that were the equivalent of today's charity, but is rare in modern societies.

There is one case, however, where ostracism will be quite common in present societies: ostracism for antisocial acts as opposed to prosocial acts. That ostracism can be triggered by knowledge of a single antisocial act, so one does not need to know the whole history of a person to practice ostracism. For example, Parnell led boycotts of Irish landlords in the 1880s, and his movement ostracized those who did not par-

ticipate (Keneally 1998); and people are likely to avoid pedophiles even when they have no young children.

We will assume, henceforth, that the social pressure encouraging charity in modern societies is simply the response of others' reciprocity decisions to that charity. There is, however, an important role for ostracism and other punishments in our analysis. In chapter 1 we saw how group survival would be a crucial determinant of operational social rules. But in our analysis of charity in the next chapter we use group selection only in one way: to determine the beneficiaries of charity. The amount of charity produced by signaling is not determined by group selection. In the model of chapter 3 that amount is uniquely determined by individual behavior. However, in primitive societies group selection can operate through determining the extent of the other punishments of not following the social rules—ostracism and violence.