Chapter 9

Rational choice theory

John Scott

It has long appeared to many people that economics is the most successful of the social sciences. It has assumed that people are motivated by money and by the possibility of making a profit, and this has allowed it to construct formal, and often predictive, models of human behaviour. This apparent success has led many other social scientists to cast envious eyes in its direction. They have thought that if they could only follow the methods of economics they could achieve similar successes in their own studies. These sociologists and political scientists have tried to build theories around the idea that all action is fundamentally 'rational' in character and that people calculate the likely costs and benefits of any action before deciding what to do. This approach to theory is known as *rational choice theory*, and its application to social interaction takes the form of *exchange theory*.[1]

The fact that people act rationally has, of course, been recognized by many sociologists, but they have seen rational actions alongside other forms of action, seeing human action as involving both rational and non-rational elements. Such views of action recognize traditional or habitual action, emotional or affectual action, and various forms of value-oriented action alongside the purely rational types of action. Weber (1920), for example, built an influential typology of action around just such concepts. His ideas were taken up by Talcott Parsons (1937) and became a part of the sociological mainstream. In a similar way, the social anthropologists Bronislaw Malinowski (1922) and Marcel Mauss (1925) looked at how social exchange was embedded in structures of reciprocity and social obligation. What distinguishes rational choice theory from these other forms of theory is that it denies the existence of any kind of action other than the purely rational and

calculative. All social action, it is argued, can be seen as rationally motivated, as instrumental action, however much it may appear to be irrational or non-rational.

A pioneering figure in establishing rational choice theory in sociology was George Homans (1961), who set out a basic framework of exchange theory, which he grounded in assumptions drawn from behaviourist psychology. While these psychological assumptions have been rejected by many later writers, Homans's formulation of exchange theory remains the basis of all subsequent discussion. During the 1960s and 1970s, Blau (1964), Coleman (1973) and Cook (1977) extended and enlarged his framework, and they helped to develop more formal, mathematical models of rational action (see also Coleman 1990).

Rational choice theorists have become increasingly mathematical in orientation, converging more closely with trends in microeconomics. Indeed, some economists have attempted to colonize areas occupied by other social scientists. This trend towards formal, mathematical models of rational action was apparent in such diverse areas as theories of voting and coalition formation in political science (Downs, 1957) and explanations of ethnic minority relations (Hechter, 1987) and, in a less rigorously mathematical form, social mobility and class reproduction. Economists such as Becker (1976, 1981) set out theories of crime and marriage. A particularly striking trend of recent years has been the work of those Marxists who have seen rational choice theory as the basis of a Marxist theory of class and exploitation (Elster, 1983, 1986; Roemer, 1988).

RATIONALITY AND SOCIAL EXCHANGE

Basic to all forms of rational choice theory is the assumption that complex social phenomena can be explained in terms of the elementary individual actions of which they are composed. This standpoint, called methodological individualism, holds that: 'The elementary unit of social life is the individual human action. To explain social institutions and social change is to show how they arise as the result of the action and interaction of individuals' (Elster, 1989: 13).

Where economic theories have been concerned with the ways in which the production, distribution and consumption of goods and services is organized through money and the market mechanism, rational choice theorists have argued that the same general principles can be used to understand interactions in which such resources as time, information, approval and prestige are involved.

In rational choice theories, individuals are seen as motivated by the wants or goals that express their 'preferences'. They act within specific, given constraints and on the basis of the information that they have about the

conditions under which they are acting. At its simplest, the relationship between preferences and constraints can be seen in the purely *technical* terms of the relationship of a means to an end. As it is not possible for individuals to achieve all of the various things that they want, they must also make choices in relation to both their goals and the means for attaining these goals. Rational choice theories hold that individuals must anticipate the outcomes of alternative courses of action and calculate that which will be best for them. Rational individuals choose the alternative that is likely to give them the greatest satisfaction (Heath, 1976: 3).

The methodological individualism of rational choice theorists leads them to start out from the actions of individuals and to see all other social phenomena as reducible to these individual actions. For Homans, however, it was also necessary to see individual actions as reducible to these conditioned psychological responses (see also Emerson, 1972a, 1972b). This position was justified on the grounds that the principles of rational choice and social exchange were simply expressions of the basic principles of behavioural psychology. While many other rational choice theorists have rejected this claim – and Homans himself came to see it as inessential – it is worth looking, briefly, at the argument.[2]

A PSYCHOLOGICAL BASIS?

The idea of 'rational action' has generally been taken to imply a conscious social actor engaging in deliberate calculative strategies. Homans argued that human behaviour, like all animal behaviour, is not free but determined. It is shaped by the rewards and punishments that are encountered. People do those things that lead to rewards and they avoid whatever they are punished for. Reinforcement through rewards and punishments – technically termed 'conditioning' – is the determining factor in human behaviour. This behaviour can, therefore, be studied in purely external and objective terms; there is no need to invoke any internal mental states. People learn from their past experiences, and that is all we need to know in order to explain their behaviour.

The inspiration behind Homans's psychology was the behaviourism of B.F. Skinner, developed from studies of pigeons. Food is the basic goal sought by animals, and Skinner held that animal behaviour could be shaped by the giving or withholding of food. Food is a reward that reinforces particular tendencies of behaviour. Humans, however, are motivated by a much wider range of goals. While pigeons will do almost anything for grain, humans are more likely to seek approval, recognition, love or, of course, money. Human consciousness and intelligence enters the picture only in so far as it makes possible these symbolic rewards. Homans did not see this as involving any fundamental difference in the way that their behaviour is to

be explained. The character of the rewards and punishments may differ, but the mechanisms involved are the same.

In social interaction, individuals are involved in mutual reinforcement. Each participant's behaviour rewards or punishes the other, and their joint behaviour develops through this 'exchange' of rewarding and punishing behaviours. While any behaviour can, in principle, reinforce the behaviour of another, Homans held that *approval* is the most fundamental human goal. Approval is a 'generalized reinforcer' that can reinforce a wide variety of specialized activities. Because of its generalized character, Homans saw approval as directly parallel to money. Both money and approval are general means of exchange in social interaction, one in economic exchange and the other in social exchange.

Not all rational choice theorists have relied on behavioural psychology in this way. Indeed, many remain quite deliberately agnostic about the ultimate determinants of human action. Following the example of many economists, they have seen their task simply as the construction of logically coherent, predictive theories of human action. Individuals, they argue, act *as if* they were fully rational and, therefore, rationality can be taken as an unproblematic starting point. There is no need to dig any deeper into individual psychology: whatever psychology may say about motivation does not affect the fact that social relations and exchange processes can be understood as if all individuals were purely rational actors. This argument is tenable only if a rather extreme positivist view of knowledge is adopted, and most realists would expect to find some attention given to the psychological basis of motivation and, therefore, to attempts to test out the adequacy of particular psychological assumptions. While these epistemological issues point beyond my present concerns (see Delanty, 1997), they should be borne in mind in the following discussion.

SOCIAL INTERACTION AS SOCIAL EXCHANGE

Following the economic model, then, rational choice theorists see social interaction as a process of social exchange. Economic action involves an exchange of goods and services; social interaction involves the exchange of approval and certain other valued behaviours. In order to emphasize the parallels with economic action, rewards and punishments in social exchange have generally been termed rewards and costs, with action being motivated by the pursuit of a 'profitable' balance of rewards over costs. The various things that a person might do – his or her opportunities – vary in their costs, but they also vary in their rewards. In many cases, there will be a combination of monetary and non-monetary rewards and costs.

The rewards received from goods purchased from a shop, for example, might include the intrinsic satisfactions that can be gained from their

consumption and the social approval that is gained from their status display. Stealing a car, on the other hand, might be rewarding because of the pleasures derived from joy-riding and the recognition accorded by fellow car thieves. These same activities, however, also involve costs. Items can be purchased from a shop only by giving up some of the money that a person possesses, and car theft involves penalties, such as imprisonment and social disapproval that will be incurred if the thief is apprehended and convicted.

The strength of a reinforcement is measured by its quantity and its value. For example, the more banknotes that a person receives, and the higher their denomination, the more of a reward they are likely to be. The quantity and value of social approval, on the other hand, is less easily measured, though it may sometimes have a monetary equivalent. Social exchange theories, however, regard this as a purely technical problem that exists only because we have not yet developed adequate methods for measuring it.

For many rational choice theorists it is not even a technical problem, as it can be handled in exactly the same way as the intangible satisfactions that people gain from the objects that they buy or sell with money. The value of a reward, they argue, is the 'utility' that it has for a person. While this subjective utility can vary greatly from one person to another, it is possible to construct preference curves that measure the *relative* utility of one object against another and, therefore, the likelihood that people will try to obtain them. In general, the utility of someone's behaviour is seen in terms of such things as the amount of their time that it takes up and the frequency with which they are able to do it.

Rational choice theorists also recognize that the *threat* of punishment or the *promise* of a reward may motivate people just as much as the punishment or reward itself. The threat of punishment, for example, may call forth appropriate behaviour from those who wish to avoid the punishment. This assumption allowed Homans to recognize the motivating role of threats and inducements in the conditioning of human behaviour.

This can be illustrated by the case where one work colleague helps another to complete a difficult task. Someone who helps another and, in consequence, receives their approval, is likely to help them and others in future circumstances where he or she expects this to meet with approval. Conversely, the more often that approval has been given to those who help, the more often are people likely to help others; and the more oriented a person is to approval-seeking, the more likely he or she is to offer help. However, the more often that a helper has been approved by others, the less likely is she or he to find this approval to be so highly rewarding in the future. Such relationships will also involve an exchange of punishments as well as an exchange of rewards. For example, a person who has been punished for an activity in the past is likely to avoid doing it wherever he or she believes that they are likely to be punished again.

The profit that a person gains in interaction is measured by the rewards received minus the costs incurred. Homans argued that 'no exchange

continues unless both parties are making a profit' (Homans, 1961: 61). What this means is that unless each participant finds it profitable, the interaction will not continue. The person who experiences a 'loss' finds the interaction more costly than rewarding and so will have an incentive to withdraw. A sustained social relationship, therefore, rests upon a balance of mutual profitability. Participants in social interaction engage in a calculus of rewards and costs and the interaction will continue in a stable form only if all participants are making a profit. Those who experience a loss will withdraw and will seek out alternative interactions where they are more likely to earn a profit.

Exchange relations are also power relations, as the resources that people bring to their social relations are rarely equal. The outcome of any particular exchange, therefore, will depend upon the relative power of the participants. This bargaining power varies with the dependence of each participant on the exchange relationship, and this dependence varies, in turn, with the extent to which there are alternatives available to them (Emerson, 1962; Heath, 1976: 24). If people are able to obtain a particular goal only through one specific social relationship, then they are highly dependent on that relationship and so will have little power to influence the 'price' that they have to pay. This reflects the fact that a monopoly supplier is able to use its market power to command a high price from its customers. Social exchange systems, like economic markets, range from this monopoly situation through various forms of oligopoly and imperfect competition, to the fully competitive. In recent work, Emerson's colleagues have analysed the generation of power in extensive networks of exchange relationships (Cook *et al.*, 1983).

PROBLEMS IN RATIONAL CHOICE AND SOCIAL EXCHANGE

Three interlinked problems have bedevilled attempts to depict theories of rational action as general theories of social action. These are the problems of collective action, of social norms, and of social structure. Critics have argued that a proper solution to these problems shows the need to go beyond, or even to abandon, the theory.

The problem of collective action is that of how it is possible to explain the co-operation of individuals in groups, associations and other forms of joint action. If individuals calculate the personal profit to be made from each course of action, why should they ever choose to do something that will benefit others more than themselves? The problem of social norms is the related question of why people seem to accept and to follow norms of behaviour that lead them to act in altruistic ways or to feel a sense of obligation that overrides their self-interest. This and the problem of collective action comprise what Parsons (1937) called the Hobbesian problem of order: if actions are self-interested, how is social life possible?

The problem of social structure is that of how it is possible for an individualistic theory to explain and take proper account of the existence of larger structures. In particular, it is the question of whether there are social structures that cannot be reduced to the actions of particular individuals and that, therefore, have to be explained in different terms. This problem is raised for all individualistic theories, but it takes a particular form in relation to rational choice theories.

I will discuss each of these three problems in turn, looking at the answers proposed by rational choice theorists and assessing the adequacy of their arguments.

THE PROBLEM OF COLLECTIVE ACTION

Rational choice theorists have incorporated collective action into their theories by requiring that the actions of groups and organizations be reducible to statements about the actions of individuals. Trade unions, political parties, business enterprises and other organizations may, then, all figure as actors in rational choice theories. Whenever it is possible to demonstrate the existence of a decision-making apparatus through which individual intentions are aggregated and an agreed policy formulated, it is legitimate to speak of collective actors (Cook, O'Brien and Kollock, 1990; Hindess, 1988).

The problem that these theories face, however, is that of showing how such organizations come to be formed in the first place. It is possible to show that rational individuals would join organizations that are likely to bring them benefits that outweigh the costs of membership and involvement, but why should individuals join or support organizations that provide benefits that they will gain even if they do not join the organization? Why, for example, should someone join a trade union if they will receive any negotiated wage increases in any case? Why will they join a professional association that works on behalf of all members of the profession, regardless of whether they are members of the association? This is the problem of the so-called 'free rider'. Rational actors have no individual incentive to support collective action. They will calculate that the costs of membership are high and that their participation can have no significant effect on the organization's bargaining power, and so they will conclude that they have nothing to gain from membership. Each potential member of a trade union, for example, will judge that as the sheer size of its membership gives it the necessary bargaining power, one extra member will make no difference. This leads to a paradox: if each potential member makes this same calculation, as rational choice theory expects them to do, then *no one* would ever join the union. The union would have little or no bargaining power, and so no one will receive any negotiated pay rises or improved conditions of work.[3]

The fact that people *do* join organizations and *do* become active in them must mean that there is something missing from the simple rational action model. Olson (1965) has suggested that collective action is sustained through what he calls 'selective incentives'. Unions might attract members, for example, if they can ensure that only their members will benefit from what they are able to negotiate. Selective incentives alter the rewards and costs in such a way as to make support for collective action profitable. Union membership is a rational choice for individuals if a 'closed shop' can be enforced, if pay rises are restricted to union members, or if unions can offer advantageous insurance or legal advice to their members. Hechter (1987) has generalized this point into the claim that associations are formed if it is possible for them to monopolize a resource and to exclude non-members. The fundamental problem remains, however. Organizations and associations that do *not* act in this way still do manage to attract members and, often, to thrive.

THE PROBLEM OF NORMS AND OBLIGATION

The related question is that of why individuals should ever feel any sense of obligation or wish to act in altruistic ways. Why, that is, should individuals obey norms that lead them to act in non-self-interested ways? Individuals pay taxes or join trade unions, for example, because they feel that they are under an obligation to do so or because they have some kind of moral or ideological commitment to the organization. Rational choice theorists tend to respond that norms are simply arbitrary preferences. Individuals may be socialized into all sorts of value commitments and will then act rationally in relation to these, whatever they may be. If people want to help others and get a sense of satisfaction from doing so, then giving help is an act of rational self-interest.

Other rational choice theorists find a solution in the existence of reciprocity. They argue that where social exchanges are recurrent, rather than episodic, it is possible for co-operation to emerge as a rational strategy. People rapidly learn that co-operation leads to mutual advantage, even if it does not produce the maximum outcome for any one participant. They learn, that is to say, that co-operation, rather than pure self-interest, is the optimum strategy. Ridley (1996: ch. 3) has argued that this must be seen as an instinctive response, as a genetically programmed innate predisposition for co-operation and reciprocity. The question remains, however, whether such an instinct exists and, if it does, whether it is powerful enough to generate the wide range of co-operative and altruistic behaviour found in human societies.

Equally important, it is not at all clear that rational choice theory can explain why co-operative and altruistic behaviour is so often sensed as a

normative matter, as a matter of obligation and commitment. Durkheim (1893) argued that all rational economic actions occur within an institutional framework of norms that cannot itself be explained as the result of rational action alone. The norms of fair exchange and reciprocity, for example, cannot be explained in terms of specific contractual acts of exchange.

This was, I have already suggested, the core of the Parsonian critique of the Hobbesian account of social order. Parsons (1937) held that self-interested rational actors cannot generate a stable social order on an economic (or coercive, political) basis. For Parsons, social order could be explained only through the recognition that there is a normative, non-rational element in individual contracts.

Blau (1964) attempted to counter the problem by suggesting that people are willing to incur costs and imbalances in their exchange relations when they are formed into long chains of actions. In these circumstances – which are normal in all societies – they anticipate that any loss can be traded in for a counterbalancing profit at some time in the future. People anticipate a long-term reciprocity that is in everybody's interest and so becomes accepted as a norm. However, this solution assumes that individuals will trust each other, and the whole point of Parsons' argument is that rational individuals have no incentive to build this trust in the first place. The framework of norms and commitments that sustain such trust relations cannot themselves be explained through rational action processes.

Coleman tried to overcome this problem by seeing the emergence of trust in social interaction as a rational response to attempts to build coalitions, but the work of Cook and Emerson (1978) has recognized that the existence of trust cannot be seen in purely rational terms. They show that the norms of trust and justice that individuals use in their actions have a moral force that runs counter to purely rational considerations. The sense of obligation is real and can be felt very strongly.

Elster, among rational choice theorists, has accepted this conclusion. He argues that norms are not 'outcome-oriented' but are internalized and so acquire a compulsive character that cannot be explained in purely rational terms (Elster, 1989: 119). Norms operate, he holds, through shame and guilt, rather than through rewards and punishment.[4] As far as the explanation of norms is concerned, rational choice theory has nothing to offer. Rational choice and normative commitment, he argues, are complementary processes in the formation of social action.

The assumption of instrumental rationality, then, cannot give a complete explanation of social order. A full account must incorporate an awareness of the part that is played by social norms and emotional commitments alongside the exercise of rational choice. This dependence of rational choice theory on assumptions from very different theoretical traditions was recognized by Heath (1976) in his review. While rational considerations may explain why particular individuals introduce and enforce social norms, they cannot explain how these norms come to be internalized:

> The rational choice approach can only explain what people *do*. It can explain why people might institute a norm and might then enforce it, but it cannot explain why they should change their values – for this is what internalisation amounts to. Values . . . must always remain a 'given' in the rational choice approach and to explain how they change we should have to introduce additional psychological mechanisms that have nothing to do with rationality (Heath, 1976: 64).

THE PROBLEM OF SOCIAL STRUCTURE

The methodological individualism adopted by rational choice theorists holds that all statements about social phenomena are reducible to statements about individual action. Explanation of social facts in terms of other social facts is, at best, a shorthand summary of the more detailed individual-level processes that produce them. Homans held that there are no independent and autonomous social structures: 'If you look long enough for the secret of society you will find it in plain sight: the secret of society is that it was made by men [*sic.*], and there is nothing in society but what men put there' (Homans, 1961: 385).

Homans claimed that his analysis of the 'elementary social behaviour' of face-to-face interaction comprised the 'subinstitutional' level of social analysis on which all large-scale social institutions depend. The greater complexity of the institutional level simply reflects the more indirect nature of many exchange relations and the greater use of such generalized reinforcers as money and social approval. The employee of a business enterprise, for example, exchanges work time for a wage that is received from a clerk in the salary department and not from a direct supervisor or from the owner of the firm. Instead of a direct exchange between the worker and the person for whom the work is undertaken, there is an indirect exchange that involves one or more intermediaries.

Those features of social life that are conventionally called 'social structures' are, for rational choice theorists, simply chains of interconnected individual actions. They are the 'patterns' that result from individual actions. It is because many of these chains can be quite extensive that social life can appear to have a life of its own. Cook, O'Brien and Kollock (1990) have recently drawn on arguments from social network analysis to suggest that social structures can be understood as chains of interconnection that form extensive exchange networks through which resources flow.[5]

The most successful attempts to explain the distinctive structural features of social life have seen them as the *unintended consequences* of individual action. It is the compounding of unintended consequences that produces social phenomena that individuals may be only partially aware of and that they experience as constraints. The classic example of this is the operation of market relations, as seen in economic theory. Through the operations of the com-

petitive market, it is argued, the supply and the demand for commodities is matched without the need for central planning and co-ordination. The matching of supply and demand is the unplanned and unanticipated consequence of many hundreds of separate individual actions. It must be said, however, that rational choice theorists do tend to deny any autonomy or constraining power for social structures. This claim is not inherent in rational choice theory but in the methodological individualism that, for most of its advocates, is adopted as a philosophical underpinning. In this respect, rational choice theory faces similar difficulties to most other social theories that have focused on action to the exclusion of social structure.

SUMMARY

In this chapter I have argued that:

- Rational choice theory adopts a methodological individualist position and attempts to explain all social phenomena in terms of the rational calculations made by self-interested individuals.
- Rational choice theory sees social interaction as social exchange modelled on economic action. People are motivated by the rewards and costs of actions and by the profits that they can make.
- Some rational choice theorists have seen rationality as a result of psychological conditioning. Others have adopted the position that it is simply necessary to assume that individuals act *as if* they were completely rational.
- The problem of collective action poses great difficulties for rational choice theory, which cannot explain why individuals join many kinds of groups and associations.
- The problem of social norms, the other aspect of the Hobbesian problem of order, also poses difficulties. Rational choice theories cannot explain the origins of social norms, especially those of altruism, reciprocity and trust.
- The problem of social structure is a feature of methodological individualism, rather than rational choice theory *per se*, but it creates difficulties for the theories considered. Solutions to this problem have been in terms of the unintended consequences of individual action.

NOTES

1 This chapter draws, in part, on Chapter 3 in Scott (1995).
2 Ekeh (1974: 111–19) questions the links between behavioural psychology and classical economics. He argues that they were not equated with one another but

independently guided Homans's work. The incompatibilities between them produced contradictions in his work.
3 Coleman's work showed that rational choice theories could explain the formation of voting coalitions *within* organizations, as individuals exchange support for one another, but he did not extend this to the formation of organizations or to citizen support for public goods. See Coleman (1990).
4 See also the argument of Barnes (1992) on this point.
5 The framework of social network analysis, which does not depend on the adoption of rational choice theory, is discussed in Scott (1991).

FURTHER READING

Coleman, James (1990) *Foundations of Social Theory*. Cambridge, MA: Belknap. A magisterial attempt to cover the whole field in a systematic way and to present rational choice theory as the only reliable basis for a comprehensive social theory.

Elster, Jon (1989) *The Cement of Society*. Cambridge: Cambridge University Press. An important summary by an advocate of rational choice theory as the basis for a reconstruction of Marxism.

Downs, Anthony (1957) *An Economic Theory of Democracy*. New York: Harper and Brothers. A pioneering study that still has much to offer, especially in relation to the drift towards the centre in competitive political systems.

Becker, Gary (1981) *A Treatise on the Family*. Cambridge, MA: Harvard University Press. A *tour de force* that tries to show, amid much mathematics, that rational economic assumptions have more to offer than any other framework for the study of the family.

Heath, Anthony (1976) *Rational Choice and Social Exchange*. Cambridge: Cambridge University Press. An early critical summary that still has much to offer for a balanced assessment of rational choice theory.

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Chapter 10

Complexity theory

Tim Blackman

COMPLEX SYSTEMS

Human knowledge has traditionally been divided between the natural sciences and the social sciences. This division is based on the different types of theory and method that have developed to explain what have been treated as different processes of change in society and nature. Social processes are usually regarded as complex outcomes of interaction between social structure and human agency. Natural processes, on the other hand, are conventionally regarded as determined by laws of nature.

The social Darwinists attempted to explain society in the same terms as Darwin explained the natural world as an outcome of the 'law' of natural selection. These attempts are now seen as at best misinformed and at worst driven by racist ideologies in which some preferred racial characteristics are regarded as superior to others. However, it is clear that there are limits to how far human activities can ignore natural processes because the sustainability of these activities is a major issue. We are realizing that we must organize human activities so that they do not outstrip the recycling capacity of natural systems. This realization has come about through feedback processes between natural systems and human systems, such as the global warming effects of industrialization. Thinking in terms of 'systems' in this way helps us to understand processes which are internally organized and have boundaries that *connect* the system with its environment rather than separate it.

The natural sciences use the concept of 'system' to describe a pattern of relationships between elements that together comprise a whole that is differentiated from its environment, such as the ecosystem of a pond.