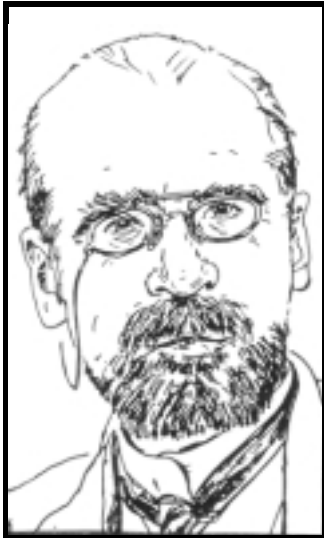


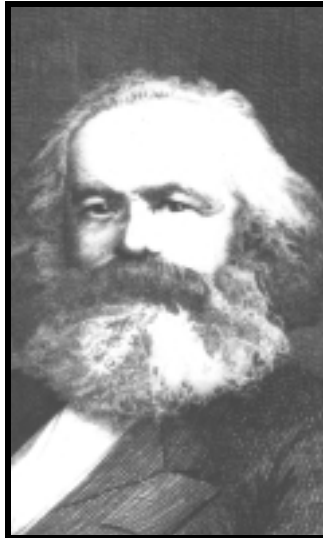
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FOR LIFE, LIBERTY AND PROPERTY

THREE FUNDAMENTAL FALLACIES OF MODERN SOCIAL THOUGHT

CHRISTOPHER BADCOCK

From time to time, important advances in a field of study lead not merely to new insights, but to novel retrospects. Current discoveries raise not only new issues, but reflect back on old ones as well, sometimes to the point of calling into question fundamental presuppositions once routinely accepted but suddenly made controversial by progress which not merely adds to the existing stock of knowledge, but restructures it as well. Such a process of progressive reconstruction is currently underway in the study of human social behaviour and the aim of the present study is to review the significance which this might have for three basic aspects of traditional social thought and the conclusions drawn from them.

As I shall try to show, the three assumptions in question are fundamental to much modern social science and can be associated with the three founding fathers of sociology. However, in view of recent progress in the biological study of social behaviour, they seem to be increasingly suspect and, from this point of view, may even be characterised as largely fallacious. For the sake of argument, I propose to discuss each as if it were indeed a fallacy in order to bring out as clearly as possible the contrast between the new direction of social theory suggested by biology and the older view associated with traditional sociology

THE HOLISTIC FALLACY

The first, and perhaps most fundamental, of the three fallacies which I would like to discuss is often termed *the holistic fallacy*. This is perhaps best described as the widely-held belief that there are social wholes which in a well-known phrase from *gestalt* psychology, are *greater than the sum of their parts*. Such social wholes are regarded as not reducible to the individuals who constitute them and are therefore regarded as possessing a collective life of their own almost as if, in the words of Herbert Spencer, they were 'super-organisms' of some kind.

In modern sociology this view is pre-eminently associated with the name of Emile Durkheim (1858-1917), who founded academic sociology in France and taught that a *collective consciousness* irreducible to individual consciousness underlay society and that scientific sociology was the study of the *social fact*. The latter was characterised by its unaccountability in individual terms and manifested itself either as a behavioural norm enforced by the collective consciousness or as a statistical norm resulting directly or indirectly from other social, collective factors. For instance, in a celebrated work, Durkheim argued that suicide, apparently the most individual of acts, was ultimately motivated (beyond a fundamental 'natural' rate) by social solidarity - excessive or insufficient as the case may be.

A major argument in favour of Durkheim's view was the fact of cultural relativism: the finding that not all societies and civilisations agreed on the same fundamental values or ways of looking at the world. For Durkheim's holistic sociology this was easily explained: it was merely that collective consciences varied in an unaccountable way so that, whereas in modern Europe eating people might be wrong,

in some societies cannibalism might not only be right but obligatory in certain ritual settings.

Yet this did not mean that social facts like moral and aesthetic norms were arbitrary. On the contrary, the whole point of Durkheim's holism was that they were obligatory in the society in question because they were legislated by the collective consciousness. In this respect the latter played something of the role of God in traditional theology and it is no surprise that in a famous study of religion Durkheim claimed that, at least in the case of the elementary forms of the religious life found among Australian aborigines, what was worshipped - the sacred - represented the social solidarity and moral authority of the society. Nietzsche might have proclaimed the death of God, but Durkheim almost immediately resurrected him as a social, rather than metaphysical, entity. In this sense, God was society and Society was God.

Furthermore, this, according to Durkheim, was exactly how it should be; for where else would one find a source of moral authority and comprehensive solidarity but in society itself? What else could legislate for the whole, save the whole itself? And what else could enforce such statutes save the collective force of the whole: the weight of public opinion and the cumulative authority of the collective consciousness?

Yet if society was God it was also the source and origin of the idea of the soul, the individual principle corresponding to the divinity. Not only did Durkheim believe that the soul reflected the force of the collective consciousness in the individual, but he believed that he could account for how it got there through the process of *socialisation*. This was the means by which the social spirit was infused via education, example and imitation into a mind that was otherwise featureless - a clean mental slate to be written on by the collective consciousness at large. Little wonder that apart from his notoriety as a sociologist, Durkheim is best known for his numerous writings on education. For him, socialisation was the key to understanding how Society created individuals in its own image.

Finally, Durkheim's collective consciousness shared one other important characteristic with the Deity it had implicitly succeeded: it was inexplicable, perhaps because it was self-explicable. In the words of the anthropologist Kroeber, who shared a similar view, society was 'beginningless' because it was *holistic*: that is, irreducible to the non-social, an indivisible and unanalysable entity. According to Durkheim's rules of sociological method, the social fact could only be explained in terms of an antecedent social fact and Society, the ultimate social fact, anteceded only itself.

In place of doctrines of biological, psychological or divine determinism in human affairs Durkheim and his followers had established an extreme doctrine of *cultural determinism*. Now the social functions of religion took over religion itself, and a social theology replaced a traditional belief in the Divinity. This social theology, embodied in the doctrine of cultural determinism, was itself ultimately founded on the holistic view of society and was little more than its logi-

cal consequence. Yet putting Society in the place of God only changed the content of traditional metaphysics, it could not remedy its fundamental implausibility which originated in its belief in ultimately inexplicable variables, according to Durkheim defying 'critical and rational examination' and inscrutable to science. Looked at from this point of view, the fact that Durkheim acquired the reputation of something of a positivist in sociology is a supreme irony.¹

THE REFUTATION OF THE FALLACY: THE FREE-RIDER THEOREM

Admittedly, Durkheim is one of the pre-eminent cases of holism in social thought; but holistic concepts as reflected in notions like 'national interest' and 'class-solidarity' or slogans like 'community care' are all variants on Durkheim's way of looking at things. Indeed, recent Western sociology and social anthropology have made dogmas of the propositions that individuals are ciphers of the groups to which they belong and that it is culture and nurture, rather than nature and the individual, which determine human behaviour.

It is routinely alleged that collective interests and cultural traditions are the dominant factors in everything from social attitudes to economic choice and on to more subjective and personal concerns still, such as sanity and madness, crime and deviance, sexual behaviour and individual cognition. In just about every significant respect, the individual is seen, not as a free, independent and autonomous actor, but as a conditioned, contingent and constrained conspirator (conscious and culpable, or unconscious and blameless, as the case may be) with whatever is currently believed to play the role of Durkheim's collective conscience: the dominant ideology, the sub-culture, the societal norms, cultural conditioning, or whatever.

Against this dogma, with its latent, but worrying overtones of group-authoritarianism and its blatant anti-individualistic prejudice, can be set one simple and overwhelming refutation. This is what is commonly known as *the free-rider theorem*, given its most vigorous and socially-relevant expression in Mancur Olson's *The Logic of Collective Action*.

Most of the groups which holistic sociologists have discussed, such as 'classes', 'communities' and, certainly, 'society' itself, have all been very large groups. Yet, in such a large group, as Olson pointed out, since the objective or common interest of the group is supposedly shared by all its members along with the costs of membership, an individual has an incentive to try to get the benefit without paying the cost or, alternatively, not paying a cost for which they would get more benefit without paying the cost or, alternatively, not paying a cost for which they would get no more benefit than anyone else. Contrary to the holistic assumption, the free-rider theorem effectively points out that individual and group interests are not necessarily the same and, in a large group, are necessarily *not* the same.

Olson points out that, in such large groups, it will always seem more profitable for the individual to 'let George do it'. He shows that apparent counter-examples can usually be shown to result either from some individual inducement being provided which increases the value of group membership (such as access to special insurance schemes for members of a profession or jointly-funded research institutes for firms) or from some form of coercion.²

Nevertheless, Durkheim's study of Australian totemic religion looks safe from the free-rider objection because religion is a manifestly irrational, non-economic thing and so, we might add, are many aspects of class-affiliation, family ties, nationalism, and so on. How can observations about the advantages of free-riding apply to such sociological instances as these? Unfortunately for sociologists, they can.

THE PROBLEM OF ALTRUISM

As I observed earlier, Durkheim was not the only sociologist to believe in holism; Herbert Spencer avowed a belief in the 'superorganic' as a level of organisation above that of the individual organism. Until very recently most biologists implicitly took a Spencerian view and assumed that social co-operation in animals was a result of the benefits of group living to the individual and to the species as a whole. The problem with this apparently obvious view is that it contradicts the basic tenet of Darwinism: the belief that organisms must compete in the struggle for survival. Any kind of co-operation with the interests of the group seems problematic, especially where there is a question of one organism making a sacrifice for another. Consider the following thought-experiment as an example of the difficulty.

Imagine a population of organisms each of which is totally selfish. Imagine that, by mutation, a gene for altruistic behaviour appears. Here, altruism is defined as *any behaviour which promotes the reproductive success of the recipient at the expense of the altruist*. By definition, the altruistic gene must favour the reproductive success of the selfish individuals at its own expense and hence must become rapidly extinct.

Correspondingly, imagine a population composed entirely of altruists. It will only take the chance appearance of a gene for selfishness to occur for the altruists, by definition, to promote its reproductive success at their own expense to the point where the selfish gene proliferates and altruistic ones become extinct. In short, free-riders would exploit altruists in both instances with devastating effect: as the theorem predicts: *the cost of cooperation with others' interests will always exceed the benefit of selfishness to the individual*.

Looked at from this point of view, the evolution of any kind of altruism or cooperation seems impossible. The problem certainly worried Darwin, who rightly intuited that the solution had to be something to do with familial relationships. The definitive, modern answer to the problem was discovered by the British biologist W. D. Hamilton. Hamilton established a formula linking genetic relatedness to altruistic co-operation and demonstrated that altruism could evolve and become viable if genes for altruistic cooperation conferred benefits on other copies of those same genes present in near-relatives of the altruist.

The paradigmatic example is the case of the social insects. Spencer would have regarded the ant colony or bee hive as a 'super-organism', a group of individual organisms cooperating to the point of being a single social unit. Indeed, worker bees or ants appeared to show altruism to an extreme degree. Irrespective of what Darwin had to say about competition for reproductive success being the driving force of evolution, here were sterile females altruistically foregoing their own reproduction in the interests of that of the queen.

But studies of insect societies showed that, thanks to a peculiarity of their genetic system, sterile worker ants and

bees were more closely related to the offspring of the queen than to any offspring which they might have themselves. This is because workers on average have in common three-quarters of their genes, whereas the potential offspring of a worker would only inherit half of her genes (just as the offspring of a human being would, where one set of chromosomes come from the father and one from the mother).

Hence, as far as eventual reproductive success is concerned, 'altruistically' helping the queen reproduce will establish more of the worker's genes in the next generation than any reproduction of her own. In this way what might have appeared to be a paradigmatically altruistic act violating the conclusion of our thought-experiment above becomes entirely explicable in authentically Darwinian terms: altruism will evolve if it avoids benefiting non-altruists by being directed towards kin who are also altruistic.

ALTRUISM AND IDENTIFICATION

Given the crucial importance of genetic relatedness in Hamilton's theory, it follows that an ability to recognise relatives is vital in the evolution of such so-called *kin altruism*. Many organisms effectively use themselves as standards of comparison and this fact prompted me to suggest an insight which, if true, would explain Durkheim's holism without recourse to social mysticism.

It occurred to me that in the primal hunting and gathering societies in which the human race evolved, and which existed everywhere until very recent times (recent, that is, from the point of view of evolution, which is a slow process and can hardly have been affected much by twelve thousand odd years of post-hunter-gatherer history), individuals might also have used themselves as a standard because anyone who noticeably resembled themselves in any significant way would have been likely to be a relative.

The importance of this idea is that modern psychological studies of apparent 'pure' altruism in human beings - that is, sacrifice without expectation of a return - show that it is almost invariably the product of a conscious or unconscious *identification* with the recipient of the altruism. Since 'identification' is a definition of the process of matching-with-a-self-observation outlined above, it follows that in primal societies identification may well have evolved as a means of promoting kin altruism (that is, self-sacrifice in the interests of relatives).

What Durkheim believed proved his society-is-greater-than-the-sum-of-its-individual-parts theory, namely Australian totemism, can be shown to be the life-time continuation of adolescent initiation ceremonies which are based on ordeals set to test the identification of the young men with the values and interests of the fathers. Such entry-ordeals are universal and found in British public schools, American university sororities and fraternities, crack military regiments, Hell's Angel chapters, masonic lodges, and so on. All have one thing in common: by means of humiliating, painful or difficult ordeals the will of the recruits is tested and their identification with the institution to which they wish to be admitted proved. In effect they are required to say: 'We are not free-riders: Look! we are paying the price of group membership and proving our identification with the whole'.

In the case of Australian totemism, psychological identification with a group of men - the clan fathers - to whom the initiates are also closely related and from whom they will

obtain wives, goes a long way towards explaining why the individual boy is prepared to pay the cost of entry to the totemic community. Rational self-interest and compulsive identification based on kin altruism mean that Australian totemic solidarity is most certainly not an exception to the general rule that individuals will not cooperate with groups unless individually coerced or induced. On the contrary, what this analysis suggests is that rational genetic self-interest operates at two levels: a conscious one concerned with obtaining a wife from powerful polygynists who control the supply of women, and an unconscious one concerned ultimately with favouring genes for identification and co-operation which one shares with relatives.³

THE FALLACY OF THE ZERO-SUM SOCIAL GAME

Although I have singled out Durkheim as the chief offender where the holistic fallacy is concerned, it is obvious that he is by no means alone. Just about every other sociologist has been guilty of the same reasoning regarding the primacy of the group and its interests but, in the case of many of them in the modern world, such holism is heavily contaminated by a second fallacy.

If Durkheim was my prime example of the first fallacy, then Karl Marx (1818-1883) will do nicely as the chief culprit in the case of the second. Marx, like Durkheim, believed in groups being greater than the sum of their parts and his descendants have ever since been quick to condemn the 'bourgeois individualism' which plays a role in his social theory closely akin to what Durkheim called 'egoism'. But for Marx the groups which mattered were class groups and the equivalent of Durkheim's collective consciousness variously 'class-consciousness' or 'false-consciousness' as the occasion required.

In other words, Marx had at least two - and usually a number - of subsidiary holistic social groups and correspondingly subdivided states of collective consciousness in place of Durkheim's monolithic holism. The subdivision in question - the essence of social class - was the consequence of what I regard as the second most important fallacy of modern social thought: what we might term *the zero-sum game theory of social cooperation*.

According to this theory, social interaction involves the exchange of a fixed quantity of some scarce resource so that there can be definite 'winners' (who gain, own or control the resource) and distinct 'losers' (who are deprived of it). In a phrase, social cooperation is a *zero-sum game*, that is, one with definite winners and losers, like chess, football or any other similar competition in which one side attempts to gain at the other's expense.

Yet it is important to realise that a game like football, for instance, need not be played this way. In highland New Guinea societies exist where reciprocity is all-important and in these places football is often played as a *non-zero-sum* game by the simple expedient that the match cannot be completed until each side has scored the same number of goals! In such a game there are no winners and no losers, only teams who compete to equalise.

In the case of Marx, the zero-sum nature of cooperation arises from his theory of value and his belief in the inevitability of class polarisation, with one class becoming increasingly affluent, powerful and exploitative and another becoming ever more impoverished, impotent and exploited. Although there is little evidence that this is true, and over-

whelming evidence to the contrary, I do not wish to dwell on the empirical problems of this idea. Instead I would like to return for a moment to our consideration of the free-rider theorem.

PRISONER'S DILEMMA

Essentially, that problem boils down to a question of individual cooperation with, or defection from, the apparent interests of the group. The smallest possible group to which an individual could belong would be one of two persons, and the model of basic social interaction known as 'Prisoner's Dilemma' is based on the application of the free-rider idea to such an elemental social situation. Imagine the following artificial but essential dilemma of cooperation or defection contained in some imaginary situation like this:

Two individuals are arrested and held in isolation suspected of a crime which neither has committed. Both are presented with the same dilemma: if either one incriminates the other without the other incriminating him, the other will be presumed guilty and will suffer a long prison sentence, whereas the accuser will go free and receive a valuable reward in addition to his freedom. If neither incriminates the other, both will be released; but if both incriminate each other, both will serve sentences, although less long than in the first case.

Clearly, our prisoners face a real dilemma: both have an incentive to cooperate with each other in maintaining their mutual innocence, which they both know to be true (in this case we assume that our prisoners are innocent). But, similarly, each knows that each one of them has a considerable incentive to incriminate the other in the hope that the other has not already incriminated him, and thereby gain the reward along with his freedom. Yet if both incriminate the other, both will suffer. The beauty of Prisoner's Dilemma is that, unlike the situation with a large group like that described by Olson, individual and group interest are much more acutely poised and are entirely symmetrical: what one does ineluctably influences the outcome for the other, and *vice versa*.

Essentially the dilemma is: cooperate with the other prisoner but run the risk of being defected against, or defect by incriminating him and hope that the other prisoner has not defected also. The most problematic aspect of the situation is that both cooperation and defection imply costs and benefits which cannot be fixed independently of the other's decision. In this example cooperation of either prisoner with the other might mean immediate release or lengthy imprisonment, whereas defection might bring a reward or another, less long sentence. Either way, the dilemma is difficult and admits of no easy answers.

THE EVOLUTION OF COOPERATION

The full flavour and significance of this fiendish situation comes out in Robert Axelrod's remarkable book, *The Evolution of Cooperation*, where he reports the results of tournaments he held for computer programs designed to play repeated (or *reiterated*) Prisoner's Dilemma.

In the reiterated version, each player makes an independent choice to defect against or to cooperate with the other player, scores are computed, and another game is then played. Pay-off values are attached in the same order as that suggested above: the highest score goes to successful defection (that is, defection in the circumstance of the other player's cooperation) - what we may call T (perhaps stand-

ing for *temptation*) and corresponds to freedom with the reward in my anecdote. Mutual cooperation wins less, let us call it R (perhaps for *reciprocity*) and corresponds to release for both of our imaginary prisoners. Mutual defection, P (perhaps for *punishment*), wins less still, the shorter sentences in my example, with S reserved for no score at all - the *sucker's* payoff for unsuccessful cooperation in the circumstance of the other player's successful defection - which corresponds to the long solitary sentence in my example. Finally, we must also assume that, for the game to be meaningful, the average payoff from successful defection or unsuccessful cooperation is less than for mutual cooperation (in other words, the motive for cooperation is real because, were this not so, random cooperation and defection would be as good a strategy as anything else).

What was remarkable about Axelrod's findings was that even though marvellously complex and devious strategies requiring lengthy programs were submitted by dozens of specialists in the fields of mathematical games, computing, political science, economics, sociology, psychology and biology, the winner was the most simple and straightforward of all. Called TIT FOR TAT, it required a mere five lines of programming and enshrined the following elementary decision rule: *cooperate the first time and thereafter do whatever your opponent did the time before*.

THE TRIUMPH OF TIT FOR TAT

In reiterated Prisoner's Dilemma there can be no best strategy independent of the strategy of the other player. Axelrod provides a mathematical proof of this, but the following illustration will demonstrate the point. Imagine that TIT FOR TAT encounters a programme which defects all the time, call it DEFECTOR. TIT FOR TAT loses the first game, getting the sucker's payoff, S, while DEFECTOR gets the winning payoff, T. But, thereafter, TIT FOR TAT cannot do worse than its opponent because it too switches into permanent defection, giving both programs P every time. TIT FOR TAT loses, but only by a small margin and only on the first game.

Now imagine what happens if it confronts another possible program, TAT FOR TIT. This one reciprocates previous moves of its opponent like TIT FOR TAT, but begins by defecting. Clearly, the outcome of the first game will be the same as in the previous case and in the second game TIT FOR TAT will defect, just as it did against DEFECTOR; but TAT FOR TIT will cooperate, because its opponent did on the first occasion. In the third game TIT FOR TAT will switch back to cooperating, but TAT FOR TIT will defect, and so on indefinitely. Since the payoff for mutual cooperation is greater than that for averaged defection and cooperation, TIT FOR TAT does less well against TAT FOR TIT than against itself, where, obviously, it wins R every time since it begins by cooperating and continues to do so.

The astonishing paradox is that, even though TIT FOR TAT never won any more points in any one particular game than the programs it played against because it was never the first to defect, it nevertheless won the tournament (thanks to its cumulative score over many games against many opponents). Not only this, it was also the outright winner of another, 'evolutionary' tournament in which losing programs gradually dropped out, leaving only the most successful to slog it out. As Axelrod says, TIT FOR TAT won, not by doing better than any other player, but by cooperating with the other player. 'In this way TIT FOR TAT does well by

promoting the mutual interest rather than by exploiting the other's weakness. A moral person couldn't do much better.⁴ Expressed in other words, we might say that TIT FOR TAT won because it rightly assumed that reiterated Prisoner's Dilemma is not a zero-sum game, but one in which the mutual advantages of cooperating exceed the selfish gains of defection.

Although TIT FOR TAT was a robust program in that it did not allow itself to be exploited beyond the opening game (as we saw when it met DEFECTOR), it was also a non-exploitative strategy, as can be seen by realising what happens when it meets the antithesis of DEFECTOR, a program which cooperates rather than defects every time, what we might call SUCKER. Obviously, both SUCKER and TIT FOR TAT will cooperate in the first game and, because TIT FOR TAT mirrors the move of its opponent on the previous occasion, both will continue to cooperate, winning the pay-off for mutual cooperation every time. The astonishing thing is that, although SUCKER is the worst possible strategy and the one most open to exploitation by something like DEFECTOR, TIT FOR TAT nevertheless achieve the feat of neither exploiting it nor being exploited itself to any damaging extent by the other, less cooperative programs which vastly outnumbered it in the tournaments (and which suggested that most of the competitors, despite their expert knowledge of Prisoner's Dilemma, still perceived it in a fundamentally zero-sum manner).

COOPERATION AND RECIPROCITY

If we now return to our earlier thought-experiment about altruism we can begin to see the relevance of all this to the fundamental question of social cooperation. If we regard the programs which played in Axelrod's tournaments as organisms with genes rather than linear programming determining their decisions, then it seems that cooperation can evolve, contrary to what we at first thought. The paradox is soon resolved once we realise that what the success of TIT FOR TAT demonstrates is a fundamental principle of social evolution, namely that cooperation can evolve spontaneously if it is a question of cooperators discriminating against non-cooperators but being ready to cooperate with those who are willing to cooperate with them. In short, *altruism could evolve if altruists only cooperated with other altruists*.

Our thought-experiment would have a very different outcome if, in the population of selfish organisms, the gene for self-sacrificing cooperation appeared in a small group who could recognise one another and discriminate against those with the gene for selfishness. Similarly with the population of altruists: if they were capable of avoiding cooperation with free-riding defectors their altruism would remain self-sustaining. This is effectively the scenario discovered by Hamilton: kin altruism, in which cooperation benefits genes for cooperation in the recipient of the self-sacrificing act. However, it also suggests a second type of altruism, also found in nature and of the first importance in human affairs. This is what we might term *reciprocal altruism*, and it is defined as self-sacrificing cooperation which is reciprocated by the recipient.

Looked at from this point of view, what was wrong with our original thought experiment was that it implicitly assumed that altruistic cooperation had to be a loss for it and a gain for the recipient of its altruism. Although this seems an obvious corollary of our original definition of altruism as

an act which benefits one at the expense of another, it should now be clear that reciprocity has the effect of transforming such a situation into one in which both parties can gain. Because TIT FOR TAT never attempted to exploit its opponents, would not allow them to exploit it to any significant extent but, on the contrary (and by contrast to TAT FOR TIT), showed an initial readiness to cooperate with any cooperation shown to it, it effectively established cooperation on the basis of a non-zero-sum game: one in which both parties could gain more by cooperating than by mutual defection.

From these considerations we can therefore draw the conclusion that altruistic cooperation cannot evolve spontaneously in a zero-sum game but may do so in a non-zero-sum game like Prisoner's Dilemma. In kin altruism the latter condition is provided by the fact that a sacrifice by the altruist is a gain for genes which he shares with the recipient of his altruism, whereas in reciprocal altruism it is the sacrifice itself which is reciprocated. What both types of altruism do is make the mutual gain from cooperation exceed the selfish benefit from defection, so that in the case of such a two-party group individual and mutual interests converge to the point where free-riding at the other's expense is a losing strategy.

If my readers consider all this a little too theoretical and far from reality, let me ask them to consider a strikingly counter-intuitive example of this concept. Taxation is clearly regarded by most politicians, administrators and the public alike as a quintessential zero-sum game, which a gain to government finances being an inevitable loss to the tax-payers. Yet when governments in both Britain and the United States recently cut tax rates for the better-off, total tax revenues from these tax-payers *increased*, despite the recession.

One possible interpretation of these facts based on what we are currently considering is that taxation is not a zero-sum game. Here the relevant consideration would be that tax-payers are not necessarily passive victims of the situation. Higher income earners can choose to avoid tax payments by many perfectly legal means which are worthwhile at certain levels of marginal taxation, but might not be if rates were reduced. Again, recent evidence suggests that such tax-payers also have responded by working and earning more, once the incentive to do so increased. In short, cooperation by government in reducing taxes may have led to cooperation by tax-payers in avoiding taxation less and in producing more income which could be taxed so that total taxation *and* tax-payers' income simultaneously increased. Like TIT FOR TAT, it could be argued that the tax cuts elicited cooperation producing a larger final pay-off than might have seemed possible if taxation really had been just another game of more-for-one-means-less-for-another.⁵

THE FALLACY OF INDUCED SOCIAL ORDER

The success of a strategy like TIT FOR TAT transforms the prospects for the spontaneous evolution of cooperation and contradicts, not merely the beggar-my-neighbour model of social evolution proposed by Marx and many others, but the widely-held assumption stemming from the holistic view of sociologists like Durkheim that social order can only be imposed by a consensus of the majority on the individual or the minority. Such an assumption has been common in social science since at least Plato and his idealised Republic, founded as it was on the wisdom of the Guardians. But

Axelrod's work demonstrates that such an imposition of order from above is unnecessary and that, thanks to the logic of reciprocity, organisms can cooperate in their mutual self-interest without any kind of external constraint or imposed consensus.

Essentially, this was the insight contained in Adam Smith's *Wealth of Nations*, one which demonstrated that not only was international trade a non-zero-sum game (in contradiction to Mercantilism, which assumed that it had to be), but that within a society a spontaneous order could emerge based on rational self-interest and reciprocity. Yet the success of TIT FOR TAT suggests that the lesson has wider implications outside the purely economic sphere and in the book Axelrod cites the emergence of live-and-let-live cooperation between opposing armies in World War I. In this case no overall 'collective consciousness', 'dominant ideology' or any other kind of consensus existed because the parties to the relationship were warring armies, set on destroying one another rather than conspiring. Yet conspire they did, and Axelrod shows how TIT FOR TAT-style pattern of reciprocity spontaneously emerged so that each side could, for instance, exchange an artillery barrage for a while, but ensure that neither did any real damage to the other.

Here is an instance of social order of an exquisite kind which was not based on any pre-existing consensus, consciousness or socialisation of the kind imagined by most sociologists to be necessary for any significant social relationship. Today the peace of the world rests on a similar situation, but the assumptions of military and political leaders, like those of traditional sociologists, have probably failed to take account of the most important aspect. This is that such an order is based on a situation in which there can be no winners and no losers, only mutual benefits to both sides from cooperation. In the absence of any overall authority which could impose and police a consensus, it seems that Mutual Assured Destruction is not necessarily mad as a policy (even if it is as an acronym) but might actually be by far the safest policy, thanks mainly to the fact that it rests on a spontaneous rather than contrived form of order.

In popular social thought, as in the view of many sociologists, Durkheim was right to assume that action could either be altruistic and in the interests of the larger group, or egoistic because opposed to the interests of the group. The latent authoritarianism in this view stems from the implicit assumption that individuals must be prevailed upon to act altruistically against their egoistic interest. The success of TIT FOR TAT demonstrates the fallacious reasoning behind this assumption by showing that order can emerge spontaneously in a world of self-interested egoists and that situations like superpower deterrence can be stable and reliable even in the absence of consensus about peace.

BUREAUCRACY AND COMPULSION

Within a society the fallacious view that social order must necessarily be induced by some source of authority is at the root of one of the most famous and influential views of the third member of the sociological trinity, Max Weber (1864-1920). According to his 'ideal type' analysis of forms of political authority only three pure species existed: traditional authority based on precedent and recruitment by birth; charismatic authority based on intangible personal qualities with consequent self-appointment; and bureaucratic

authority based on legal-rational protocols and recruitment by merit and competence.

Although apologists for Weber might make the justified observation that this idealised typology relates only to forms of *political* authority, and not to other forms of social order, the fact remains that most sociologists assume that social order does rest on some kind of power or authority and that the roots of value-consensus, class ideology, collective consciousness or whatever reach down to foundation which are essentially comparable to those described by Weber. The fact that the influential sociologist Talcott Parsons systematised and abstracted Weber's categories into his famous 'pattern variables' of social interaction is the most outstanding case in point, but the observation that he ultimately introduced a final one based on a 'self/collectivity-orientation' dichotomy shows that in his view, as in that of the vast majority of sociologists, altruism (Parsons' 'collectivity-orientation') had to be opposed to individualism ('self-orientation' in Parsonian sociologese).

Yet refutation of the two preceding fallacies shows that social order *can* emerge spontaneously in a world of egoists and that Parsons' dichotomous 'self-' and 'collectivity-orientation' need not be a dichotomy at all. In a world where social exchange is not a zero-sum game and in which groups are not fallaciously regarded as having interests identical with those of their members, social order can and will emerge spontaneously, much as Adam Smith realised and the success of TIT FOR TAT demonstrated.

The false assumption that social order is necessarily based on imposed authority of some kind is closely allied to another of Weber's main interests, the theory of bureaucracy. If, to use suitably bureaucratic-sounding jargon, self- and collectivity-orientation were indeed opposites as Parsons assumed, then some form of inducement would presumably be needed to make individuals overcome their egoism. Presumably such inducements might be traditional or charismatic in origin; alternatively, and especially in modern societies, they might be bureaucratic - that is, inducements to act altruistically on the basis of legal-rational rules.

For Weber this was the defining characteristic of bureaucracy because personal and bureaucratic roles were ideally completely separated and the only criteria for judgement were legal-rational ones which, by definition, were couched in impersonal, altruistic terms which put the collectivity before the individual, the principle of the public good before the interests of the self. But the difficulty with this is that the altruism involved with such legal-rational administration is of a third fundamental kind, different from the two which we have reviewed so far and most decidedly not based on any kind of spontaneous cooperation.

This, third, residual form of altruism was named independently and almost simultaneously by the biologist Robert Trivers and myself *induced altruism*. It describes self-sacrifice which is brought about by way of obligation, coercion or deceit.⁶ An example in animal behaviour might be the activities of cuckoos, who plant their eggs in other birds' nests, to be raised by the latter at their very considerable expense (since the cuckoo is often much larger than the hosts' offspring).

Although this may seem paradoxical at first, the activity of the hosts must be called 'altruistic' if we are to be consistent in using that term in a purely objective sense to describe actual behaviour, not subjective intention (which obviously

makes no sense in the cuckoo case). Objectively, the hosts do indeed make a sacrifice for the cuckoo's offspring, just as they do for their own. Yet because they are not related to the cuckoo but belong to a different species and because they receive no personal reciprocal benefit they have performed an act, not of kin or reciprocal, but of induced altruism.

This is why, strictly speaking, predation or parasitism are forms of induced altruism, because in both cases one organism makes a sacrifice for another's benefit. Of course, this sacrifice is not voluntary, but this is, strictly speaking, beside the point. From the point of view of the victim of the predator or parasite they have been obliged to make a sacrifice which, had they made it for a near relative, would have qualified as a case of kin altruism. The fact that they were constrained to confer a benefit where they would not have freely done so is simply not relevant if it is objective outcomes which matter, not subjective intention.

THE MORALITY OF INDUCED ALTRUISM

Unfortunately, not even subjective intention is safe because, as Nietzsche pointed out, human morality as a whole can be seen to be founded on predatory self-interest. This is because morality reduces individuals' selfishness by demanding that they should not free-ride at others' expense, but pay. Consequently, if I benefit from that reduction in self-serving, then it might pay me to advocate altruism, especially since the potential altruists, being others, will always vastly outnumber me, being the beneficiary of some of their altruism. In other words, it pays potential free-riders to advocate payment by others.

Whereas the fact of human moral subjectivity might have tempted us to reject the whole concept of induced altruism as absurd, because so closely allied to selfishness on the part of the inducer, it now seems that the selfish benefits to individuals of others' altruism might actually explain such an emphasis on moral subjectivity and its widespread advocacy. Nowhere is this more relevant than in the case of bureaucracy. This is because individuals who make some sacrifice because of a legal-rational rule that they should do so are being induced to act in the public good; their altruism is obligatory, not necessarily based on a subjective sense of identification or objective reciprocity.

Effectively, legal-rational rules of the kind imagined to be supremely rational and inevitable by Weber demand unconditional cooperation from those who encounter them. This is because non-cooperation is usually punishable in some way and, by definition, non-legal-rational. In other words, such cooperation is not spontaneous but contrived, imposed or coerced. Like parasitism and predation, it is self-sacrifice which does not necessarily require the voluntary cooperation of those who are expected to make the sacrifice.

Bureaucratic coercion means that individuals are expected to play what I call SUCKER earlier on in relation to bureaucracy because they are expected to cooperate unconditionally with policies and directives which they are assured are in their, or the public, interest. This is all very well as far as it goes, but there is a very real danger lurking in this situation of which as individual members of the public we are mostly subjectively quite aware but which as social scientists we seldom feel is worthy of attention. The danger is that bureaucrats, administrators and public servants who find that legal-rational rules force others to play SUCKER

might be tempted to let their own response degenerate into something like DEFECTOR and to exploit the unconditional cooperation of others for their personal or collective benefit.

Predatory bureaucracies are certainly no figment of the imagination, and in societies which have taken holistic and zero-sum social game fallacies to their logical and inevitable outcome they have become the principal mechanisms of social adaptation. Even in our own societies the setting up of commissions, committees and all kinds of bureaucratic institutions is usually an almost automatic response to each and any social problem. We probably think, quite rightly, that most social problems originate in non-cooperation of individuals in various kinds of ways, but we are quite wrong to assume that enforced cooperation through bureaucratic, legal-rational authority is the only effective alternative.

Furthermore, we should not be surprised when such bureaucracies begin to come under the influence of powerful individuals, pressure groups, political parties and vested interests of various kinds. Such more-or-less organised forces will resort to inducing cooperation via bureaucratic interference if they fail to achieve it by voluntary means; and since their collective gain is likely to be vastly greater and more significant than the sacrifice to any individual member of the public they are likely to be highly motivated to do so, and may well succeed. In this way free-riding pressure groups and special interests will begin to play DEFECTOR to the public's obligatory SUCKER.⁷

Nowhere will this be more possible or effective than in regard to areas where altruistic concerns predominate, such as public welfare, health and safety, the environment, and so on. Here the self-interest of consumers, providers or other interested parties can be disguised as 'public spiritedness' and 'pure' altruistic concern for the general good, while their critics, opponents or non-cooperators can be branded as 'public enemies', 'exploiters', or 'class traitors'. What began as legal-rational domination in some imagined public interest degenerates into pressure-group manipulation of the public purse, policy and policing. Such groups will find it in their own self-interest to emphasise enforced social order against spontaneous order based on genuine mutuality, reciprocity and freedom.

By contrast, reciprocity seems a more promising prospect than reaction based on holistic social order, revolution based on a divisive one or regimentation founded on bureaucracy. Whether it will be given a chance to fulfill its considerable latent potential remains to be seen, but a reconsideration of fundamental assumptions about social behaviour along the lines followed here suggests that it merits careful consideration.

NOTES

1. Quotations from E. Durkheim and M. Mauss, *Primitive Classification* (London, 1963), p. 86. For a fuller discussion see C. Badcock, *Levi-Strauss* (London, 1975), chapter 1.
2. M. Olson, *The Logic of Collective Action* (Cambridge, Mass., 1965), chapter 3.
3. For a full discussion see C. Badcock, *The Problem of Altruism* (Oxford, 1986).
4. R. Axelrod, *The Evolution of Cooperation* (New York, 1984), p. 137.
5. M. and R. Friedman, *The Tyranny of the Status Quo* (Harmondsworth, 1985), p. 67.
6. The Concept of induced altruism was first discussed by R. Trivers in his *Social Evolution* (Menlo Park, California, 1985), and in C. Badcock, *The Problem of Altruism*, chapter 3 and Conclusion.
7. C. Badcock, *op. cit.*, chapter 3 and Conclusion.