1. Rationality and social structure: an introduction

The question of rationality has been reopened gradually in sociology over the past couple of decades. Sociology defended its jurisdictional boundaries 20 years ago by presenting itself as the science of the irrational: of sentiments, of basic value commitments, of the folkways and mores, of informal ties in primary groups. In *The Structure of Social Action* Parsons (1937) had presented us with a birth myth in which sociology was born out of the decay of utilitarianism, as Durkheim, Weber, Pareto, and even Alfred Marshall realized that the framework of rationality was given by deeply irrational value commitments embedded in religion, or in habitual commitments to the values embedded in work activities, or simply, in Pareto, in the unreasonableness of humankind.

Rationality in the sociological writing of those days was the stuff of economics, or of the rational managers who created the formal organizations in which warm irrational workers formed primary groups, or it was what we methodically eliminated to arrive at the core subject of sociology, the irrational residues. Social movements were outbursts of irrational sentiments in the face of social and technical changes that people could not handle by rational means. The rational was none of our business, and we started to claim formal organizations for sociology only when Herbert Simon argued they were not so rational after all.

The boundary defining enterprise of the discipline has broken down in two ways in the last couple of decades. What was inside the boundaries has come to be analyzed as rational, or at least pretty sensible, behavior: people get jobs when they are young and help when they are old through sentimental ties, weak and strong; social movements are attempts to grasp power opportunities for one's own

or one's group's ends; informal groups at work defend privileges and form the basis for strong printers' craft unions; basic value commitments against contraception turn out to make very little difference any more in fertility rates, and the best predictor of Catholic fertility turns out to be how many children Catholics want.

But at the same time behavior that is analyzable in rational terms has turned out to have social components: the solutions to games in game theory turn out to depend on the amount and kind of communication, small numbers bargaining and opportunism in markets give rise to rational strategies whose outcomes depend on the numbers of people and the normative arrangements in which they take place, and the outcome strategy is sometimes to build a different, hierarchical, social structure; with highly variable and uncertain markets hiring craft or professional labor is more rational than super-rationalized 'fordism,' because by hiring traditional skills one hires socially maintained human capital and socially induced industrial discipline; Judge Gary's dinner circle turns out to be central in maintaining oligopoly pricing discipline in the steel industry. Of course, if we, and Parsons, had read Weber's *General Economic History* more carefully (1923: e.g. at 356) we would have known the boundaries between the rational and the social had broken down a lot earlier.

This movement to reintroduce rationality into the analysis of social structure and social structure into the analysis of rational action has been closely related to a program of methodological individualism in sociology, or an interest in *mechanisms* by which social structural outcomes come about. In Parsons' version of Durkheim (and to quite an extent in Durkheim himself) the social structure, through value commitments and the like, had direct access to people's feelings and formed the preferences on which rational action was based; Australian aborigines did not make up their minds what social groups to be loyal to, nor did people collect evidence from their social experience on how much their lives were worth which entered into their suicide decisions.

Consequently the mechanisms by which Durkheim conceived social forces to operate were not, by and large, ones of conscious calculation nor other forms of rational maximization. Durkheim had a tendency to raise this opacity to the mechanisms by which social sentiments, norms, or ideas got into the minds of individuals into a methodological principle: one ought not pay attention to individuals at all because

individual level explanation was selling our birthright as a discipline for a mess of social-psychological pottage. For a young discipline unsure of its respectability, such voluntary ignorance as a badge of professional identity was appealing, and it did little damage because we did not know how to construct any less opaque mechanism by which social structural forces could operate; the opportunity cost of reputable sociological ignorance was not high.

The search for mechanisms at the individual level has proceeded in several directions, not all of which depend on rationality in any explicit sense. George Homans said he was using mechanisms from behavioral psychology in *Social Behavior: Its Elementary Forms* (1961), and so brought up especially sharply the problem of professional jurisdiction – many sociologists did not so much reject his reasoning as his implication that sociology was a branch of psychology. At any rate rational thought or maximization played no substantial rôle at the individual level in Homans' theoretical work on exchange theory, though the theory clearly had individuals as its basic causal units.

An example that I like illustrates how a social process need not involve rationality to be explicable at the individual level: when two people sleep close to each other all night by 'spooning,' with one's front toward the other's back, then when they turn over the one now in back does the adjusting so that his or her thighs go under the buttocks of the other; then when they turn over again the other adjusts downward. This racheting brings the couple downward to the bottom of the bed during the night. It is clearly social, since when they sleep alone the same people do not end up at the bottom of the bed. Yet it is done at a very minimal level of consciousness; it may reward both, but they are certainly not optimizing.

Besides Homans, R. B. Zajonc's wonderful paper, 'Feeling and thinking: preferences need no inferences,' (1980) supplies psychological mechanisms that are explicitly different from rational analysis of which objects are preferred, in a way much more compatible with Durkheim's original notions about how sentiments get into people's minds than the conceptions common in rational actor theory. But building these mechanisms into sociological explanations will take a lot of work, and will not serve the latent function of defending sociological turf.

The tradition of organizational sociology founded by Herbert

Simon starts with a rational actor model, analyses departures from it ('bounded rationality') more or less in the terms of rational actor models, and then allows social influences into the large areas between the actual 'bounded' calculations and rational optimization. Peter Blau's *Exchange and Power in Social Life* (1964) or various works of James S. Coleman on collective decision theory (e.g. 1973) are conscious attempts to use rational actor theory adopted from economics, and the most vigorous branches of institutional economics, such as 'industrial organization' as represented by Frederic M. Scherer's *Industrial Market Structure and Economic Performance* (1980) or the *Markets and Hierarchies* branch as represented by Oliver Williamson (1975) are not now so much diatribes against the rational actor model after the style of Thorstein Veblen but instead analyses of rational actors set in varying institutional circumstances. That is, rational actors now constitute social structures out of individual acts in much reputable sociological theory.

But these explicit theoretical models of individuals that can produce patterns in social interaction are probably not the main way that methodological individualism and rational or sensible behavior have entered into sociological analysis. Much more often we adduce individual thought about how to behave in various circumstances *ad hoc* in sociological work that attempts to explain particular social structural outcomes. For example, I offer the hypothesis below that in family tenancy systems in which the landlord's only economic rôle is to supply land in return for a rent, the tenants will believe that they could run the farm themselves, while in plantation systems producing agricultural products for export markets on a large scale with extensive onsite capital equipment, the proletarians are not likely to think they could run the farm themselves. This is used to explain why land reform or revolution tends to be an outcome of family tenancy systems.

To make this *ad hoc* psychology believable one need not choose between Oliver Williamson and George Homans, nor explore with Zajonc's psychological mechanisms how much love of the land is induced in the two situations. Similarly when Merton argues that a lot of businesses, especially illegal businesses, will be willing to contribute money and perhaps jobs to a political machine in return for various privileges, privileges which will not in turn hurt the constituencies of

the machine (or not hurt in a way that loses votes), he does not need to know whether the businessmen are optimizing or whether their rationality is bounded, or whether they are really just being nice to politicians they have learned to like and trust and not acting rationally at all. Similarly the question of the exact form of individual level calculation involved in food riots need not worry the resource mobilization theorists of social movements, once one can show that participants are not irrationally bursting out because of too rapid social change or because of the disruption of their secure rural folkways by urbanism and capitalism.

In the individual level causation in the mechanisms in the essays in this book I treat the problem of rationality in a thoroughly *ad hoc* fashion. Sometimes the treatment is thoroughly neoclassical microeconomics, as for example in the paper on industrial labor markets as determinants of mobility patterns (though the mathematical treatment is a lot less formal than would be acceptable in economics). Sometimes I assume that people will use whatever categories they are provided by their culture, as in the analysis of the stratification culture of the old regime and the French Revolution, without addressing the question of whether any higher level of rationality might be available to them but certainly not postulating that they are maximizing under the conditions they happen to find themselves in. The fact that both essays appear in the same book in a series on rationality and social change, and the insistence by Cambridge University Press on a higher level of intellectual integration of the book than the essays themselves could provide, provide an opportunity to address the relation between theories of rationality and social structural analysis.

Rationality as a variable

The central trouble with discussions of rationality is that we are taught by economists and decision theorists to treat rationality as an *assumption*. Only if rationality is an assumption can one derive the mathematical results from it by which economists and decision theorists make their livings. But in the real world rationality is a variable to be explained: some people are more rational than others, or we would not need mental tests of mathematical talent (mathematics is certainly one kind of rationality); people are more rational in some rôles than in

others, or we would not need to segregate their work rôles from their family rôles; people in some concrete social structures are more rational than in others, or New England manufacturers would not need to send complex goods through the social structure of the port of New York where people have more market information rather than through nearer and cheaper ports; some arrangements of economic structures facilitate rationality more than others, or neoclassical economists would not be able advise us about why free competition in the United States gives such efficiency advantages over the monopolistic Japanese; some decisions induce more rationality than others, or one could sell more common stocks at higher prices by playing Muzak, the way one can sell more cosmetics; some cultural subsystems facilitate some kinds of rationality, or we would not teach the calculus, one small part of our cultural system, as a prerequisite for engineering or economics or operations research. Much of the discussion of rationality is about the bootless question of the defining characteristics of the dichotomy, rational versus irrational. But that is like classifying poker hands into winning or losing – it all depends on what hands they are up against.

The degree of rationality is at least two types of variable. In the first place it is a variable describing minds, or bits of minds. People's minds are more rational in general, for example, if they have a large amount of causal knowledge about their situations of action; people's minds are more rational in particular at those kinds of actions they have been trained in and in which they have a lot of experience, as human capital theory tells us. In the second place it is a feature of structures of action, so that people can for example make more rational market decisions about complex or innovative products in New York than in New Haven because there is a larger and cheaper supply of world-wide market information in New York. Training and experience that increase individual level rationality provide the ability to construct adequate social structures that produce systems of information to make rational decisions, so that a high toned and experienced accountant can build a structure of accounting routines that can make reasonable estimates of the present value of alternative investments for a chemical company, and an experienced construction engineer can set up a system of test boring to estimate the load-bearing capacities of the subsoil before building a dam on top of it. Some of the

variable rationality of social structures is the result of the variability of the individual rationality that designed them.

One of the things that functional structures do is to provide the materials for individual level rationality. The system of market information in a world-class port such as London or Rotterdam or New York is viable because shippers use the port, so that the carriers of that information can make higher profits or wages by working in the port than by working elsewhere. At any given time it is usable to so many shippers because it is there, a deposit of past history of port activity and the wholesaling, banking, stock exchanges, and insurance connected to port activity. But its being usable for increasing the rationality of a great many people ensures that it will still be there to be usable for the people with a use for it a decade hence.

Similarly if a multidivisional decentralized administrative structure results in the capacity to make a stream of more rational decisions for the various parts of a firm selling in various differently organized markets, the various executives of the firm will use that structure instead of fighting it, and it will still be there to adapt to multiple markets next year. If universities that participate extensively in scientific research gain reputations for high quality training that enable them to recruit students who will pay higher tuitions (or to gain higher subsidies per student from sympathetic legislatures), the universities will balance their budgets in more years than less prestigious liberal-arts colleges, and will be here to carry on research again while teaching the next generation. Capitalism came to dominate the world system not by its greater unscrupulousness in conquering colonies than characterized feudal empires, but by its greater capacity to strengthen the metropole by exploiting colonies because of the greater economic rationality of capitalistic production and trade. Structures that facilitate rationality gain viability from that capacity, if they can exact contributions from those that use those capacities.

The causes of the varieties of rationality

The argument above implies that the causes of variations in rationality divide into two great classes: improvements of the minds of individuals and improvements in social structures facilitating rational behavior. It is immediately obvious that the classes are not disjoint,

that for example people improve their rationality of investments more by experience in stock markets than by experience with stocks sold by a local prince in Bali in Geertz's *Peddlers and Princes* (1963), where no one thinks of demanding an accounting nor of collecting their profits. One learns more in New York than in Bali because structures that facilitate rationality teach rationality. And conversely rational social structures are quite often set up deliberately by pretty rational people who invent them, as Alfred Chandler's account of the administrative reorganization of du Pont in *Strategy and Structure* (1962) clearly shows.

Nevertheless causes of rationality at the individual level such as relevant personal intelligence, education, experience, a high level of attentiveness to a set of decisions, time to collect and reflect on information and an inclination to do so, are distinct from social structural level causes such as recruitment policies that select for intelligence, education, and experience, or staff administrative structures that provide time and formalized rewards for attentiveness and for collecting and reflecting on information. The rationalization involved in a money economy, much emphasized by Max Weber, is a different level of cause than the facility with arithmetic and a good memory for the details published this morning in the *Wall Street Journal* which makes a person a good stockbroker.

Of course, all social structural facilitators of rationality have to act through individuals who, on the average, come nearer to the right answer (or help others to come nearer), because helped by the structure. But it is quite often not a sensible strategy of sociological investigation to concentrate on this individualistic truism. If one is looking for the origins of the money economy, one would be ill advised to start with the world distribution of numerical talent.

Sociologists have as their distinctive mission in the science of rational decision to analyse the social structural causes of rationality. That does not mean that they must take a professional pledge to remain ignorant of individual causes, such as writer's block as a hindrance to the rational advance of science; it only means they may not be much good at analyzing it (see 'On getting hung-up' below). And it does not mean that sociologists' explanations ought to be of a form in which individual actions cannot be incorporated; it means instead that individual level causes may turn his or her social structural

predictions into statistical ones. For example I predict different rates of different kinds of mobility for people differently situated in industrial labor markets, instead of predicting which person will move at which time (see 'Social Mobility in Industrial Labor Markets' below).

The social structural explanations may take various forms, illustrated by various of the papers reprinted here:

(1) General preconditions of rationality. One way to set about the social structural explanation of rationality is to derive the general requirements of rationality from an analysis of action at the individual level. For example, individuals can compare profitabilities of different lines of action better if they can calculate them. Starting with this individual level observation, Weber searches either historically or theoretically for conditions that facilitate the calculation of profitabilities: if all costs and returns can be represented in money terms, if one lives in a business tradition that enters costs and returns in different places in the accounts, if costs and returns do not fluctuate wildly in response to political or military events so that one can control profitability by systematic productive work, if the risks are in small parts of the business at any one time rather than to the whole adventure, and are consequently easy to insure and so to render calculable, then profitablities are more calculable. Weber then sets off to treat each of these determinants as a dependent variable in his historical research and in his theorizing about the causes of rationalization. My review of Weber below treats this as the dominant thrust of Weber's work on the economy.

I have applied this general strategy (without the stage of historical research) in *Creating Efficient Industrial Administrations* (1974), a work too extensive to reproduce here. A somewhat perverse application of the strategy is represented in a paper, also too extensive to reproduce here, on what the requirements are for rationality in the kinds of decisions we make under the influence of love, which I wrote with Carol A. Heimer: 'Love and irrationality: it's got to be rational to love you because it makes me so happy' (1980). There are traces of the same strategy of explanation in the paper, 'On getting hung-up,' below, though choosing research, carrying it through, and presenting it to a scientific public, are a special form of rational behavior and the causes I propose do not have the world-historical

sweep of Weber's. This strategy then starts at the level of explaining individual rationality to get its dependent variables, which it then gives social structural explanations for.

(2) Functional explanations of social structures by variations in what is rational in their settings. Much of the sociological work on the determinants of rationality takes the form of what has come to be called 'contingency theory' in the sociology of formal organizations. A representative of this variety of theorizing is the paper on 'Bureaucratic and craft administration of production' below. The argument there explains the existence of craft labor market structures in construction, but not in mass production manufacturing, by the fact that under the conditions of the construction market, it is not rational to construct and pay for a bureaucratic administration that will be running idle all winter. Craft institutions in construction create most of the elements of industrial discipline that are created by bureaucratic administrations in manufacturing. The fact that for most construction jobs one can outcompete a bureaucratically organized construction enterprise with a craft organized one explains why, once the craft structure exists, bureaucratic forms do not drive it out of existence.

But from the point of view of rational actor theory with individuals as actors this is not an adequate explanation, because it does not tell why it was ever rational for people to build such institutions, or how they now meet all their functional prerequisites with actions that seem rational to their members, or why no one reorganizes the market so that the variability that makes bureaucracy irrational disappears (officials in the USSR have reorganized the market, and craft institutions have almost disappeared); in short it does not specify adequate mechanisms at the individual level for the functional explanation to hold water by the high standards Elster has proposed (for example, in his *Explaining Technical Change*, 1983).

But while this strategy of functional explanation by social structural rationality may not be very philosophically satisfying, several of the pieces below urge that it is often empirically fruitful. In one case where it is fruitful below it has a trivial purpose, namely to give a quick memorable summary of causal connections to help a reader remember them ('Agricultural enterprise and rural class relations'). For example, plantation agriculture tends to be found only in the growing of crops for which a great deal of labor is needed throughout the