SOCIAL CHOICE AND CULTURAL BIAS

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PREFACE

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These three essays are the fruits of a little Winter Study, in December 1981, which enabled Mary Douglas and James Douglas (both of Northwestern University, Illinois, USA) to visit the System and Decision Sciences area at IIASA, there to collaborate on an interdisciplinary (or, more properly, non-disciplinary) task. 'Institutional bias' was the provisional title for what we had in mind and our aim was to try to wrap some cultural and political context around the paradoxes of social choice.

The Western liberal tradition holds rationality and individuality in high regard. It has to; otherwise it would not be liberal, nor would it cohere long enough to become a tradition. But too high a regard for reason may exaggerate the part played by conscious design in the conduct of human affairs, and too high a regard for the individual may exaggerate both his ability to identify the things that he values and his scope to arrange them in an order of his own choosing. The unity of these essays lies in their common critical theme; all three, in their different ways, take issue with the liberal tradition.

James Douglas' point of departure is the recognition that actual political systems coped very effectively with the paradoxes of social choice long before Condorcet and Arrow revealed that those paradoxes existed. Since they could not have been consciously designed to do this, these systems must have evolved. The lowly dung beetle, as it decides whether to try to find a new and untenanted cow-pat or to stick with the ever crustier one that it has, follows a personal strategy so subtle as to require integral calculus in its solution. Could it be that we are no better equipped to design our political institutions than is the dung beetle up to doing 'A level' mathematics? Trial and error--success and failure over countless generations--we conclude,

is what has led the individual dung beetle to the so-sensible strategy that it shares with every other dung beetle.* The rational-choice theorist, if he could bring himself to study so distasteful a subject, would have to conclude that, with such a lack of variation in the preference orderings of cow-pats as we go from one individual to another, there is some form of dictatorship operating within the dung beetles' social system. Of course, in the dung beetle case, the lack of individuality--the dictatorship--is about as extreme as it could possibly be and it would be foolish to pretend that it provides a more valid model of human social life than does the theory of rational choice. No, our aim is not to jump to the dung beetle's extreme but, rather, to ask: 'extreme from what?' The answer has to be: 'from a situation in which, because the individual preference orderings are so gloriously varied that no parrallelisms--no little clumpings or mutual alignments--can exist, there can be no dictatorship'. We would argue that such a situation, though intellectually intriguing, has nothing to do with the description of the life of man in society...apart, that is, from saying that it is not like that.

The "invisible dictators"† that the rational-choice theorist conjures up in response to the parallelisms--the departures from individual perfection--that he continually bumps up against are, collectively, an old friend of the anthropologist. They are *culture*. The only trouble is that invisible dictators are plural and culture is singular. To resolve this paradox we begin by defining our extreme at the opposite pole to that defined by

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*Apart, one presumes, from the occasional mutant. I have slightly simplified the dung beetle's social life and it is, in fact, only the male that follows this strategy. Females, when they set out in search of fresh cow-pats, follow the richest scent and, at the moment that scent suddenly vanishes, they drop to the ground. Males station themselves a short distance upwind of their cow-pats and, in consequence, those males that manage things so as to spend as much time as possible beside new and strong-smelling cow-pats and as little time as possible on the wing between them are the ones most likely to pass on their genes to future generations.

†Invisible because, in the dung beetle case, the ethologist will assure him that there is no evidence of social stratification --no Generalissimo Beetle--within this social system. The same is often true of parallelisms within human social systems. The individual whose preference ordering happens to correspond to the best social choice in such a system of constrained individualism often turns out to be no more or less influential than his fellows. Sometimes this social choice is not even taken up by any individual. The dictatorship--the source of constraint on the full flowering of individualism--does not lie within those who are constrained; it is as if some ethereal being, somewhere behind them, is pulling the strings.

the theory of rational choice. Instead of the fine independence of the individual we take as our model the dung beetle. 'To what extent, and in what ways, does our behavior distance us from it?' we ask, rather than 'to what extent does our behavior fall short of the individualist ideal?'. But are not these differences, like a knot in a length of string, simply different ways of measuring the same thing? No, because there is no continuum--no measuring scale--between these two extremes. Total dictatorship is attainable; perfect individuality is not. We can measure our divergence from the attainable but not from the unattainable, and the attempt to do the latter we label 'the individualist fallacy'.

The dung beetle has, over the generations, adapted so as to take advantage of the adoptive possibilities of an environment within which certain laws (such as the progressive drying out of cow-pats) hold inexorable sway. In much the same way, actual political systems have evolved to take advantage of an environment wherein Arrow's impossibility theorem holds away. But what is particularly interesting is that, though all these systems cope with the paradoxes of social choice, they do not all cope with them in the same way. Mary Douglas comes in at this point and, venturing into the untrodden terrain that lies between cultural anthropology and organization theory, sketches out a three-fold typology of socially viable organizations, each one of which stabilizes itself with the aid of its appropriate and distinctive cultural bias. So it is culture--man's self-reflexive ability--that distances him from the dung beetle. At the same time, this idea of cultural biases stabilizing their appropriate social organizations ('departures from individual perfection' from the rational-choice viewpoint) allows us to reconcile a plurality of invisible dictators with a singular culture.

The final essay explores the way in which these two levels--the cultural biases that always intervene to prevent the attainment of perfect individuality and the political systems that cope with the paradoxes of social choice--fit together. Cultural biases, it argues, are in perpetual contention. One organizational form may, for a time, gain dominance but it can never permanently eliminate the others. Within this flux certain conjunctions of cultural biases (and of their associated organizations) are stabilizable (or, at any rate, change only in slow time) and these persistent regularities we label 'political regimes'.

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HOW ACTUAL POLITICAL SYSTEMS COPE WITH THE PARADOXES OF SOCIAL CHOICE

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Government is a method of making decisions for and on behalf of a collectivity, the nation. Two well worn propositions seem to lie at the heart of our Western concept of idealised democratic government. The first is that the rightness of a decision is judged by the resultant good to the members of the community. Economists call this collective good a "public (or social) utility (or welfare) function". But we are constantly referring to the same basic idea when we speak of "the public interest", "the good of the community", "the national interest" and so on and so forth. It is hardly possible to read a political speech without encountering this notion in one form or another. This first proposition is essentially what we mean by government <u>for</u> the people. The second proposition is that the judges of the good of the people are the people themselves. This is what we mean by government <u>by</u> the people. This, too, is closely linked to an economic notion: that the "good" or "utility" is what people choose or "prefer." "Utility" and "preferences" often become almost interchangeable terms. Any suggestion that the public good should be determined by anything or anybody other than the citizens themselves somehow seems undemocratic to the Western ear. Certainly

if a view of the public good imposed on society by an external force can be shown to be contrary to the preferences of the majority of the citizens themselves, we have no hesitation in describing such a system as tyrannical or despotic.

The Western ideal of democracy sits astride these two propositions. If democracy were defined only as government for the people - maximizing the social welfare function - a benevolent despotism would be democractic even though it lacked elections, parliaments and all the characteristic political institutions of democracy. At the same time I shall argue in this paper that government by the people - the mere aggregation of the preferences of citizens - is an insufficient definition if only because preference aggregation runs into insurmountable logical and technical problems. Thus governmental systems, consciously or unconsciously, have to work out some way either of limiting the choices presented to the public or take account of factors other than the preferences of citizens. I shall argue further that the devices adopted for this purpose are influenced by the interaction between their institutional structures and their political cultures. In short the ideal of democracy involves some imposition of government <u>for</u> the people on government <u>by</u> the people, the exact balance of which is determined by the system's historical evolution.

The language of Western democracy frequently mixes together preferences and interests, individual volitions and the collective good. While a great deal of the machinery of democratic government is directed at eliciting preferences - elections, lobbying, representation of interests, consultation, etc. - the extent to which government by the people depends on individual volitions is obscured by our use of collective nouns and adjectives. When we speak of the "general will" or "the will of the people," we are guilty of a collectivist fallacy, assuming that the "public," the "people," the "electorate," the "community" (or whatever collective noun we are using) can

be said to have a will in the same way as an individual can be said to have a will. Without getting too far involved in the controversies regarding subjectively assessed and objective interests, we should note that unlike the language of volitions, the language of interests may avoid the collectivist fallacy. There is a sense in which a collectivity can be said to have an interest. The confusion seems to go back, at least, to Rousseau (or, at least, to his interpreters) and to be responsible for the so-called "dictatorial" or "totalitarian" interpretations of the Social Contract. This use of language confuses two different conceptions of the state: the Platonic conceptions of the state whose interests and whose laws can be rationally deduced from the ideal conception of the state, and the Benthamite conception of the national community as a mere aggregation of individuals. Tension between these two concepts of the public good permeates Western democratic institutions.

Right at the outset of the Introduction to the Principles of Morals and Legislation, Jeremy Bentham asks this question: "The community is a fictitious body, composed of individuals who are considered as constituting its members. The interests of the community then is what?" -- and provides this answer: "The sum of the interests of the several members who compose it."[1] And he then, of course, goes on to work out this answer by developing as the central principle for both morals and legislation, "the greatest happiness of the greatest number". We now know that this is far too simple and naive a solution to the problem of aggregating the "sum of the interests of the several members who compose" the national community.

The problem arises when, with Pareto rather than Bentham, we decide that the only practical criterion of the interests of these "several members" is their own preferences. One consequence of avoiding any other criterion is the impossibility of making inter-personal comparisons of utility. So long as the

good is determined only by individual choices, the relative value of two contradictory choices can obviously only be judged by reference to some external criterion. In a hypothetical two-person state, if A and B make contradictory choices, the state can prefer A's choice to B's choice only by reference to some criterion other than the preferences of its two citizens, although the criterion could, of course, be no more than an agreed decision rule for dealing with such a stalemate. Furthermore, since we cannot get in to each other's minds, we can never really compare one man's good with another's. So conventional (or more precisely, Paretian) economics has in general given up the search for cardinal utility and confines itself to ordinal utility.

The fallacies of the hedonistic calculus were explored much earlier, but the real depth charge under the whole notion of aggregating preferences is detonated in 1951 by Kenneth Arrow in Social Choice and Individual Values.[2] He showed that "if we exclude the possibility of interpersonal comparisons of utility, then the only methods of passing from individual tastes to social preferences which will be satisfactory and which will be defined for a wide range of sets of individual orderings are either imposed or dictatorial."[3]

Arrow postulates that a rational method of arriving at a social or collective preference should satisfy these four conditions:

1. Unrestricted choice. Whatever the order in which each member of a collectivity (of three or more members) places his preferences amongst three or more alternatives (always assuming each individual ordering is, of course, logical and transitive), it should be possible to aggregate them.
2. If every member of the collectivity prefers one alternative to another, the social preference should do so too. This is usually called the Pareto principle.

3. The preference of one individual in the collectivity should not automatically become the social preference regardless of the preferences of all other individuals. Arrow calls this "non-dictatorship".

4. Independence of irrelevant alternatives. This requires that the social ordering of a given set of alternatives depend only on the individual members' preference orderings of those alternatives. Amongst other things, this condition excludes the possibility of interpersonal comparisons of utility.[4]

Arrow's proof consists of demonstrating the surprising fact that these four apparently commonsensical conditions are mutually incompatible. In this paper, I consider this incompatibility as placing constraints on the possibility of eliciting social preferences from individual preferences and will show how actual political systems evade the constraints implicit in these four conditions of rationality.

Political theorists appear to have at first dismissed Arrow's Impossibility Theorem as a minor difficulty - perhaps assuming that the difficulty only arose with exotic or unusual distributions of preferences - but soon after, an extensive literature developed.[5] Some of this literature was directed at finding ways around the Impossibility Theorem either by questioning Arrow's definition of rationality (including the four conditions listed above) or by imposing certain relationships or conditions on the preferences to be aggregated. Much of the literature is also concerned to use Arrow's theorem to predicate something about the way democratic systems will operate. This literature has emphasized the importance of agenda setting in democratic practice - the way in which, as William Riker puts it, decisions are "subject to the tricks and accidents of the way questions are posed and the way alternatives are offered and eliminated."[6] The agenda setting line of argument also points to the significance of non-decisions - the way in which

outcomes can be influenced by keeping an issue away from the decision-making machinery of government. It should be emphasised that what Arrow's theorem proves is that it is impossible to devise an aggregation device that can be sure of producing a social preference under his four conditions of rationality not that it is impossible to devise an aggregation device that will ever produce a social preference. For some purposes it is enough that a collective social preference may be produced but for other purposes, including elections, the mere possibility of failure is sufficient to condemn the device. In the latter cases, the only solution is to infringe one or more of Arrow's four conditions. Curiously enough democratic institutions appear to have operated in such a way as to avoid the pitfalls of aggregations by infringing one or more of Arrow's conditions long before the rational constraints on the process were understood.

Restricting Choice

We now know that part of Arrow's paradox was foreseen two centuries earlier by the French mathematician and political theorist, Condorcet. Arrow himself in 1951 seems at first to have been unaware of Condorcet's voting paradox. Frenchmen refer to this as the "Condorcet effect" or the paradox of "l'introuvable elu". It is only when Arrow reformulated his theorem in 1963 in the second edition, that he added a chapter acknowledging Condorcet's contribution which he had previously assimilated only indirectly through the work of the Australian E. J. Nanson. Condorcet had shown that with more than two alternatives and more than two voters, it was possible to get a circular majority such that no alternative would satisfy a majority of the electorate. A majority could prefer A to B, and B to C, but C to A. The advocates of electoral reform in Britain are fond of pointing out that since no British government since the war has received a majority of the votes cast, we can assume that there were always more voters dissatisfied than satisfied with the

government chosen by the electoral system.[9] What they don't point out is that so long as there are three or more parties, no electoral system can insure the choice of a government which will satisfy more voters than are dissatisfied with the choice. The chances of circular preferences arising will vary according to the number of mutually exclusive alternatives up for option. William Riker has shown that by the time five alternatives are in play, the probability of circular preferences arising is nearly 50%.[10]

The set of preference ordering that leads to circular preferences is an important member of the range of sets of orderings that Arrow requires a rational aggregation device to be able to resolve. Clearly if the alternatives are limited to two, neither Condorcet's nor Arrow's paradoxes will arise. And this is precisely what any two party system tends to achieve. In British elections, the result is achieved by the tendency of plurality voting to overrepresent the major parties. David Butler tells us that the British system of plurality voting (or, as it is sometimes called, "first-past-the-post" system) was developed sometime in the 13th century. I doubt whether any psephologists who might have been around at the time could have reached the degree of sophistication in the analysis of the effects of voting systems achieved by either Condorcet or Arrow. Yet the system they adopted very neatly bypasses one of the major constraints.[11]

The same is true, in practice, of the systems devised for presidential elections, both in France and the United States. The means by which they achieve the objective differ from those of the British system and from each other. The American system achieves the objective by the primary system nearly restricting the candidates to one each for the Republican and Democratic parties, and the French system by two ballots, the first of which eliminates the weaker runners. We need to note that none of these systems solves the problem; they merely hide it. It is still the case that if

Americans or Frenchmen had unrestricted range of choice, there might well be more Frenchmen who preferred someone else than President Mitterand than there were who preferred him to anyone else, and similarly with President Reagan. We have already seen that even on the limited range offered by the British electoral system, there are more voters for whom the winning party is not the first choice than there are for whom it is.

We should also notice that none of the systems actually succeeds completely in restricting the electorate to a binary choice and this may be quite an important constituent of the system's power to confer legitimacy. It manages to hide what it is doing: - "you can't say that the system restricted the choice to Reagan or Carter; look at Anderson".

Two party systems and the like are a way of avoiding cyclical preferences by breaking the decision-making process into a series of pair-wise choices. This does not actually result in a true aggregation of individual preferences but it avoids the possiblity of an inconclusive result to the process (for example, failing to choose any one as president). It is sometimes argued that two-party systems and pair-wise choice reflects a fundamental characteristic of human thinking which is unable to choose between more than two alternatives or two tendencies. If this were so, which I doubt, the constraints implicit in Arrow's theorem would be avoided not by the institutional forms, such as electoral laws, but by an inherent characteristic of human thought processes. However, even when there are many alternatives amongst which to choose, our habitual, perhaps instinctive, ways of discussing and thinking about politics, candidates and issues may yet succeed in evading the constraints. Duncan Black,[12] for example, has shown that a single peaked distribution can be aggregated and the habit of lining up candidates, parties or issues on a left-right spectrum is a way of achieving such a single peaked distribution. Here the constraints implicit in Arrow's theorem are avoided not by electoral

law, but by our habitual, perhaps instinctive, ways of discussing and thinking about politics, candidates and issues.

Arrow's theorem shows that electoral systems are imperfect methods of eliciting social preferences and that a perfect system not only does not exist but cannot exist. Actual electoral systems can work only by restricting the range of preferences to be aggregated. To use an analogy Arrow himself employs, we can think of an electoral system as a machine into which citizens feed their preferences at one end and which spews out a social preference at the other end. Whereas the impossible perfect aggregation device could take in any ordering of preferences, real actual aggregation devices refuse to accept those orderings which they are incapable of processing.

Perhaps because the limits on the possibility of collective choice were not appreciated until relatively late, a good deal of the literature on representative government still hankers after a system of government that would mirror the views of the electorate and submit governmental decisions to a representative assembly that provided a microcosm of the electorate in which the full range of opinions held by voters is represented. Thus, for example, Vernon Bogdanor [13] writes of "a liberal conception of representation according to which the task of the representative is to represent the opinions of electors rather than the community in which they live, as in the plurality system, or their party allegiance, as in the list systems. According to this conception, an elector is not properly represented unless there is a member of the legislature to speak for him." Certainly with a legislature of several hundred members, it should be possible to devise a system that would ensure that a greater range of the opinions of voters is expressed than is the case in the British House of Commons at present. But does representation merely imply that a wider range of opinions should be voiced? If so, the objective is attainable. However, if our concept of representation involves more than the mere expression of divergent opinions and implies that the decisions made

should represent the balance of divergent opinions, then we are up against the logical limits to collective choice. The objective of a system of representative government should be to find the most satisfactory (or least unsatisfactory) method of circumventing these limits. At its crudest, we might ask which of Arrow's four conditions of rationality we should give up. More subtly, we might ask what strategy for evading which of the four conditions should we adopt. The two conditions most likely for this purpose are the conditions of "unrestricted choice" and "independence of irrelevant alternatives." I have already suggested some ways in which actual systems evade these conditions and will return to this problem later in this paper.

The logical limits on the possibility of collective choices seem to me much more central to the problem of "government by the people" than mathematically ingenious formulae for reflecting in an elected chamber a wider range of the opinions of voters. If by representation we mean a method of getting governmental decisions to reflect the preferences of citizens, it is the constraints that impede this objective that should have our first attention. Whether the evasion of one or more of these constraints is best carried out at the electoral level, within the electorate by virtue of the electoral system, or in the elected chamber is an important question but logically the second not the first step.

However, before examining in more detail the ways actual political systems get round the constraints implicit in Arrow's theorem, I have to point to one way in which, quite apart from the inherent logical limits to collective choice, the system of electoral competition for office fails to provide as much information about citizens' preferences as would be desirable.

Let me take an issue which I consider crucial to economic policy. Capitalist systems encounter a problem which has been described as the "impossible triad". The public would like an economic system that achieved

three goals: full employment, price stability, and free collective bargaining. In the present state of economic knowledge, it seems that these three goals cannot be simultaneously achieved. By sacrificing one we can achieve the other two: - by sacrificing free collective bargaining we could achieve full employment and price stability; by sacrificing full employment, we could combine price stability and free collective bargaining; and by sacrificing price stability, we could, at least in a closed economy, achieve full employment with complete freedom of collective bargaining by increasing the money supply and hang the inflationary consequences. There is nothing in the inherent logic of aggregation to prevent the party system offering the electorate these choices. Conservatives, for example, could say that we will sacrifice full employment so as to achieve price stability without interfering with collective bargaining; the SDP could say we will sacrifice free collective bargaining - have a really tough incomes policy - to insure full employment and price stability; and the Labor party could say we will sacrifice price stability with sufficient control over foreign trade and international financial transactions to enable full employment to be maintained despite inflationary wage settlements. As far as I know, no political system actually works that way. Even if the parties adopted these politically unrealistic positions, there would still be a possibility that the result would be a circular preference, since we have a triad: the majority might prefer unemployment to inflation, inflation to incomes policy, but incomes policy to unemployment. Of course, this hypothetical example is extreme. I have postulated oversimplified polar stereotypes of policy for simplicity of exposition. Real policy proposals would be more eclectic, a bit of inflation, a bit of unemployment, and a bit of incomes policy. The real criticism of the system, however, is that it gives the policy-makers virtually no guidance as to the relative weight the electorate places on the three

apparently incompatible desiderata and it fails to inform the electorate of any incompatibility in its choices.

Textbooks on the role of political parties emphasize not only their role as packaging organs, offering bundles of options to the electorate's choice, but also an educational role, informing the electorate of viable and consistent sets of options. However, the mechanics of inter-party competition militates against this educational role. The parties have no incentive to confront the electorate with the hard choices which the responsive theory of democracy would require the electorate to make. Instead and inevitably, the parties soft-pedal the adverse effects of whatever bundle of options they present for the electorate to embrace. The monetarists play down the level of national unemployment required to reach equilibrium in the present state of trade union organization; the advocates of incomes policy play down the degree of regimentation and the loss of flexibility such policy would involve; politicians adopting the policies of the New Cambridge school are reticent about how much inflation they are prepared to tolerate and the consequences of a siege economy. Advocates of the adversarial system sometimes argue that adversarial politics do clarify issues. Although the proponents of a particular policy or position will soft-pedal its shortcoming, their opponents have an incentive to emphasize the weaknesses in that position. In my experience, adversarial politics rarely succeeds in clarifying issues to the point where the pros and cons can be objectively assessed. The choice of policies nearly always involves trading off a mix of goods and bads between alternatives. The idea of a trade-off seems to be particularly difficult to communicate in political rhetoric. The proponents argue that the effects are wholly good; the opponents argue that the effects are wholly bad.

Nor is it only the imperatives of inter-party competition that militates against a sufficiently informed and educated electorate to make the choices which a purely responsive theory of democracy would require. Given the

tremendous development and sophistication of modern economics, it is surely unrealistic to assume that a voter whose expertise lies in some totally different direction would be able to make an informed judgement between the theories of Professor Milton Friedman, Sir John Hicks, or Professor Wynne Godley.

Considerations Beyond Citizens' Preference

The Burkean theory of representation recognizes this difficulty and postulates that voters will devolve onto representatives the task of assessing their interests better than they can do so themselves.[14] How are voters to judge their representatives? The answer is basically quite simple - "by their fruits you shall know them". And so we get the so-called "outputs of government model," which I suspect provides as accurate a description as any of how democratic regimes in fact operate. The electorate in voting gives a verdict on how satisfied or dissatisfied they are with the result of the incumbent's performance in office.[15] By now we have moved quite far from the idea of citizen's preferences as choices between alternative strategies for the management of society. The effective choice is placet or non-placet, with non-placet carrying little more than the implication "let the other lot have a try" without any very clearly formulated idea of what the "other lot" means in terms of specific policies.

Burkean representation is getting away from another of Arrow's conditions for the rational aggregation of preferences; "independence of irrelevant alternatives." The Burkean representative does not respond only to the preference orderings of his constituents. He introduces his own judgments of what is right and good for his constituents. The idea that the political system should respond only to the preferences (choices or opinions) of citizens is essentially a 19th Century liberal idea. Condorcet in his Essay, from which we obtain the notion of circular preferences, was not, in fact,

very concerned with preferences or the problem of aggregating preferences. The probability to which the title of his essay refers is the probability of a decision based on a majority vote being true or correct. He treats jury verdicts of guilty or not guilty in the same framework as decisions regarding policies or laws. In common with most of the philosophers of his time, he assumed that there was an objective rational sense in which laws and policies could be correct or false. Perhaps, as some have argued, he derived this from a concept of natural law.

Almost two centuries later, Lindblom in Politics and Markets[16] returns to the distinction between a vision or idealized model of policy as a correct deduction from the ideal nature of society in the tradition of Plato, Rousseau and Hegel, and policy as a resolution of conflicting policy choices (as well as the result of partial policy analysis) in the tradition of Aristotle, Hobbes and Kant. The former he calls "Model 1." To accept it is to believe that an elite can know how society should be organized. The correct organization or policy is a question of fact not preference. The latter he calls "Model 2." In Model 2 there is no comprehensive theory of society and no possibility of knowing the social optimum independently of citizens' preferences. It is in effect a model largely agnostic of man's cognitive capacities. At most there may be partial theories such as economic theories about the causes of unemployment and inflation, but they are both incomplete and often inconclusive. There is, therefore, no firm body of knowledge from which correct policies may be deduced. Hence, Model 2 has to rely on citizens' volitions. Social interaction takes the place of deduction from the ideal model. Lindblom quotes Robert Dahl's statement, "the key characteristic of democracy is the continuing responsiveness to the preferences of its citizens" (my emphasis) as typical of the Model 2 outlook. As characteristic of Model 1, he quotes a Soviet planner arguing that, "Given correct economic policy, in a socialist society, there are and can be no group of workers whose

material interests lie in contradiction to the objectively necessary planned management of the economy." More than Western systems, Soviet systems approximate to Model 1. Western democracies, or as he calls them, polyarchies, approximate to Model 2.

Lindblom recognizes that these are ideal models and not actual systems. He recognizes that even the most doctrinaire of Soviet systems can not totally ignore the volitions of citizens nor can Western polyarchies totally ignore all scientific policy analysis. Lindblom draws some interesting and provocative conclusions from this contrast between the two models into which I do not propose to enter now.

I would only point out that Model 1 is not necessarily dictatorial in the very precise sense in which Arrow defines that term. The Soviet planner quoted by Lindblom is not necessarily saying that his preferences must be the social preferences regardless of the preferences of all other individuals. The condition of rational social choice which he rejects is rather "independence of irrelevant alternatives." The test he applies is conformity with the synoptic vision of society implied in the phrase "objectively necessary planned management of the economy" and which for him takes precedence over any preferences which may be expressed by members of the different groups of workers concerned. Moreover, in practice, this synoptic vision and the policies deduced from it will be derived from a consensus amongst the elite of its society.

My present concern is the different ways in which Western polyarchies combine elements of Model 1 and Model 2. Lindblom allows in Model 2 lots of room for policy analysis provided only that it is meshed into and in a sense subordinate to the political elements, that is, the determination of ends on the basis of volitions. Analysis helps determine the most appropriate means in Model 2. Yet there seems to me to be a distinct similarity between the way

an economist determines from a corpus of economic doctrine the "correct" economic policy for a given situation and the way a Soviet planner determines from his corpus of doctrine the correct policy for a socialist society.[17] One is at a higher level of generalisation than the other but in both the reference point is a body of doctrine rather than the volitions or preferences of citizens.

The United States and Britain represent two somewhat distinct approaches to the problem of mixing policy analysis with the search for the politically acceptable solution. Neither starts with a synoptic model of how society as a whole should be organized. In both, analysis relates only to partial, as it were, compartmentalized, aspects of the public good. Nobody, outside the extreme doctrinaire fringes, attempts to deduce from their conception of the ideal society how to cope with juvenile delinquency or how foreign policy in the Middle East should be managed or even, to any great extent, how economic policy should be formulated. But in each of these areas, policy has, to some extent, to be evolved by an analytic process from a corpus of doctrine derived from economic theory, penology, a model of the system of international relations, or what-have-you. Moreover, there has to be some consistency between different areas of policy.

In Britain, the two roles -- the responsive role of the politician representing the volitions of the electorate, and the analytic role of the permanent officials developing correct, sound policy from the appropriate disciplinary corpus of knowledge, in the light of practical ends and values given by the elected representatives of the people -- are to quite some extent kept separate and entrusted to different bodies of officials. I do not wish to exaggerate this and suggest that elected officials know nothing of the technology of the policies they administer, nor that civil servants can remain totally oblivious to political considerations. Nonetheless, I think it is

true that civil servants tend to see the politicians' main role as telling them what the public won't put up with, and politicians tend to regard civil servants as technicians who can advise them on how to achieve their objectives, that is to say, the objectives they believe to correspond with the volitions of their constituents. Certainly it is the case that to an extent unmatched anywhere else in the West, the higher civil servants in Britain are segregated from the partisan competition for votes. They are a priestly caste, normally committed to a lifetime career in the public services, free from partisan links and relatively insulated, so far as their career prospects and their status are concerned, from the influence of politicians. Recently Mrs. Thatcher and her team of Treasury ministers came into office with unusually strong convictions on matters of economic doctrine. Sir Leo Pliatzky, a retired Treasury civil servant, in a public speech recently commented that this had led to a breakdown of communications between ministers and officials which he deplored.[18] The implication was clearly that economic theories were not part of the input which ministers were expected to contribute independently of their officials.

The British system derives some of its integrity and homogeneity from the doctrines of parliamentary sovereignty and collective cabinet responsibility. The underlying idea is that the policy of the government is a consistent whole. The decisions made in the field of, say, welfare policy must not conflict with decisions made in the field of, say, financial policy. The doctrine of collective cabinet responsibility tends to enforce this by making each Cabinet minister responsible for the decisions of every Cabinet minister. The Chancellor of the Exchequer, responsible for financial policy, cannot shrug off responsibility for the decisions made by the Secretary of State for Health and Social Security, responsible for welfare policy, nor <u>vice versa</u>. The collective responsibility of the Cabinet is underpinned by an elaborate

system of Cabinet committees and interdepartmental official committees to ensure consensus amongst the different agencies of government. Moreover all are responsible to Parliament, the ultimate sovereign, so that, unlike the American system of separation of powers, the responsibilities of the different departments cannot ultimately be separated. Before the ultimate sovereignty of Parliament, government policy stands or falls as a whole. The policy of the Crown, of Her Majesty's Government, has a certain unity, and because it has a certain unity, finds it rather more difficult than some other systems to bend to local and sectional interests.

The United States also has a permanent career civil service, but it is much less of an independent priestly caste. A fairly wide swathe of the higher civil service is politically appointed. In Britain, civil servants undoubtedly accept the directives of their ministers, and sincerely seek to interpret and make sense of their ministers' policy. But unlike the American system, an incoming administration cannot bring with it, except to a very limited extent, its own body of technical advisors. Apart from the ministerial team itself, who are all elected officials answerable to Parliament, an incoming British government can bring with it at most some dozen or so technical advisors trained in the disciplines relevant to their policy. An incoming American administration brings with it several thousand technical advisors occupying many of the senior posts in the administration.

Quite apart from the differences in the style and composition of the bureaucracy, there are major constitutional differences that affect the administrative style of government. In Britain, the impact of electoral politics is somewhat spasmodic. It is strong in the immediate vicinity of a General Election but for some time after a General Election has returned a government with a sizeable majority, the process of government can continue for a time relatively (as compared to the U.S.) sheltered from considerations of electoral popularity or unpopularity. In the U.S., on the other hand, the

impact of electoral politics is more continuous. There is hardly a time when the diverse members of one or other of the branches and levels of government are not acutely conscious that they face the challenge of re-election. Nor is that only the result of the frequency and variety of elections. It is, to an even greater extent, the result of a decentralized style of policy making with competition and responsibility divided between different branches of government, between rival agencies, between federal and state government and between state and local government. In consequence, a separate coalition of interests has to be built up behind every major policy, and thus each area of policy, in contrast to the single centered convention of British government, becomes the result of what Lindblom describes as social interaction.

In another paper in this symposium, Michael Thompson distinguishes the UK's consultative style for handling risk and its bias towards consensus from the US statutory style for handling risk and its bias towards adversarial relationships. Certainly within the context of the relevant inspectorates in the two countries, in which he places the distinction, this is fairly well established and could, indeed, be somewhat more generalised. Ashby and Anderson, for example, make a somewhat similar point regarding the British Alkali Inspectorate right back to the last quarter of the 19th century. They quote a 19th century inspector writing, "There are two modes of inspection. One is by a suspicious opponent desirous of finding evil and ready to make the most of it. The other is that of the friendly advisor who treats those whom he visits as gentlemen desirous of doing right."[19] The inspector opted for the latter mode.

The consensual style in Britain is particularly characteristic of the civil service[20] and, of course, the inspectorates are primarily civil service institutions. The British civil service to a considerable extent deduce policies and their application by an analytic process from an accepted body of

doctrine. Because agreement on the objective is crucial and because knowledge of the doctrine is shared amongst the elite, this mode of operation tends to encourage -- indeed it depends on -- forming an elite consensus. If we turn from the administrative style of the civil service to the politics of parties, then the adversarial convention is quite as strong in Britain as in America. Ian Bradley, reviewing the British political tradition and the difficulty of establishing new parties comments that "the overwhelming message" of the experience of those who have sought to break away from the two parties "is the strength of the adversarial two-party system."[21] Although the two-party system is concerned above all with the competition for office, this adversarial character applies not only to the contest for office but also to those issues that are salient points of controversy between the parties such as, for example, trade union and industrial relations policy since the late 1960's. Interestingly enough, Thompson's corollary of adversarial politics, a statutory rather than a consultative style, also applies--as witness the succession of statutes dealing with trade unions and industrial relations introduced as Conservative and Labor governments alternated in office.

I know very little about the German system, but I suspect that to a greater extent than either the UK or the US, the German Federal Republic depends on consensus. The separation of powers between the Lander and the Federal government and between the Bundestag and the Bundesrat seems to me to make it difficult, except possibly in those areas of policy reserved for the federal level, to develop any policy that does not have at least a measure of bipartisan consent if not support. I suspect that this results in a system that is highly responsive to local representation, but as I say, the West German system is the one I know least about.

The French system, I think, is the one that comes closest to the technocratic model. Not only does the constitution of the Fifth Republic

create an exceptionally strong president, but the president is advised and served by an exceptionally homogeneous administrative elite. This does not mean that France is a Model 1 system in the ideological sense. Despite the constant rhetorical emphasis on the supremacy of the national interest or even DeGaulle's claim that the president represents the will of the people, I do not detect in French government the sort of comprehensive theory about society which Lindblom considers characteristic of Model 1. But within each area of policy, the scales seem me to be far more weighted than in Britain or the United States in favor of correct solutions rather than solutions that reflect the volitions of the affected citizens.

Within the Western polyarchies there is a constant tension between the benevolent principle implicit in the phrase "government for the people" which we might loosely define as "do right by the public irrespective of whether they want it or not" and the responsive principle implicit in the phrase "government by the people" which we might loosely define as "do what the public want irrespective of whether it is right or not." The Western polyarchies constantly strive towards a more responsive system seeking to increase the range of those who participate in the decision-making functions of government. The ideal of the totally responsive system in which governmental decisions represent the aggregate preferences of the mass of citizens is logically impossible, but long before the logical limits are reached, the institutional limits on the possibilities of erecting channels for the expression of preferences themselves create paradoxes. Thus, for example, the British Labor Party in seeking to increase the range of those who participate in the decision-making functions of government is currently in grave danger of devising a system that may more accurately reflect the preferences of that relatively minute fraction of the population comprising the active membership of their party but also producing policies abhorrent to the vast majority of the electorate. The American Democratic Party

encountered somewhat similar problems in seeking greater intra-party democracy. The pressure group system - another method of eliciting preferences - is also subject to bias due to the unequal propensity of citizens to organise and to differences in the resources different pressure groups can command.

The main focus of this symposium is on cultural bias. How do these considerations link to that topic? Elkins and Simeon define "political culture" as "consisting of assumptions about the political world" and elaborate this definition by saying "political culture, then, is a shorthand expression for the 'mind set' which has the effect of limiting attention to less than the full range of alternative behaviors, problems and solutions which are logically possible." [22]

My theme in this paper has been that political systems can be distinguished by the different strategies they adopt for evading one or more of the four conditions of rationality Arrow postulates for a satisfactory method of arriving at a social or collective preference by aggregating individual preferences. There is clearly a variety of different strategies that are logically possible and my contention is that cultural bias determines the choice within this variety.

The main contrast drawn by Michael Thompson in his paper is between the consensual-consultative tendency of British government and the adversary-statutory tendency of American government. As I show later, consensus and the adversary system are methods of evading two of Arrow's conditions. The connection betwen a consultative style and the search for consensus seems obvious enough. Consultation is necessary to reach consensus and reference to the agreed consensus on ends, "the gentlemen desirous of doing right", acts as an effective substitute for detailed regulations regarding means. The connection between an adversarial tendency and statutory

regulation may be less obvious. The resolution of an adversarial conflict almost inevitably partakes of the nature of a treaty each clause of which is important to one or other of the contestants. Moreover, if conflict is not to break out again some authority has to be invoked to enforce the treaty. These two requirements are met by embodying the resolution of the conflict in a statute embodying detailed regulation enforced by law. The implicit assumption in this method is that the adversarial conflict unless checked by the force of law is bound to continue. The implicit assumption of the consensual method is that an agreed end has been accepted (even if only in deference to the authority of law) and those involved can be expected to work out sensibly the means to that end. The adversarial system creates the need for statutory regulation and, in practice, since means are inevitably controversial, statutory regulation then itself creates an adversarial atmosphere. From another point of view, we can view the British electorate as prepared to delegate to "experts", as Thompson points out later in the same article, the task of achieving the ends they have specified whereas the American electorate is not prepared to delegate to the same extent.

The two modes of operation identified by Thompson, the consensual-consultative of the UK and the adversarial-statutory of the US can both be seen as methods of evading one or other of Arrow's four conditions of rationality. The adversarial system is a particular type of pair-wise choice. It restricts the choice to two alternatives. The adversaries line up pro and con a particular provision - say, that smoke emitted from a power station should not exceed x milligrams of sulphur per liter. As Alfred MacKay points out any pair-wise choice prevents social aggregation of any preferences other than those regarding the two alternatives in question - say, a third alternative: a method with a different set of advantages and disadvantages. As MacKay expresses it "No fact about all alternatives in a setting can be derived from facts about pairs of alternatives."[23] Thus ultimately it

infringes the condition of unrestricted choice. Conversely consensus infringes the conditions of "independence of irrelevant alternatives" by placing a value on unanimity independent of expressed preferences.

Government policy is ultimately a seamless web. Economic policy cannot really be considered independently of foreign policy. The autarchic economic policy advocated by the new Cambridge school, for example, carries implications for isolationism in foreign policy. Welfare policy and defense policy interact. As does education policy and policy relating to law and order. And so on and so forth. By the time the full logical tree of interactions between different policy fields is worked out, the number of alternatives to be aggregated into a collective choice is vast, and far exceeds the five alternatives after which circular preferences become highly probable. The American tendency is to break down policies into discrete elements each of which can be submitted to a pair-wise choice ignoring the inter-policy connections. The British tendency, though far from achieving a completely integrated, logically consistent field of policy over the whole area of government policy, is on the contrary to seek consistency between policies following further the implications of policy in one field for another, thus coming closer to the ideal of considering facts about all alternatives.

Why should the UK, apart from the specifically partisan issues, be more inclined than the US to adopt a consensual rather than an adversiarial approach? It is easy enough to find institutional explanations. Once the adversarial electoral system has created a government, the two factors of Parliamentary sovereignty and party discipline mean that there is not much point in going on fighting at the electoral level - at least when no General Election is imminent. It is much better to accept government policy and discuss its application with officials. The unitary system of government makes issues in which the whole population has an interest salient and renders

it difficult to make salient a predominantly local issue such as the siting of the liquid energy gas terminal at Mossmorran. The non-partisan character of civil servants isolates them somewhat from the adversarial character they would acquire if they were partisan political appointments. Conversely, the US has a multi-centered system of government. The doctrine of the separation of powers makes it difficult to present an integrated policy for the whole field of government since no single body of officials is responsible for all aspects of policy. The U.S. makes much more frequent use of referenda enabling voters to express through resolutions on the ballot paper views on local and state-wide issues. Moreover, in the U.S., many more officials are directly elected than in the UK, rendering them and the policies they stand for subject to the adversarial system. Yet, of course, these institutional differences do not explain why the institutions were set up in this way in the first place.

In their classic, The Civic Culture, Almond and Verba [24] emphasize the congruence between institutional structure and political culture in stable democratic systems. Theirs is an inter-active model in which political culture influences the structure of institutions and the structure of institutions influences the political culture. The process has been going on for centuries. As noted above, the plurality voting system can be traced back to the 13th century when both the institutional structure and the political culture were certainly very different. The voting system has influenced the structure of institutions but the way the structure of institutions has been influenced is affected by the political culture which in turn is influenced by the way the structure of institutions has developed.

In a passage which Thompson's analysis of attitudes to authority recalls, Almond and Verba argue that in the stable democracies of the US and the UK, there is not only a gap between the belief of citizens about their ability to

influence government and their willingness to act so as to influence government but that this gap is crucial to the stability of the system. The citizen in a stable democracy believes he can influence government - has a high "subjective perception of competence" - but is relatively unlikely to use that influence partly because most of the time politics is not all that important to most of the people. Thus "the comparative infrequency of political participation, its relative lack of importance for the individual and the objective weakness of the ordinary man allow governmental elites to act."[25] To some extent the idea of participation in government is a democratic myth. But "for the democratic 'myth' to be an effective political force, it cannot be pure myth." The potential for action must be there to keep the governmental elites in check and the governmental elites must themselves share belief in the myth so that they see the citizens' influence as legitimate. Since the late 1950's, when Almond and Verba did most of their fieldwork, conditions in both the US and the UK have somewhat changed. David Kavanaugh and Alan Abramovitz have recently documented these changes for Great Britain and the United States respectively.[26] Nonetheless, many of the psychological attitudes picked up by Almond and Verba and the differences betweeen their incidence in the US and the UK remain. What subsequent articles in this symposium do is to link these attitudes to differences in the structure of society.

One could argue that the Western polyarchies have gone too far in the pursuit of participation partly as a result of ignoring the limits on the possibilities of aggregating the preferences of citizens. In support of this contention, one could quote the difficulties created for democratic systems by the emergence of single issue politics. However, in conclusion, I would like to enter a caveat about the whole approach reviewed in this paper of viewing the democratic process as a means of aggregating preferences of citizens.

Inevitably this approach and indeed Arrow's Theorem, have to take the preferences of citizens not as immutable but at least as exogeneous variables, part of the given. In practice political institutions not only respond to the preferences and opinions of citizens but also influence them. It is this possibility of opinions and preferences changing as a result of the democratic dialogue that permits consensus to emerge. Jane Mansbridge in Beyond Adversary Democracy[27] has recently given us an extremely scholarly and carefully thought out analysis of the relative strengths and weaknesses and the place in the history of democratic thought of two concepts of democracy which she terms "adversary democracy" in which issues are resolved by majority vote and "unitary democracy" in which issues are resolved by the emergence of consensus - supporting her argument by her findings regarding the operations of two small democratic institutions that operate on a unanimity rule. Clearly consensus cannot always be reached and the principle cannot be universally applied. Moreover, too much emphasis on the possibility of changing opinions would raise the 1984 spectre of Orwell's thought police. Nonetheless, I find myself convinced by Mansbridge's argument that modern democratic thought has placed too much emphasis on adversary relations and neglected the consensual strand in democratic thinking. Consensus, of course, infringes one of Arrow's conditions. Since Arrow's proof is formally valid we have to sacrifice in any case one of his conditions. If we have to put a value on something other than the revealed preferences of citizens, unanimity, the desire to be all of one mind, seems to be something on which we could well place a positive value.

FOOTNOTES

1. Introduction to the Principles of Morals and Legislation (1832).

2. The Theorem occurs first in Social Choice and Individual Values (New York: John Wiley, 1951). Arrow subsequently restated it in slightly different forms. For a non-mathematician like myself, the summary given in Alfred K. MacKay: Arrow's Theorem: The Paradox of Social Choice (New Haven: Yale University Press, 1980) is easily accessible.

3. Kenneth Arrow: Social Choice and Individual Values, 2nd Edition (Yale University Press, 1963) p. 59.

4. These definitions of the four conditions are based on Alfred MacKay Arrow's Theorem.

5. See William H. Riker "Voting and the Summation of Preferences: an interpretative bibliographical review", American Political Science Review, December 1961, pp 900-911. By the time Arrow's Social Choice is published in a French translation in 1974, the bibliography has apparently exceeded 200 works (Pierre Favre: La Decision de Majorite, p. 53).

6. William H. Riker "Implications from the Disequilibrium of Majority Rule for the Study of Institutions", American Political Science Review, Vol. 79, No. 2 (June 1980), pp. 432-446. Charles R. Plott and Michael E. Lassine have worked out a model (and describe the experiments by which they tested it) of how the agenda determines the outcome in "A Model of Agenda Influence on Committee Decisions", The American Economic Review, March 1978, pp. 156-160.

7. Pierre Favre: La Decision de Majorite. (Presse de la Foundation Nationale des Sciences Politiques, Paris 1976).

8. Condorcet, Marquis de: Essai sur la Probabilite des Decisions Rendues a la Majorite des Voix. (1785).

9. The argument of the critics of the present system of plurality vote is reviewed and criticised by J. A. Chandler "The Plurality Vote: A Reappraisal" Political Studies Vol. 30 No. 1 (March 1982) pp. 87-94.

10. Five seems to be an important number. Beyond that number of equiprobable alternatives, a circular preference is more likely than not to occur. Giovanni Sartori, approaching the problem of the effects of a multiplicity of parties from a totally different angle, places the "turning point" where the system becomes one of "polarised pluralism" at "between five and six relevant parties". He argues the "polarised pluralism" has a "delegitimizing impact" on the system. See Giovanni Sartori: Parties and Party Systems (Cambridge University Press, 1976) Vol. 1 p. 131 et seq.

11. Most rules of procedure (e.g. "vote on the amendment before voting on the motion") also are methods of avoiding circular preferences. Such rules give rise to the agenda-setting problems discussed by Rikers. See Steven J. Brams: Game Theory and Politics (New York: The Free Press, 1975) Chapter 2.

12. Duncan Black: Theory of Committees and Elections (Cambridge University Press, 1958).

13. Vernon Bugdanor: The People and the Party System (Cambridge University Press, 1981) p. 232.

14. In an often quoted passage in his Address to the Electors of Bristol, Edmund Burke argues that the responsibility of the representative to his constituents is "in all cases, to prefer their interest to his own, but his unbiased opinion, his mature judgement, his enlightened conscience, he ought not to sacrifice to you, to any man, or to any set of men living...Your representative owes you, not his industry only but his judgment; and he betrays, instead of serving you, if he sacrifices it to your opinion." Later in the same Address, he writes "If government were a matter of will upon any side, yours, without question, ought to be superior. But government and legislation are matters of reason and judgment and not of inclination (my emphasis). "Will" and "inclination" clearly correspond to what I have termed "volition" and "preferences" while his use of "reason and judgment" seems to me to correspond to an analytic process of decision making for reaching technically correct solutions of governmental problems.

15. The "outputs of government" model is discussed in much of the literature. A good review of the argument will be found in James Alt: The Politics of Economic Decline (Cambridge University Press, 1979) pp. 125-134.

16. Charles E. Lindblom: Politics and Markets: The World's Political-Economic Systems (New York: Basic Books, 1977) Chapter 19.

17. Lindblom has suggested to me that the distinction I am making here, between policy as a reflection of citizens' preferences and "correct policy" determined from a policy relevant body of disciplinary theory, is closer to the distinction drawn by March and Simon between analytic problem solving and political bargaining solutions than it is to his distinction between Model 1 and Model 2. The point I am making is that correct policy based on an analytic solution of the problem shares with Model 1 the characteristic of not being based exclusively on preferences. Both thus infringe Arrow's condition of "independence". Reference: James G. March and Herbert A. Simon: Organization (New York: John Wiley, 1958) p. 130.

18. See report in The Times 6th May 1981. "Ministers are doing their own thing and not seeking too much advice and guidance from the Treasury collectively". According to The Times he argued that "the government had been captured by the monetarist school of thought during its years in opposition".

19. Eric Ashby and Mary Anderson: The Politics of Clean Air (Clarendon Press, Oxford, 1981) p. 28.

20. Several observers have commented on this. A particularly insightful and not uncritical review of this characteristic of the British civil service (particularly in the Treasury) will be found in Hugh Heclo and Aaron Wildavsky: The Private Government of Public Money (Macmillan 1979). See also J. P. Nette "Consensus or Elite Domination" Political Studies V. 13 (1965) No. 1 pp. 22-45.

21. Ian Bradley: Breaking the Mould? The Birth and Prospects of the Social Democratic Party (Oxford: Martin Robertson, 1981) p. 21.

22. David J. Elkins and Richard E. B. Simeon "A Cause in Search of its Effect or What Does Political Culture Explain?" Comparative Politics V. 11 (1979) (January) pp. 127-165.

23. MacKay: Arrow's Theorem p. 97.

24. Gabriel A. Almond and Sidney Verba: The Civic Culture: Political Attitudes and Democracy in Five Nations (Boston: Little Brown, 1965).

25. Ibid p. 346.

26. Gabriel A. Almond and Sidney Verba (eds.): The Civic Culture Revisited; An Analytic Study (Boston: Little Brown, 1980).

27. Jane J. Mansbridge: Beyond Adversary Democracy (New York: Basic Books, 1980).

PERCEIVING LOW PROBABILITY EVENTS

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1. Introduction

An issue in risk perception studies is whether and how individuals can perceive low probability events.[f.n.1] It is a peculiar issue which only arises because such events are recognized to be on our horizon right now - so evidently, some people can perceive them. Those who do the perceiving rely on an extraordinarily advanced and arcane technology of assessment. So the question is how individuals who are not competent in that technology may come to accept warnings about such dangers and endow the warnings with credibility. The answer will be to expand the sociological context of perception. Humans are social animals and we use social as well as spatial, temporal and bodily reference schemes. The approach I am using focuses on how physical disasters get systematically used in the micro-politics of social institutions. The processes of blame and exoneration are central to the problem.

In tribal societies there is often a lively expectation that unspeakable horrors will be triggered by low probability events or that rare

individuals may wield catastrophic evil powers. So the ability to consider low probability disasters is not beyond human ken. I shall start with the alleged finding that individuals have difficulty thinking probabilistically at all. Questioning some of the charge against individuals and conceding some of it, I shall develop an anthropological line of thought which suggests that individuals always transfer the relevant part of their decision making to the institutions in which they live.

This statement has an old-fashioned ring about it. Indeed, it is a long time ago since it was said by Simon and March that "the organizational and social environment in which the decision maker finds himself determines what consequences he will anticipate, what ones he will not; what alternatives he will consider, what ones he will ignore. In a theory of organization, these variables cannot be treated as unexplained, independent factors, but must themselves be determined and explained by the theory"[f.n.2]

All the language in which Simon's theory of bounded rationality has been expressed is entirely sympathetic to my argument. The rational chooser's definition of a situation is not to be taken as given: the selective elements are the outcomes of psychological and sociological processes, including the chooser's own activities and the activities of others in his environment. Yet, in spite of this apparently common starting point, I will argue that questions about human perception of disaster have never yet been directly addressed to the characteristics of the social institutions which blinker and focus the individual rational agent. I therefore suggest that the major part of the inquiry about rational choice is applied to the wrong units, to individuals instead of to institutions. The missing piece in the puzzle is the way that institutions mobilize moral

concern to engage their members' sustained support. None of the typologizing that I have scanned to find a link between the anthropologists and the organization theorists' work gives systematic attention to this process. My feeble forays into this highly developed and central field of western social thought requires some apologies. But I hope that in spite of my ineptitude, the descriptions of my search will provoke others to address themselves more effectively to the question of which kind of organization is best equipped to alert its members to low probability, high consequence risks.

2. Thinking Probabilistically

Until recently it was widely agreed among psychologists that individuals have difficulty in giving rational answers to problems. The trend that came near to calling us all irrational has been stemmed by a recent declaration that irrationality can never be demonstrated. Jonathan Cohen argues that the conditions for rationality are so flexible that by invoking the full array of assumptions from which an individual starts and the full array of motives and goals to which he subscribes, any decision (but any one) can be exempted from the charge of irrationality.[f.n.3] The argument is complex but essentially it expects rational thought to be exercised through two kinds of competence, one a universal pan-human competence in logical operations (avoiding contradiction and expecting coherence and consistency) and the other a culturally acquired competence in recognizing, assembling and sorting particular elements. Cohen dubbs the combination 'intuition'. Since the input from culture can never be determined, there is no way of proving any choice or decision to be irrational. Before this rather

weak vindication of our rationality was declared, risk perception had already tempered its terminology and we had been hearing not that individuals are irrational, but that they are weak in probabilistic thinking.[f.n.4] This weakness may explain why we do not take reasonable precautions in the face of low probability, high consequence risks which the experts reveal to us.

But when we look at what understanding probabilism requires, it does not sound so difficult. Apparently, we only need to grasp three principles: randomness, statistical independence and sampling variability.[f.n.5] Furthermore, when we consider any technical activity whatever, we find that any of us is capable of using all three principles. This is without regard to formal schooling: any tribe of hunters or fishers or any profession of farmers or sailors use their grasp of probabilism to assess their materials, the predicted behavior of fish or sheep or tides or weather. They know all about random variation in the accuracy of their instruments, they disregard inferences from too small sample size and without knowing statistics they know alot about the practical equivalent of statistical independence. If they did not, they would not be craftsmen or navigators or merchants.

Since scientists who explicitly use probability theory also fail in these tests that floor less formally trained subjects,[f.n.6] we need to look more closely at the questions in the psychology experiments. When we do so, we suspect that they all relate to a particular field of expertise, that of probability theory as such. In other words the culturally learned intuitions which guide our judgment for any of our fields of competence, teach us enough probabilistic principles but they are heavily culture bound. We are all lost when we venture beyond the scope of our culturally-given intuitions and presumably the technically competent

probabilist would be equally lost if asked to predict outside his skilled intuitions.

Though this may prove that individuals are not weak in thinking probabilistically, it leaves the general position unchanged. The issue of perceiving low probability, high consequence risks concerns inexpert perceivers. If people can only think probabilistically from a position of expert competence and if there is no way for all or any of us becoming experts in weaponry or nuclear power, the problem of how we are to make a political judgment of such risks is still the same.

The dilemma arises because our western tradition of thinking about judgment and choice leaves cultural influences out of account. The upshot of much anthropological research on cultural bias suggests that individuals do not try to make independent choices, especially about big political issues. When faced with estimating probability and credibility, they come already primed with culturally learned assumptions and weightings. One could say that they have been fabricating their prejudices as part of the work of designing their institutions. They have set up their institutions as decision processors which shut out some options and put others in favorable light. Individuals make the basic choices between joining and not joining institutions of different kinds. They then engage in continuous monitoring of the institutional machinery. The big choices reach them in the form of questions whether to reinforce authority or to subvert it. Whether to block or to enable action.

If we want to understand rational behavior, we should examine this monitoring process. It consists of applying two kinds of tests to the institutional structure. One is the matching of promises to performance. For instance, we are promised that our jobs are safe, then someone gets fired; are we to trust the firm's guarantees of security or not?

The other test is applied to the principles of justification: is their logic strong? What are the principles of classification? Are the rules contradictory? How coherent is the whole system of rules by which the institution works? Mishaps, misfortunes and threats and disasters provoke the endless challenges and cogitation about the structure of institutional life. It is not difficult to see that this monitoring process establishes for any institution some agreed norms for acceptable and unacceptable risk over all precedents.[f.n.7] But then, the unprecedented event will never have been brought into its purview. So the question about perceiving very low frequency events seems to be just as unanswerable, even if we take institutional factors in perception into account. However, I am going to argue, from experience as an anthropologist in central Africa, that some forms of organization are adapted to recognizing low probability dangers. My problem of exposition is to transcend local peculiarities of the central African case. So I will turn for help to organization theory to find a general analysis of kinds of organizations, but first let me explain further the kind of lead that comes from research on perceiving danger in African societies.

3. Perceiving Danger

The central method of inquiry is to fasten attention on misfortunes.[f.n.8] The underlying assumption is that any major mishap in an organization sparks an internal battery of questions about responsibility. If the organization has been established long enough to have taken a particular form, the questions are not going to be random. Still less will the answers seem credible unless they reinforce the members' concerns about the form of the organization they live in. For example, if people in an organization dislike the way that top authority has been exercised, it will be credible that the responsibility for accidents be pinned at the top; in the course of being made answerable, the

harshness and arbitrary weight of authority will be investigated and criticized. Or for a reverse direction of concern, if the majority of members in an organization are worried about the disruptive behavior of their junior members and fearful of a possible challenge to traditional authority, then minor and major misfortunes will seem very plausibly to have been caused by the young Turks. The battery of inquiries following on misfortunes represents the normal exercise of individual rational thought: the focus being on institutional norms and values, everyone is acutely concerned to hear the excuses and justifications for the harm that has happened and to pass judgment. But they are not merely inquiring dispassionately. They bring to the tests of logical coherence all their culturally loaded intuitions about what the ideal organization ought to be, influenced by their memory of past investigations and precedents. Whether the institution has been developing in one direction or in another, the search for a culpable agent will be biased accordingly. This is how man-made and natural disasters become enmeshed with the micro-politics of institutions. Processes of blame pinning or exonerating from blame strengthen the pattern of the organization and are actually an integral part of it.

To follow the argument, first purge from the mind any assumption that it is easy to set up an organization and make it endure over time; remember authority is always fragile and power always held precariously. The smaller the organization and the less the capital investment in it, the harder the conditions for stability. If we should come across an institution in which power is seen to flow smoothly through legitimate channels, instead of taking it for granted we should marvel and ask how such stability has been achieved. In such a case, watch to see how these people attribute responsibility for misfortune and how they control envy and the spread of alarm and mutual blaming.

This type of inquiry is familiar to anthropologists. Yet it is not applied to organizations in modern industrial society. In text books on political or economic organization, the various appeals to danger are not considered systematically as one of the regular solutions for regularly recurring problems. Historians, to be sure, cite cases of statesmen beleaguered by their local rivals who save their own skins by sounding the tocsin for foreign alarums. But they are treated as not quite honest or at least as unusual ploys, whereas I would maintain they are the normal strategy of statecraft. It is as if the Renaissance or the War of Independence or some other huge divide too obvious to name separates the modern mind from the mystic mentality of pre-moderns. But I maintain that this is a false assumption on which modern ideas of modernity are misleadingly based. The task for this essay is to reduce that apparent divide. Big questions about perception of risk can only be treated trivially in default of some theory about the deployment of threats of danger in different political regimes.

4. Latent Powers

The kinds of inquiry into disaster will vary according to the kinds of legitimated authority being sought. Each distinctive kind of regime[f.n.9] will invoke a distinctive set of active powers in the universe to do three things, one cognitive, to explain disasters, one political, to justify allegiances, one system maintaining, to stabilize the distinctive workings of the regime.

I will assume that a regime will only survive by the moral commitment of its members. This usage gives the word a special sense. As a first step, I need to take extreme cases so as to distinguish different types of regimes for a well-contrasted comparison. The main exercise is

to examine the rhetoric of explanations, persuasions and excuses in so far as it sustains the political regime by appeal to active principles in the universe. The comparison has to be general and abstract enough to encompass together, within the typology, regimes reported by anthropologists and those conceived by policy analysts and organization theorists.

The first example of a distinctive regime rests upon the principle of individual freedom to negotiate. That is the competitive individualist society described for certain politics in New Guinea which corresponds to the description of the market place in socio-economic analyses.[f.n10] If this kind of regime is to survive the interpretations of misfortune, it must uphold the individuals' freedom to contract. Explanation tends to appeal to personal resources that are attributed to a successful person. Let me class them all under the head of fetish power, using the term broadly to cover the power that a living individual may claim to use for controlling mysterious powers or agencies, whether the power be purchased or gifted by an ally or a charisma innate in the person's own self.

Each actor, pursuing his private ends, is busily making or breaking up coalitions: unsuccessful operations get driven down and out of the market, a few big ones emerge for a brief period of glory. Such a society continues in being only if everyone is committed to its underlying principles. When they inquire into the causes of a grave mishap, no one will let it be said that refusal to abide by ancient tradition was its cause. No one is going to accept a coroner's verdict which implies that daring innovation, new forms of brokerage or free negotiation has attracted punishment. Some more morally flexible principle is needed. What I am here calling fetish power supports the successful

leader and permits something like a free market in leadership; so it admirably suits the regime.

In the course of attracting allies or intimidating rivals, individuals in this regime will have been boasting of their powerful sponsors, personal talents and secret resources, others will have been assessing their claims and choosing alignments accordingly. When a misfortune needs to be explained, plausible reasons are ready. If the leader argues that his rival has more charisma, more powerful sponsoring demons or stronger magic technology, his own charisma will inevitably be diminished. A theory of personal resources works to maintain the fluidity of this kind of society because it justifies the changes in allignment that everyone is always making.[f.n11] Wanting to leave Y who is a weak ally and to join X who is currently successful, they can justify the switch of allegiance because X has obviously got bigger battalions, better secrets, bigger guardian spirits or luck working for him; and when X starts to fail, the same theory allows his supporters to drift away, seeing that his technology has run down, his demon has deserted him or his luck has run out. This may sound like a worrying kind of society to be living in, but it is more worrying for the prominent leaders than the others. The man who controls the biggest fetish power has been claiming to be the biggest source of danger on the horizon. Since everyone knows who he is and since he wants recruits, anyone can join his side and earn his protection. If he does not deliver his promises, they can wait until some new disaster can be made a crusading point for another leader to challenge his fetish power. By crediting fickle fetish power with causing its major physical dangers, the society can maintain itself as a free and open system, like Napoleon's army, not with a general's baton in everyknapsack, but with high expectations of personal mobility, large social rewards and social oblivion for those who fail.

By contrast a more stable constitution is supported by people who either pin blame for misfortunes on politically disapproved elements or pin responsibility on the victim so that blaming is checked. No one would be seen to be doing the adjudicating: the explanation of mishaps would uphold authority diffusely and obliquely, thanks to a tacit consensus that it is to be protected. The graver mishaps will be classed as a radical intervention from some higher than human authority or as a self-invited punishment: X died because of his contempt of rules, Y had this accident because he spread subversive rumors . In the ideal system no one needs to stick his own neck out by personally giving judgment against contempt or subversion: the damage will be seen to have been caused by an invisible agent imbued with moral concern and armed with enough power to vindicate the community. It is obvious how a row of punitive ancestors is an effective control in a society of a tradition-loving kind. When a disaster befalls, it is plausible in such a regime to claim that the victim had entered forbidden territory or breached an ancient rule and so had brought his troubles on himself. That the ancestors are by definition dead makes it more certain that the only convincing interpretation of what they like will be one that commands the widest consensual support.

These two kinds of explanations are mutually exclusive in so far as neither one can be used to support the other regime. It is possible to characterize two exclusive sets of explanations that appeal quite differently to ultimate principles in the universe and that guide the individual's attributions of danger in diametrically opposed ways. Since none of this will seem very problematical to the western social scientist, I can perhaps take the opportunity of pointing out the central deficiency of so-called attribution theory in that

it tries to explain individual attributions of characteristics to others without systematically incorporating the bias of institutional structures in the cognitive scheme.[f.n.12]

The drift of my argument so far is that everyone thinks probabilistically in the fields of their normal competence and acts accordingly. But such fields of competence tend to be circumscribed and do not provide a model for appreciating how people think of other kinds of grave risks outside their normal competence, especially those which involve complex social judgments of value. Suchlike big decisions I argue, are not analyzed and assessed dispassionately on their merits by individuals. Rather the onus of choice is shifted away from particular issues to a choice between kinds of social institutions. Physical disasters are keenly studied in every community deserving the name and occasion is taken to score the performance of community institutions: blame falls in such a way as to reinforce the local community ideal. Far from being steadily analyzed, from the start danger is roped into the work of showing up villains or maintaining morale. As Robert Merton said of a rain ceremony, its manifest function refers to the objective requirement of changing meteoric conditions, but it may have the latent effect of reinforcing group identity.[f.n.13] The manifest intention of any inquiry about disaster is to limit future dangers, but it also has latent functions for the social unit, which need to be understood.

The distinction between latent and manifest seems at first to offer a handhold for the question at issue. After all, I am allocating perceptions of danger among the unintended consequences which regularly follow when the social unit adopts a certain political regime. I

could rephrase the discussion of ancestors and fetishes as beliefs latent in particular kinds of manifest organizational objectives. This might be a way to present my case. My task is to expose different types of unintended consequences which control perception and to classify them according to the types of officially recognized institutional forms from which they emanate. The simple contrast of market with bureaucracy is merely a start. How to make a relevant typology of institutional forms is the problem.

5. The Two Kinds of Organization

Though extravagantly rich in typologizing exercises, organization theory is poor in explanations of institutional blindness. The actual typologies that emerge in a well-developed way are surprisingly few. By typology I mean something rather more elaborate than comparison developed along a single dimension, (such as the famous shift from status to contract). A number of incipient typologies fragment and get lost. For example, one popular contrast distinguishes large from small organizations, implying also that the large are complex and the small are simple. This never develops very far, because the small organizations quickly get discarded from the exercise. Indeed, organization theory seems unduly obsessed by the idea that problems are created by increase in scale. The prejudice may be enhanced by the fact that useful organizations employ decision analysts as consultants, and subsequently small organizations may seem to have few problems. It is assumed that complexity is a function of scale[f.n.14]: increase in scale leads to devolution, centralization, compartmentalization, and these lead to overloaded channels and problematical communications. Indeed it surely does. But in the experience of anthropology, some very small organizations can have very grave problems

that lead to factions, fission and fizzling out, while others equally small, survive with a high degree of internal complexity, devolution and compartmentalization. I get the impression that the importance of scale has been much exaggerated.

Principles of sociological classification derived from Max Weber provide slightly overlapping typologies. First, the contrast between charismatic leadership and routinized procedures, based on the distinctive roles of prophet and priest, has haunted so much of western social thought. But is it the leader who has charisma, or is it thrust upon the leader in certain kinds of political regimes? The charismatic leader fits closely to the anthropologist's descriptions of rule by competing big men (who tend to have recourse to fetish power in some form or another). The routinized society has some affinity with the traditionalism of the ancestor cults. This contrast of leadership styles would be useful to my present purpose if the literature on charisma (whether on party leaders or on personality cults) did not treat the leaders too much apart from the analysis of political regimes[f.n.15]

The other classificatory principle developed by Weber which dominates our thinking about society, gives the contrast between market (dominated by means-end rationality) and bureaucratic rationality, (dominated by procedural rules and hierarchical values). Whereas routinization tends to lead to bureaucracy, charisma tends to float outside of both market and bureaucracy and we have the illusion of three types Whereas if charisma studies were well-integrated with interest-group studies it might well appear that we only have two types still, bureaucracy on the one hand, with its routinization, and market on the other, certain phases of which develop scope for charismatic leaders to build fragile coalitions , bring them up to climax and predictable collapse.

Perhaps two strongly contrasted types are enough for most theorizing. Perhaps social reality is like that and two is the sum of all there really is. Perhaps it is hubris to look for more complex typologies that will help to bridge the regimes that anthropologists study and those studied by organization theorists. It is easy to construct the imaginative link between the individual operating in the market with all its mysterious advertizing and sales gimmicks and powerful trade secrets, and the kind of society that expects all its effective operators to be using fetish powers against each other. It is equally easy to relate bureaucracy to societies observing ancestor cults. Bureaucracy is orientated towards its own vision of life, expressed in its traditions and in the procedures which enshrine them. The ancestors are not only adjudicating instruments between rival factions. They represent a whole version of the beginning of time and how the universe started, how they emerged and constituted the segments of human society. They stand for a synoptic vision of order and justice which their cult makes actual for their descendants. In its organization of segments bureaucracy fabricates buffers which allow members of the organization to override or forget their personal differences. The market thrives on confrontation, bureaucracy plays it down. Bureaucratic procedures insulate members from outside political forces. One unintended consequence of setting up a successful bureaucracy that is strong enough to endure over time's jolts and scares is that its viewpoint tends to be insensitive to political outcomes.[f.n.16] On the other side, market, being focused on individual profits, is myopic to larger effects. Bureaucracy is insensitive to warnings of dangers it has not met already; market foresees danger only from the individual perspective. Neither is a form of organization that can train its members to be sensitive to low probability, high consequence

events. The two kinds of horizon are both restricted. The market regime is hopeful about the ultimate successful working out of its constitutive principles. Bureaucracy is hopeful about the power of human reasoning. Institutional hopefulness blunts concern for distant disasters.

Though these two types are the recurring favorite contasts in western social thought, they are not always used consistently, nor is the link between institutional structure and associated mode of thought made clear. Sometimes no link is made, sometimes the historical factors are worked hard, sometimes a psychological bias is implied. For my task of relating the kinds of perception to kinds of organization, these two grand types simply stand around, as backdrop to generalizations made in organization theory and political analysis.

One major exception needs to be noted. That is Gabriel Almond's and Sidney Verba's[f.n.17] pioneering study of the civic culture, its influence on the political culture, and the consequences of their interactions for the stability of democratic society. Here, certainly, typologies abound. Political culture is taken to be based initially on four variables: 1)how much the political system is perceived by the individual as a general object. 2) what knowledge he has on the structure and roles of political elites and the upward flows of policy making. 3) what knowledge he has of policy enforcement as its downward flows impinge upon his life. 4) what are the norms of citizen participation in these processes that he acknowledges. From this three types of political culture emerge. Negative answers on all these issues gives the parochial type of political involvement; only knowing the system as a general political object and himself as a point on which policy impinges gives the subject type of political culture; the third type is the case of the participant political cultures in which the citizen

has a good knowledge of the general political powers, is aware of himself as a subject and object in it and actively participates. This approach, with its emphasis on political consciousness and participation, seems at first to be very congenial to my present enterprise. This is especially so since the main purpose of the typology is to contrast degrees of subjective competence (that is the citizen's sense that he can influence the political process) with his degree of active participation. The assumption is that a successful democracy needs to be stable and that stability requires a mismatch of a kind such that citizens who perceive themselves subjectively to be in a political system in which they could effectively intervene also feel sufficient trust in the ways of its workings that they rarely do bother to intervene. Participation tends to engender trust and trust insures stability, but not necessarily. The authors lean heavily on local political history for understanding how the different mixes have arisen and to explain anomalous cases.

Reading back on that work of only twenty hears ago, one is struck with what an ambitious scheme it was and with how quickly dated it became. It shows on every page the mark of its period, the heyday of functionalism with the unquestioned assumptions that balanced equilibrium will be the mark of a successful system and that stability is what every democracy should seek. One is also struck with how fast the frontier of knowledge and understanding on that subject has moved. Subsequent reappraisals have raised most of the issues that now seem problematical which then were dormant.[f.n 18] Above all, the difference made by socio-economic status in the attitudes of respondents could not now be brushed under the carpet, or of circularity of the argument, which tests the subjective sense of

competence against the subjective reporting of political involvement, and the subjective sense of political satisfaction with the overall system. Alas, for my hope to find here some sophistication about how social structures fix perceptual blinkers on individuals. This huge research effort never tackles the question of how the subjective experiences relate to real life, except historically. Evidently, once upon a time, events impinged upon and changed people's perception, but then subsequent events combined to fix the angle of vision. Since I want to investigate this process of stabilizing the political vision, with regret I leave aside this brave exercise because it has nothing to say on that point.

6. Kinds of Decision-Making

When we turn to decision analysis, we find a formidable literature that assumes that kinds of thinking are related to kinds of organization. Be not surprised that there are only two kinds of decision-making organizations generally considered. The seminal article which sets the terms for the comparisons that are still being made is Lindblom's 1959 critism of decision and organization theory.[f.n.19] Here he contrasts Root style of decision making with Branch style as follows.

In this article, the left hand column, Root, makes experts its butt and on the right hand column the ordinary bumbling organization proceeding by limited comparisons and trial and error seems to be the good guys, the firm which is out there in the market place, receiving advice from the experts. In much subsequent research inspired by this contrast we have seen two kinds of budgeting contrasted, comprehensive or Policy Programming and Budgeting versus incremental budgeting,[f.n.20] two kinds

Table 1

Model I Root	Model II Branch
Rational-Comprehensive (Root)	Successive Limited Comparisons (Branch)
1a. Clarification of values or objectives distinct from and usually prerequisite to empirical analysis of alternative policies.	1b. Selection of value goals and empirical analysis of the needed action are not distinct from one another but are closely intertwined.
2a. Policy formulation is therefore approached through means-end analysis: First the ends are isolated, then the means to achieve them are sought.	2b. Since means and ends are not distinct, means-end analysis is often inappropriate or limited.
3a. The test of a "good" policy is that it can be shown to be the most appropriate means to desired ends.	3b. The test of a "good" policy is typically that various analysts find themselves directly agreeing on a policy (without their agreeing that it is the most appropriate means to an agreed objective).
4a. Analysis is comprehensive; every important relevant factor is taken into account.	4b. Analysis is drastically limited: i) Important possible outcomes are neglected. ii) Important alternative potential policies are neglected. iii) Important affected values are neglected.
5a. Theory is often heavily relied upon.	5b. A succession of comparisons greatly reduces or eliminates reliance on theory.

This is copied from "The Science of Muddling Through" by C.E. Lindblom

of policy formation, cogitative and interactive.[f.n.21] The good guy sometimes changes from one side to the other-as for example, when the level is raised from government departments to whole natural governmental styles. In politics and markets Lindblom seems to favor his Model 1, the intellectually guided society, against his Model 2, the interaction type.[f.n.22] No matter, we have two types, and they still correspond closely to the ancestor cult (Lindblom's Model 1, with its famous founders, synoptic vision of world history and human nature and topdown formalities of precedence for organizing political behavior)

and Model 2, the fickle fetish holding market interaction, with its negotiating and coalescing for strength and arriving at fragmentary, practicable decisions on a short term basis.

Several thinkers have tried to propose a third type of decision making. On closer inspection, their typologies tend to reduce to two. Allison[f.n.23] offers three models of government decision making; the first is based on the individual behaving according to classical utility theory; the government is presented as if it were a single rational agent, able to know and rank its goals and solve its problems, according to a rational appraisal of costs and benefits; the second echoes Lindblom's descriptions of actual organizational muddling through, contrary to the behests of theorists. The big difference between Model 1 and Model 2 is the importance of standard operating procedures in the latter, the constraints on seeking information, the sequential and fragmented dealing with policy problems. In Model 2 the different elements behave as a loose alliance of semi-independent organizations; internal conflict is reduced by the recourse to fixed plans and routines. Model 1 and Model 2 correspond closely to Lindblom's two models cited above. Allison's Model 3 is a more complicated version of the utility theory used for Model 1, in which the whole market of individual agents are bargaining, compromising and making coalitions. If you see Lindblom's Model 2 as a system based on market interaction, then Allison's model 3 takes it to a further stage. So in effect, instead of providing three distinct types, Allison is working with the usual two basic models.

Steinbruner[f.n.24] tries to have three models of cognition in organizations: a classic utility model (which correspond roughly to Lindblom's rational comprehensive Root style of policy formulation and to Allison's Model 1) which he calls analytic thinking; second, a

pragmatic interactive model (which roughly corresponds to Lindblom's Model 2; and a cybernetic model with bureaucratically restricted focus at a lower level of organization which has much in common with the emphasis on fixed goals and routines in Allison's Model 2. So the distinctions that would justify claiming more than two basic models are not convincingly worked out. Both Steinbruner and Allison are interested in the central problem that concerns us here, that is how the prior mental set affects interpretations of events. But neither stops to ask where the mental set and its assumptions come from. They imply that the answer will refer to national culture or individual psychological makeup. I am arguing that the kind of organization itself generates the decision making and perceptual bias, but I do not get enough help from typologies used in discussing organization behavior for developing my project.

Furthermore, given the heavy use of the idea of rational behavior in the classical theory of organization, one would expect the differences between the individual decision taker and the organization be fully spelled out. A recent survey[f.n.25] shows that the paradigmatic scheme of the organization as if it were an individual is full of loose ends and not at all as well understood as one might expect of a central tool in decision theory. The two incomplete models which prevail either treat the organization as an individual within a market environment or as a market in which its constituent parts are individuals. This limited vision of what kinds of different organizations there may be is unable to provide ideas about institutional blinders.

7. Market, Bureaucracy and Voluntary Commitment

Two swallows do not make a summer. Two regimes do not make a typology. Search as I may in the theory of organizations, I do not

find any consistently developed typology that does more than embroider upon the basic two models, and absolutely nothing that suggests how the political culture selects institutional forms and supports them with beliefs about responsibility. To make the transfer between the anthropologists' materials and the subject matter of western political thought I need to find at least a three part scheme[f.n.26], articulated so as to show how blame is attributed to sustain different regimes.

One formulation of the difference between market and bureaucracy seems particularly well adapted to this purpose. This is the market failures framework, which whatever its limitations may be, takes my argument out of the static periphery of western social thought where anthropological observations are generally consigned.

Market transactions are contractual relations of varying degrees of longterm commitment. Market failure is an analytic device which considers the cases in which costs of individual transactions may be too high for maintaining the conditions of completely contractual market relationships. Williamson[f.n.27] has used the idea of market failure as a conceptual framework for comparing the strengths of markets as opposed to bureaucracy.

Suppose all transactions can be mediated by market relations, then ask what conditions will cause some of these market relations to fail and come to be replaced by bureaucratic mediating forms. This argument assumes every bureaucratic organization to be an example of market failure. When transaction costs mount for one reason or another, a bureaucratic organization offers an employment relation which can produce trust, develop expertise and provide flexible continuity, and these combined can outweigh its inefficiencies. Ouchi has suggested a third organizational form from within this conceptual scheme.[f.n.28] He calls 'clan'

a structure which he derives from Durkheim's idea of organic solidarity, in which a total congruence of goals allows for much more informality and a less explicit statement of rules.

Table 2 (copied from Ouchi, Table II p. 138 "Administrative Science Quarterly" 25.1.1980) An Organizational Failures Framework

Modes of control	Normative requirements	Informational requirements
Market	Reciprocity	Prices
Bureaucracy	Reciprocity, legitimate authority	Rules
Clan	Reciprocity, legitimate authority, common values and beliefs	Traditions

The difficulty about this nice scheme is to know how commitment to common goals arises. Ouchi sees the clan as emerging in response to failure of bureaucratic organization. "When a bureaucracy fails, then due to excessively ambiguous performance evaluation, the sole form of mediation remaining is the clan, which relies on creating goal congruence."[f.n.29] He claims that clans do not require explicit auditing and evaluation, because of the subtle, mutual monitoring of intimate co-workers. He may be right in seeing 'clans' formed in the course of rejecting bureaucracy's rules. But his enthusiasm for implicit unmediated forms of communication let him down. The clan idea needs more analysis. Like Rosabeth Moss Kanter[f.n.30], whose work he cites in evidence, he is telling us that moral commitment to common goals is an independent factor. If he can assume that moral commitment arises so easily, just from disappointment with the workings of bureaucracy, why can we not also suppose it preceded market relations and then ask why it became superseded in turn? Ouchi skips out of the central dilemmas of political theory in which the issue over the centuries has been how shared moral commitment ever emerges and how it is sustained. The "clan" as described is not the promised third branch of a typology

starting with individual rational agents transacting with one another and then avoiding excessive transaction costs by developing employment relations.

Using the mechanisms of accountability and blame allocation as principle organizers of our scheme, we may start again with the two recognized types, bureaucracy and market, tabulated as follows.

The morally punitive universe in which ancestor power is an element can be identified with bureaucratic or hierarchical regimes and the belief in secret weaponry such as fetish power or charisma can be identified with market regimes.

TABLE 2. Two forms of Risk Perceiving Organization

	Hierarchy	Market
organized by	individual-subordinating to group protective, compartmentalizing, top-down principles of command	individual exchange, profit-maximizing, bottom-up principles of consultation and influence
latent goal	secure internal structure of authority	preserve individual freedom to contract
invoke benefits	of tradition, of connections, of territorial heritage and material symbols of group	of esoteric techniques and personal qualities
invoke dangers	of loss of morale, loss of commitment	of personal power and feelings of rival individuals
disasters interpreted	to support group control over individuals	to magnify competition of leaders
action justified	stabilize patterns of segmentation	shifts of allegiance
latent cosmic forces	ancestor power, taboos in a punitive universe	fetish power, charisma, and equivalent personal weaponry

These two contrasted regimes with their latent cosmic forces would seem to be an acceptable extension of political thought to include the regimes of Africa and the ancient world under the same contemporary

rubric. But they do not touch upon a certain type of regime that anthropology records, in which warning of horrible, unprecedented dangers is the usual recourse for resolving micro-political crises. There is a third organizational type, quite distinct, which solves its difficulties of allegiance neither by boasting of control of fetishes nor by appeal to dead ancestral vengeance but by threat of being destroyed by evil conspiracy of living outsiders. Fortunately, I can develop this third type of regime including both African exemplars and modern political analysis within the theory of rational choice by drawing upon Mancur Olson's analysis of The Logic of Collective Action.[f.n.31] Markets and hierarchies survive, thanks to the commitment of members who expect to enjoy selective benefits for themselves. Olson indicates a third type, the voluntary organization that is not protected by coercive power and does not afford individual selective benefits. The difference is a matter of degree; the less that individual selective benefits are available, the more the organization encounters grave problems of commitment, leadership and decision making. So much so that Mancur Olson expects it to have difficulties in producing any collective good at all.

According to Olson, when there is no coercion and no selective individual benefits, a group is going to be bothered by free-rider problems. Each member will expect to be able to enjoy the public benefits created by the others without anyone noticing whether or not he puts in his bit. If there is a difference between big and small stake holders, the latter will tend to blackmail the former, threatening to withdraw and so gaining a paralyzing veto power over the whole group. Leadership is thwarted; even on the principle of a hundred percent participation, endless bargaining blocks the decisions of endless committees. Such a group has a problem even to raise funds for its minimum

organization costs and must be judged to be specially fragile and especially vulnerable to internal dissension.

The first step towards a solution for this kind of organization when trying to collect contributions and prevent secessions is to draw a clear boundary around members against the outside world, painting the latter as a corrupt and nasty place. Second, it will need to keep the hundred per cent participation rule so as to prevent any one member from seeming to reap more benefits than the others and so creating discord. We can supplement Olson by adding that the organization works better if an ambitious power-hungry member is said to reveal those very corrupt tendencies which make the outside world so threatening. Being committed by internal political needs to make a virtue of equality, this organization will be led to associate ambition with inequality, corrupt stratification and the inhumane machinations of the outside world. So long as there are no internal crises, this is enough of a shared metaphysic to promote latent intentions that the organization should survive. But this voluntary organization is prone to factionalism. Faction leaders are a threat; one way to control them is to accuse them of treacherous alliance with the bad outside world. The more the internal crises heat up, the more it suits the latent goals of the organization for everyone committed to it to shade their eyes, staring at the horizon, spotting there the signs of conspiracy and cosmic disaster which can only be staved off for the world if everyone converts into the egalitarian doctrines of the sect. In a more extreme case, the disasters on the horizon justify expelling the unpopular faction leader.

I have done a stint of fieldwork in Central Africa and am familiar with its pre-colonial history and its processes of adaptation to colonial rule. Before 1890 caravans of ivory and slave traders over the Nyasa Region brought prosperity to some and disaster to others in a country largely organized upon the market type of regime.[f.n.32] After

Pax Brittanica was established, there was an end of raiding and a beginning of district tribunals, taxes, cash cropping and labor migration, all poorly paid economic enterprises compared with what had been. The one thing that the colonial government did not interfere with was who lived with whom in what village. But the villages had no fixed assets to attract a permanant core of residents. Over and over again, the anthropologists and district officers reported the highly fissile nature of the society; the tendency of villages no longer threatened by marauders to split and spread; the periodic and regular thwarting of any leader's ambition to hold his village together.[f.n.33]

The villages moved around every decade or so. There was no fixed territory whose boundaries the ancestors can guard or centers for their shrines. No fixed land rights were maintained in the slash and burn cultivation system; endemic tsetse fly would kill livestock and there was nothing to inherit that would constrain the footloose to choose to stay in one village rather than in another. The active young men were apt to use the threat of withdrawal effectively to get forgiveness for any misdeeds. Always the shared belief that it is good to live in a stable, peaceful village was strained by quarrels which burst into general conflagration after a succession of misfortunes had caused a witch to be identified in their midst. The alleged witch's friends would find themselves in a faction counterpoised against the accusers. The quarrels would have been festering over decades until solution by the exile of the witch or the splitting of the village. In practice the populations were remarkably stable, shedding dissident elements to nearby areas and welcoming their offspring home in the next generation. The anthropologists' micro-political analyses of this self-maintaining process is convincing.[f.n.34] Until I read Olson, I had not seen any general theoretical analysis in which the central African predicament and solution could be included.

But it is plausible that being without strong selective benefits to induce their members to bear the insults and tensions of living together, they used the accusation of witchcraft and threat of distant dangers to solve their organizational problems. I am using the term cosmic plot to correspond to witchcraft and sorcery when they are politically usable ideas. The function of the witch or sorceror in the regime that sees itself at risk in a cosmic evil plot is diametrically opposed to that of the ancestor and to that of the fetish holding leader. The latter claims his magic powers explicitly and thrives or fails according to his success in justifying his claims. The magic is an accelerator of his destiny. If plague and drought strike his enemies and spare his friends, he will himself claim responsibility and he will have to carry the blame if his friends suffer. Unlike fetish power, both witchcraft and ancestral powers are attributed indirectly through the working of the political process. The ancestor is too dead to claim credits himself and the witch has to be a live person visibly in the thick of the political scene so as to be the target of factional abuse. Unlike the ancestor, who mediates the moral justice of heaven or its equivalent, the witch is distinctively a traitor, allied to alien conspirators, plotting evil against good citizens. Unlike ancestor or fetish holder, the witch is hard to identify, masked in deceit. The idea of the ancestors is employed by the collectivity to suppress moral deviance, but the idea of witches is used for factional fighting. The political essence of the witch is the outside threat which he insidiously supports. The more terrifying the outside threat, the more the sense of factional solidarity and opposition is reinforced.[f.n.35]

Beliefs in fetishes, ancestors and cosmic plots are here presented, each as the indirect political manipulation appropriate to a distinctive kind of political regime. Each regime animadverts differently at post mortems, inquests and other inquiries into disaster. First, the

fetish beliefs point directly to where power is actually located. Power is not veiled or frustrated in such a regime and the fetish theory gives it such legitimation as it needs for its maintenance. Second, the ancestor beliefs uphold authority and help to channel power to legitimate office holders. Attributing deaths and accidents of all kinds to the corrective surveillance of the dead removes from live office-holders the unpopularity of meting out punishment. Third, the cosmic plot provides an idiom for bringing hidden hostilities into the open. At one point the threat of being accused controls and at another point it fuels factional discord, allowing the social unit to slough off elements it cannot contain peacefully.[f.n.36] In all these cases, disasters, natural and man-made, trigger the inquiries which trace the real distribution of power and its challengers.

Perhaps this language is too dramatic to bridge the gap between anthropological work and the current bemusement about perception of risk. But fetish power, ancestors and cosmic plot are not more dramatic than what we commonly read about impending catastrophe or the vituperations against the deceits of the tobacco industry, advertising interests, the industrial military complex and the aggressive ploys of the nuclear industries. The language of civic criticism should be dramatic.

Another reason why the bridge is difficult is that this sort of analysis takes the focus off physical dangers and turns it inward to the state of trust in political life. Just as we are being asked to attend to the physical dangers on the horizon, this argument turns to the kinds of political contests in which they are made to figure. The key point is the way that nature is politicized and engages in the legitimation and delegitimation of power.

I argue that organizations which are most keenly alert to low probability, high consequence danger are religious sects and communes (which are notoriously millennialist and apt to prophecy doom) and also political lobbies, new political movements and public interest groups. The more difficulty they have in holding their membership together and getting common dues paid, the more they are tempted to call in cosmic plot as a low-cost solution to their organizational problems. The different elements in the environmental movement show more or less alarm about the future of the world according to the way their organization fits between the middle and the right hand column of Table 3.[f.n.37]

Table 3

	ORGANIZATIONS		
	With Selective Benefits		Without Selective Benefits
	market	bureaucracy	voluntary group
latent goal	preserve individual freedom to contract	secure internal structure of authority	survival of group
disasters interpreted	to magnify competition of leaders	to support group control over individuals	to damp dissidence or clarify factions
latent cosmic forces	secret weaponry	punitive universe	cosmic plot or betrayal
accusation	leader has lost power	group has lost commitment	individual treachery

Now we have a real typology in which each of three levels has been identified by the distinctive principles of moral solidarity which are required for maintaining the type of regime. It seems to follow the program of Durkheimian analysis to which Ouchi's paper refers, but looking for social commitment in all parts of the scheme instead of only in the clan. But it adds a corrective element to Ouchi's idea of the clan, since he has rather idealistic notions of what it feels like to be in a small group in which all roles are ambiguously defined, and this scheme suggests reservation about the satisfactions of living in a universe that is thought to be threatened

by cosmic plot. The merit of the typology is that while it is consistently derived from individual rational choice calculations, it also adds the cultural dimension which is missing from approaches to risk perception from the cognitive sciences.

8. CONCLUSION

To go back to the beginning of this argument, I have now illustrated how individuals transfer their decision making to the institutions in which they live. I have tried to make a bridge between organizational theory and anthropology, to show how different kinds of organizations provide different controls on the perceptions of their members. The bridge is very faulty and weak, but I hope just interesting enough to be worth further attention. It suggests a sad predicament. Of three kinds of organization; one is well adapted to pick up and relay warnings of low probability, high consequence disasters because its internal structure creates problems which are habitually solved by identifying distant dangers and associating them with large-scale conspiracy with which one or other of their members may be charged with colluding. Unfortunately, the other two kinds of organizations are fitted with blinkers and ear mufflers so that it is extremely unlikely that they will even hear warnings. Why three? Three is not the limit or a magic number. Michael Thompson uses three or five in his typologies of cultural bias. It is merely that these three and combinations thereof have attracted most of the typological thinking in organization theory, with the third lagging far behind the first two in the attention it has attracted. Second, three gives enough to provide a lot of explanation. Each of these types of organization demands and provides itself with symbolic reinforcement. Once it has produced the cosmological beliefs that can be used to maintain the form of the regime, the extra degree of coherence between institutions, beliefs and actions will reinforce

stability. Any other organizations that provide further examples of how danger is used to stabilize social systems can be added to develop the comparison.

One upshot of this argument is that accepting risks is part of accepting organizations. The risk analysts and risk perception psychologists try to strip the idea of acceptable risk free of political adhesions, but the problems of risk perception are essentially political. Congresses and parliaments give away their rightful territory when they hand over such problems to risk experts. The public debates about risk are debates about politics. They should be read as a sailor reads the movement of the sails to know which quarter the wind is in. To read the risk debate would make explicit a need for more trust here and more watchfulness there. Treating risk acceptability as a technical question disperses sovereignty. Congresses and parliaments should repossess themselves. Through studying risk perception as an institutional effect, the latent purposes of the nation as a whole can be protected. Studying risk perception as an individual cognitive exercise conceals the action of constituent elements in the nation, each solving their own institutional problems in the name of dangers.

Finally, the deeper implications of this essay have less to do with risk perception than with theories of knowledge.[f.n.38] It is presented as a link between Michael Thompson's essay on decision-making with regard to dangers from liquid natural gas and James Douglas's essay on how a plurality of options are funnelled into the form of coherent choices through the political process. Parliaments and voting are certain kinds of filters on political perception. Organizational structures are other kinds again and it befits the 20th century intellectual promises to reach self-consciousness for us to be aware of these funnels and blinders that we ourselves create.

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37. See chapter 7 in Risk and Culture (Douglas and Wildavsky, op.cit)

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INSTITUTIONALIZED STYLES AND POLITICAL REGIMES

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INTRODUCTION

Recently California and the United Kingdom have approved sites for Liquefied Energy Gas (LEG) terminals. In this, and perhaps this alone, they are the same. After a long drawn-out process in which it proved impossible to approve any of the proposed sites California finally, with the help of a new statute passed expressly for the purpose, was able to give approval for an LEG facility at the remotest of all the sites on the list of possibles--Point Conception.[1] California State Statue 1081 requires that within one mile of the perimenter of the site, the population should not exceed 10 persons to the square mile, and that within four miles of the site, the density should not exceed 60 persons to the square mile. Moreover, these stipulations also apply to the tankers laden with liquefied gas, which may be conceived of as mobile sites carrying their zones with them as they make their approach to the terminal or shelter off-shore waiting for calmer weather before docking.[2]

Scotland has a longer coastline than California and most of the country is very sparsely populated (less than 25 persons to the square mile), and yet the approved site, at Mossmorran and Braefoot Bay on the Firth of Forth, lies within the most densely

populated part of the entire country (with a population density of between 250 and 500 persons per square mile). Moreover, laden tankers will pass within a mile or so of Burntisland (an industrial town) and sometimes with four miles of Edinburgh--the capital city of Scotland! If the California siting criteria (explicit in Statute 1081) were to be applied to the Scottish case it would be quite impossible to approve the Mossmorran/Braefoot Bay site, and if the United Kingdom criteria (implicit in the Mossmorran/Braefoot Bay approval) were to be applied to the Californian case, any of the suggested sites could be approved, which means that the terminal would go to the first site to be suggested--Los Angeles harbor.

What does this little comparison tell us? It tells us hardly anything about what the risks associated with LEG really are, but it tells us quite a lot about British and American society. What I wish to argue is that we need not be dismayed by this. Quite the reverse: it is the social, not the physical, understanding that is likely to lead us to more effective ways of handling technological risk--especially in those instances where, try as we may, we simply cannot gain the physical understanding we desire.

THREE DIFFERENCES BETWEEN BRITISH AND AMERICAN SOCIETY

1. The British approach to occupational risk is set out in the Health and Safety at Work Act. Here it is quite explicitly stated that absolute safety is unattainable and that, inevitably, increases in safety will take place against a background of trade-offs between risks and benefits. In the text of the act the phrase "reasonably practicable," though never defined, occurs six times. By contrast, the United States Occupational Safety and Health Administration (OSHA) is charged with the responsibility for ensuring "a safe workplace." Implicit in such a term of reference is the goal of zero risk. These differences in approach to risk highlight a polarity between compromise and negotiation, on the one hand, and intransigence and steadfastness, on the other--a contrast that is sometimes given

expression in terms of a gross cultural difference between Britain and the United States: *Consensus Culture vs Adversary Culture.*

2. Both Britain and the United States have specialized agencies charged with responsibility for the safe operation of nuclear power plants. Their very names--the Nuclear Installations Inspectorate (NII) in Britain and the Nuclear Regulatory Commission (NRC) in the United States--hint at a stylistic difference in the handling of the risks in high technology. In the United States the NRC looks to see what might go wrong, looks to see what should be done (in engineering terms) to prevent that from going wrong, and then tries to write a regulation (in legalistic language) which will prevent it from going wrong. In the comparable NII the British inspectors go around the plants (and, before that, the designs for the plants) and look to see what might go wrong. They then talk (in engineering language) with the resident engineers (and, before that, with the designers of the plants) and work out with them what needs to be done to prevent it from going wrong. Much of this process is "off the record" and no statutory regulations are drafted. So in Britain the process remains pretty inaccessible to anybody who does not speak the engineering language. In the United States, the process is accessible to anyone (or, at least, to anyone with the requisite time, financial resources, and education) and almost every regulation gets challenged in the courts. The consensus culture is prepared to tolerate some closure whilst the adversary culture demands openness, and this polarity, by the different weights it gives to inspection and regulation, results in two very different styles of risk-handling: *the Consultative Style vs the Statutory Style.*[3]

3. The political regime[4]--the relationship between leader and led--also varies as we go from Britain to the

> United States and is reflected in the rather different ways that Britishers and Americans extend credibility to their experts. When, after due deliberation, that august body the Royal College of Physicians announced that smoking was harmful to health the British populace, by and large, believed them. This is not to say that they gave up smoking; only that they trusted the experts. But when the medical profession in the United States made the same announcement the reaction of many a citizen was that the doctors had discovered yet another way of screwing more money out of them. America, it would seem, goes in for "bottom up" leadership in which a truculent populace is forever blowing the whistle on its government. Britain (and many other countries in Western Europe) goes in for "top down" leadership in which a deferential populace allows government to blow the whistle on groups or individuals who are seen as getting out of democratic line. This culturally induced difference in consent--strong linkage in Britain and weak linkage in the United States--places very different limits on where leader and led can go and still remain linked to one another and it results in a contrast between two distinctive styles of democracy: *Top Down vs Bottom Up*.

These three examples take us all the way from culture or, rather, cultural biases (the patterns in which shared values are arranged) through institutionalized styles of risk-handling (the way people come to act consistently in accordance with those patterns) to political regime (the sort of relationship between government and governed that tends to sustain those institutions that are consistent with the cultural biases of the governed and tends to let drop those that are not). Now for the $64,000 question. *Why* is British culture consensual and American culture adversarial; *why* do the British favor a consultative style for risk-handling and the Americans a statutory one; *why* is democracy Top Down on one side of the Atlantic and Bottom Up on the other (see Figure 1)?

Usually, when people stumble inadvertently upon momentous questions such as these, they throw up their arms in horror and

	UK	USA
Cultural bias	CONSENSUS	ADVERSARY
Risk-handling style	CONSULTATIVE	STATUTORY
Political regime	TOP DOWN	BOTTOM UP

Figure 1. Some Contrasts between British and American Society

scurry off to see what Durkheim, or Marx, or Freud, or Adam Smith have to say on the subject. My own preferred intellectual refuge, when I find myself in this sort of situation, is the great landscape gardener Lancelot (Capability) Brown. "Confront the object," he said, "and draw high obliquely." As you turn in through the gates of a park that has been landscaped by Capability Brown, there, confronting you in the distance, is the stately home that is the object of your journey. But then the carriageway veers away and, losing all sight of your objective, you are carried off through glades and valleys, past lakes and over bridges, until, all of a sudden, you pop up over some artful undulation and there it is--right beside you. So having confronted my object--the sorts of differences that exist between advanced industrialized societies--let me draw nigh by way of a detour so oblique as to take in the simple and largely pastoral peoples who long ago established themselves in the remote Himalayan valleys of Nepal.

THE OBLIQUE APPROACH

The Sherpas of Khumbu--the high valley below Mount Everest--have long engaged in the risky business of Himalayan trade and, indeed, they actually moved into this previously uninhabited region in order to take advantage of the trading possibilities that it offered. They have carried on this business in an adventurous and individualistic way and, in recent years, they have extended these same social techniques to the opportunities offered by the development of mountaineering and tourism.

Himalayan trade and mountaineering are of interest to the student of risk for three reasons. First, there is the cheerful acceptance of appalling risk. The chances of being killed in high standard Himalayan mountaineering are currently around one in six per year; nine times more dangerous, according to the tables so assiduously compiled by occidental students of the subject, than being president of the United States. Second, risk-accepting communities--the "adventurous traders" as they have been called --live right next door to risk-averse communities--the "cautious cultivators."[5] In consequence, the Nepal Himalaya provides a ready-made laboratory for the study of risk, risk-handling, and risk-perception. Third, the eager acceptance of risks that could easily be avoided suggests that, for the Sherpas, risk is opportunity. Risk, contrary to the assumptions that are built into many a current approach, is not always nasty.

Since it turns out that the adventurous traders are all Buddhists and the cautious cultivators are all Hindus, the conventional anthropological explanation that individuals are guided in their choice between risk-accepting and risk-avoiding strategies by their shared values and beliefs--their culture--copes very nicely with the problem of Himalayan trade. Or, rather, it looks as if it does. Once you start asking questions about change--about *becoming* rather than just *being*--then the cracks begin to appear. Do people become adventurous traders or cautious cultivators according to whether they are Buddhists or Hindus or do they become Buddhists or Hindus according to whether they are adventurous traders or cautious cultivators? When Himalayan trade itself undergoes change and evolves to include Himalayan mountaineering as well, the cracks get even worse. The European mountaineers accept exactly the same risks as do the Sherpas, and their style--their way of handling those risks--is also the same, yet they are neither Buddhists nor Hindus. And, since not all Europeans go in for Himalayan mountaineering, it is quite easy to find the stay-at-home counterparts to the cautious cultivators and they too are neither Buddhists and Hindus. Culture, far from giving an explanation, becomes a way of ducking out of giving an explanation.

Try, instead, the idea that both an individual's risk-handling style and his culture are a function of something else--his social context. The Sherpa lives in an atomized social world in which the nuclear family is the economic unit and in which all sorts of institutions militate against the formation of coercive social relationships. The equal property rights of men and women, for instance, result in even the ribbons that tie the nuclear family together being very loosely knotted. His Hindu neighbor, by contrast, is a member of a joint family that is intricately bound together by all kinds of tightly knotted rights and obligations, and his most important resource of all--land--remains firmly in the control of the elderly head of that family. In such a situation there is little incentive, or even opportunity, for personal risk-taking. Even if he was able to siphon off some capital from the commonweal, the risk-accepting individual would be severely censured should his risk-taking prove unsuccessful and he lose what was rightfully the group's money; nor, if he was successful, would he finish up much better off once all his risk-avoiding fellows had claimed their share of his reward. In such a tightly bound setting the sensible way to handle risks is to avoid all those that can be avoided and to share those that can not.

For the Buddhist, things, though less cozy, are much simpler. Since, given his individualized context, there is no one around for him to share his risks with he cannot go in for risk-sharing, and since this also means that there is no one to insist on sharing his rewards, he might as well go in for risk-taking should any potentially rewarding opportunities present themselves. Hinduism, by the emphasis it places on the maintenance of boundaries and on the necessity of sacrifice, dovetails neatly with the group strategy of closing ranks against those external risks that can be avoided and of internalizing those that can not. Buddhism, on the other hand, in dissolving away boundaries and in preaching personal salvation, smoothes the way for that particular variety of economic individualism in which there are no economies of scale and thereby encourages personal risk-acceptance while at the same time discouraging any displacement of those risks from one individual onto another.[6]

If we visualize a *group* dimension running from the highly individualized context of the Sherpa to the highly collectivized context of his Hindu neighbor, then we can distinguish between the cultural biases (such as those that distinguish Buddhists and Hindus, or European mountaineers and their stay-at-home compatriots) and the different styles or risk-handling that accompany those biases. This approach by way of social context accounts, moreover, not only for how the adventurous trader and the cautious cultivator *are*, but also tells us something about the sorts of disengagements and reorientations that would be entailed in the conversion processes--sanskritization and sherpaization[7]--by which each can *become* the other.

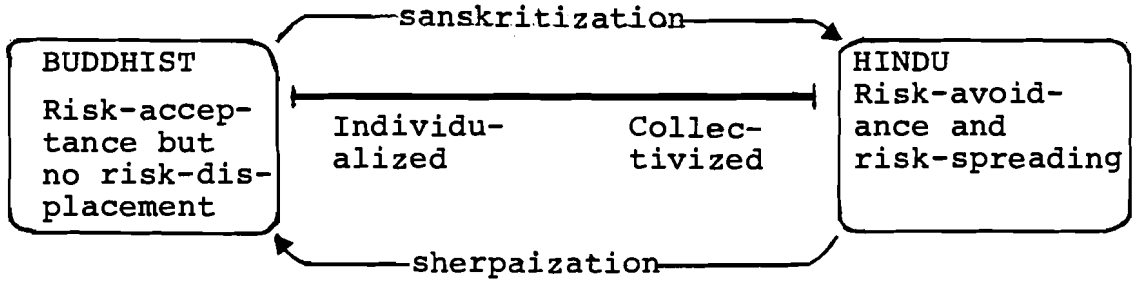

Figure 2. The *Group* Dimension of Social Context

But this is far from being the whole story. Whilst this diagram may help to clarify many of the interesting things that go on in the mysterious East, it does not cope at all well with some prominent features of the familiar West. For instance, the Buddhist's style of risk-taking without risk-displacement does not line up too well with the sort of risk-shedding that the classic entrepreneur can achieve through his relentless exploitation of any opportunities he can find for economies of scale. Nor would it be safe to assume that all bounded social groups act so as to internalize those risks that cannot be avoided. In other words, though this group dimension copes quite nicely with risk-acceptance and risk-avoidance, I still have to provide some way of accounting for the alternative modes--displacement and sharing--that are available for handling those risks that happen to be both unattractive and unavoidable. With this in mind, let us now leave the Himalayas and, drawing a little more nigh to

our object, look instead at the anti-smoking movement in Britain and in the United States.

Both Britain and the United States have active anti-smoking movements, but the forms they take in the two countries are very different. Since anti-smoking movements are made up of anti-smoking groups, this difference cannot be accounted for in terms of the individualized/collectivized dimension that serves to separate the Buddhists from the Hindus, and this suggests that perhaps there is another social context dimension at right angles, as it were, to this group dimension.

In Britain we could find only three or four anti-smoking groups; in the United States we found 41 (not counting the 91 independent chapters of GASP--Group Against Smokers' Pollution).[8] This imbalance reflects, not a difference in the level of concern between the two countries (if anything, the concern is greater in Britain), but, rather, the distinction between "top down" and "bottom up" governance. British ASH (Action on Smoking and Health) is the joint creation of the Royal College of Physicians and the Health Education Council (itself an offshoot of the Department of Health and Social Security). United States ASH (whose similarity to British ASH ends with the acronym) is the creation of one forceful individual—John Banzaf III—a law professor at George Washington University. British ASH, much concerned for its respectability, is careful to put a little distance between itself and the National Society of Non-Smokers (NSNS) with its rather populist approach and its line-up of non-conformist churchmen and aging showbiz personalities. United States ASH, on the other hand, is not overconcerned about its reputation within the government-sponsored National Interagency Council on Smoking and Health (NICSH) and maintains amicable and informal links with the charismatic (and smoke-allergic) Clara Gouin--founder of GASP--and all her far-flung chapters, from Anchorage GASP in the north to Albuquerque GASP in the south and from Rhode Island's Clear Air Now (CAN) in the east to the Fresno Non-Smokers' Liberation Front in the west. British ASH sees its task as but one facet of preventive medicine (the "health wellness concept" as it is called in the US); American ASH focuses

on the single issue of non-smokers' rights--"Sue the Bastards" reads the sign on John Banzaf III's desk.[9]

Though the smoking that the anti-smokers are anti remains much the same wherever you are, the anti-smoking movement does not. Smoke gets in your eyes wherever there is smoke, but this uniformity of nuisance is not reflected in the efforts that are directed at doing something about it. British anti-smoking is essentially dull--a sober-sided and carefully worded affair; American anti-smoking is fun--all ad hoc exuberance and righteous razzmatazz. Or, to put it at its most offensive, anti-smoking in Britain is biased toward saving the lives of the poor unfortunate smokers; anti-smoking in America is biased toward putting those filthy despicable people in their place (and serve them right if they get cancer!). In Britain, anti-smoking is handed down from on high; in America, it sprouts up from the grassroots.

How does all this fit with the idea of a second dimension to social context? The answer, I would argue, is that, even if an individual's social context is strongly grouped, the relationships that his group involvement provides him with can still vary; they can be *hierarchical* or they can be *egalitarian*. But, and this is the crucial part of the argument, they cannot be a mixture of the two.[10] This is because the dynamics of group formation and stabilization are such that only those incipient groupings that arrange things so that their members' relationships are consistent--either all hierarchical or all egalitarian--stand much chance of cohering and surviving through time. To understand the successes--the groups that actually make it--we have to consider the failures--those countless transient and only partly formed eddies in the stream of social life that disappear before we are even aware of their appearance.

From all this, it looks as though the processes of group formation and group decay are crucial to any global understanding of anti-smoking movements. But what if we were to reverse this logic and try, instead, to use anti-smoking movements as just a means to a much more exciting end: an understanding of the birth and death of groups? If we do this we move from something of passing concern to something of lasting importance, from a relevant question to an interesting question, from a low intellectual

risk to a high intellectual risk. In other words, this investigation has reached a decision point. How, as the saying goes, can you soar with the eagles when you walk with the turkeys? To hell with the turkeys!

A HYPOTHESIS

Only those groups that organize themselves (or are themselves organized) so that the relationships of their members are largely consistent--either quite strongly biased toward equality or else quite strongly biased toward hierarchy--are likely to be viable.

A corollary is that the distribution along the equality/hierarchy dimension of those individuals who share a strongly positive group context will (in the general case) be bi-modal. This is because most of those inconsistent (and, therefore, unviable) groups that, if they were there, would make the distribution uni-modal cannot, thanks to their very short life-expectancies, be there. Rather in the way that political parties are able to form around the modes in the voter distribution that, paradoxically seemingly, they themselves create, so two fundamentally different kinds of groups condense around these peaks--*sects* around the equality peak and *castes* around the hierarchy peak.[11]

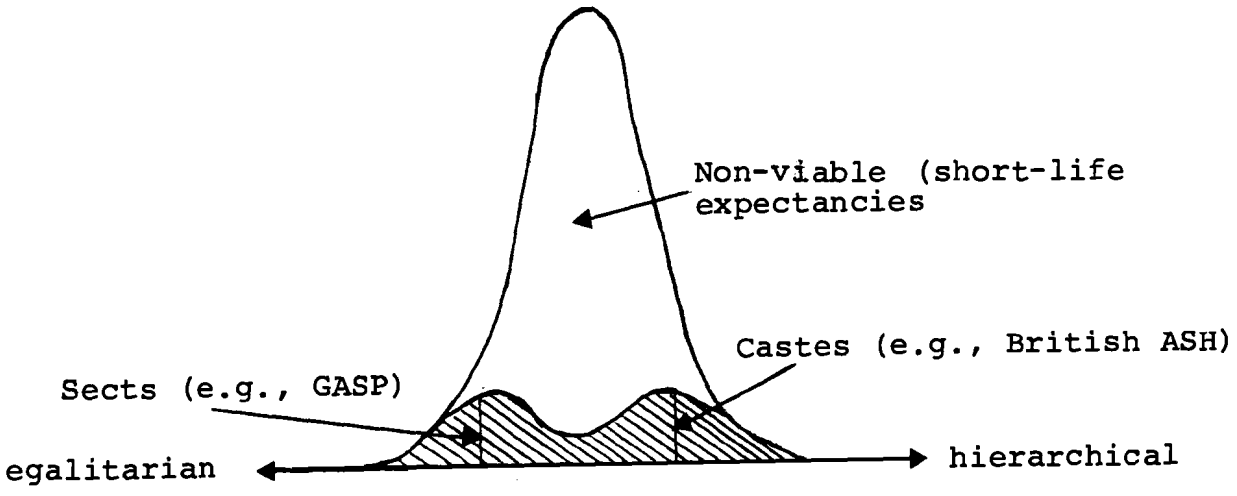

Figure 3. Bi-modality and the Viability of Social Groups

The essential organizational differences between sects and castes is that, in the sect, the overriding goal of equality precludes any internal differentiation whilst, in the caste, the premise of inequality ensures a high level of internal differentiation.[12] The sect's structure, therefore, has all to be concentrated at its boundary--at the edge of the group--and the result is the setting up of a "wall of virtue" which can be seen as protecting the soft vulnerable "us" on the inside from the nasty predatory "them" on the outside. In contrast to this sharp cut-off--this uncompromising rejection of the outside world--the caste is able smoothly to transfer the same clearly defined patterns of rankings and interrelationships that characterize its internal organization across its boundary and onto the wider society of which it is a part. The members of a caste, therefore, do not reject the outside world; they take up a clearly specified and carefully negotiated position within it. In consequence, truculence--distrust of outside, lack of compromise, and resistance to negotiation--is built into the sect whilst deference--the subordination of the parts to the whole, the respect for proper channels and correct procedures, and negotiation aimed at clarifying rank and position--is part and parcel of the processes that maintain caste.

The evidence from anti-smoking suggests that, in the United States, the distribution along the equality/hierarchy dimension is strongly skewed in the egalitarian direction and that in Britain, it is strongly skewed in the hierarchical direction. Here, in the divergent forms taken by a movement that is only a few years old, we see the imprint of more than two centuries of history. Having thrown off the hierarchical colonial yoke, the youthful American Republic saw to it that sectism was built into its Constitution. And, since that Constitution was built to last, this sectist bias in American life remains as strong (some would say stronger) today as it was then. As Hunter Thompson has nicely put it: Those who believe that George III is still alive and living somewhere in South America are always with us![13]

If the process of social life, be it American social life or British social life, is continually throwing up both sects and castes, then the persistence of the American regime--the

robustness of constitution and constituency--has to be seen as something quite remarkable. And the same applies to the British regime that has similarly persisted around its hierarchical skewing. How, in the midst of so much movement, have they managed to stay in roughly the same places? How are incipient sects nipped in the bud in Britain, and how are emergent castes knocked on the head in the United States? And how is it that as this happens, over and over again, there are not ever-growing masses of disaffected citizens resentful of being either nipped in the bud or knocked on the head and anxious to withdraw their consent from the regimes that did this to them? How, in other words, is the switch from sect to caste rewarded under the one regime and penalized under the other? And how might subtle changes in these patterns of reward and penalty lead to the transformation of one regime *into* the other?

Lest all this seems a very far cry from the practical business of risk management, and from such real-world problems as LEG terminal sitings, let me now place my cards on the table.

DESCRIPTION, PRESCRIPTION, and TRANSPLANTATION

Even a cursory international comparison will reveal that the same risks get handled differently in different countries; that there are different *institutionalized styles of risk-handling.* But institutions are not just *there;* they have to be legitimated--they have to be credible to the populace (or, at least, to the influential sectors of the populace). This means that institutionalized style can exist (and continue to exist) only if there is some stability--some repeatability--in the relationship between institution and individual. In other words, institutionalized styles presuppose stabilizable social regimes.

When a government department sponsors a research project based upon the comparative method it has two aims in mind: first, to discover how things are done in other countries; second, to discover whether, in the light of this new understanding, it could perhaps do things better in its own country. That is, first there is *de*scription, then there is (or, rather, there

should be) *pre*scription. The point I wish to make is that if you have not got a typology of regimes, you have not got any basis for comparison and, if you have not got any way of relating one case study to another, you cannot produce any prescriptions. Or, rather (since whoever heard of a research project not giving the client what he asked for), any prescriptions you do come up with will not be worth the paper on which they are written. An adequate theory of risk-handling style--a theory that, when applied, is capable of generating non-arbitrary prescriptions--will have to go below the institutional level and take account of socially induced variations in individual perceptions of risk and in individual strategies toward risk. And, if that involves digressions into Himalayan trade and anti-smoking, too bad.

When we look at what goes on in one country and at what goes on in another country, and we see that each has a rather nice little feature that the other has not, we think to ourselves: "couldn't we just pick up the *consultative style*, say, from Britain and put it down in the United States?" or "couldn't we take *loser compensation*, say, from the United States and just fit it into Britain?" We are looking for prescriptions--possible ways of making things better--and transplantation is very tempting. So the big question is, "Is transplantation possible?" The answer is, "Sometimes it is; sometimes it is not." The problem then becomes to know when it is possible and when it is not possible, and why. Because if we knew when something could be transplanted and when it could not, then and only then could we do something to improve matters.

Institutions of all kinds become effective or become paralyzed according to whether or not they enjoy the credibility of the populace (or, at least, of the politically effective populace). So transplantation will be effective if the institution or procedure, or whatever it is that you have picked up from one country and want to put down in another country, still continues to enjoy credibility in the social and cultural soil into which you put it. If, for instance, we pick out something from Britain and take it and plant it into the social and cultural soil of the United States (or, conversely, from the United

States to Britain), will it take root? Before you can answer that question you will have to have the metaphorical equivalent of soil science and that, I will argue, is provided by cultural analysis.

Cultural analysis does not try to explain variations between countries in terms of the cultural differences, in the sense of national culture, between them. Its concern is not with those gross cultural differences *between* countries but more with those differences that are to be found *within* them--within American society, within British society. For, as well as cultural convergence, there is cultural divergence. The former can be captured by the concept of *national culture*; the latter by the less familiar concept of *cultural bias*.[14] One Britisher may bias his national culture in one direction, another in a different direction, and so on, but the directions in which these biases are possible remain the same in any culture and this means that, for comparative purposes, we must focus on differences in the strengths of representation of these possible biases as we go from one country to another. For instance, the member of an egalitarian group will tend to bias his national culture in a distinctively sectist direction whilst the member of a hierarchical group will tend to bias that same culture in a distinctively casteist direction (and, as we move away from the strongly grouped contexts and toward the more individualized ones, so we will come across another three distinctive biases, making five in all). So the cultural bias approach is essentially a comparative method for taking account of differences between nations in terms of their differing patterns of cultural divergence.

Take, for instance, the idea of the consultative style in the management of nuclear power plant risk. Could you, if you thought it was good idea, transplant that into the United States? What conditions would have to be satisfied for that set of procedures--that institution--to flourish once it had been transplanted? Well, there would have to be trust in experts, and the American regime is very much characterized by the distrust of experts. At times it is almost as if being an expert disqualifies you from having a say in anything. By contrast, there is in Western Europe, and in the Soviet Union as well, a

very general assumption that the experts are the people to handle these things; that you can trust the experts and that you must trust the experts, otherwise where would we be? It is this strong mutual trust, incidentally (coupled with the hierarchical codes of *noblesse oblige* and sacrifice), that renders the reverse transplant--loser compensation from the United States to Britain--very difficult. There would have to be a considerable acceptance of secrecy. The consultative style of risk management is not particularly open, but is conducted between experts and in technical engineering language, and it requires that a lot of talking goes on behind the scenes--a lot of candid interchange that if it were all on the record, simply would not happen. It would be difficult to make the consultative style work in the absence of centralized governmental control; it thrives in a climate of clear chains of command and well-defined areas of responsibility.[15] And, then again the consultative style requires the qualitative expert use of quantitative analysis. Quantitative analysis must be taken with a large qualitative pinch of salt, used as just a rough guide to indicate where the weak parts of the system are likely to be. Otherwise there would be no room for the exercise of that mysterious skill *sound engineering judgement*, and the consultative style is all about the exercising of that skill.

This little (and very incomplete) catalog of favorable conditions suggests that an institutionalized style of risk-handling is a whole package; that it is not just an agglomeration of elements but, as it were, a living organism capable of gathering itself together and of responding to its environment--absorbing into itself new procedures and agencies that are stylistically consistent (or can be subtly persuaded to become stylistically consistent) and vigorously rejecting those that are not. "Style," as Oscar Wilde once remarked, "is the only essential," and the decision-maker might well fare better by listening to him than to the sweet, but oh so styleless, reasoning of his systems analysts.

Having reached the point where we understand that risks get handled differently in different countries, we need to turn to cultural analysis to tell us why. By providing us with a

typology of regimes--of stabilizable relationships between government and governed--cultural analysis gives us *some* prescriptive guidelines. Transplants between like regimes are likely to be successful; transplants between unlike regimes are likely to be unsuccessful.

Nor is that all. To the extent that they are unsuccessful, these cross-regime transplants will be acting so as to alter the subtle patterns of rewards and penalties that stabilize the host regime. In other words, a stylistically inappropriate transplant is not just useless, it will make things worse... unless, of course, your aim is not to uphold the regime but to transform it! Cultural analysis (unlike systems analysis, with its in-built bias of toadying to power) is, quite properly, silent on whether regimes should be upheld or overthrown. All it does is help us avoid doing the one when we are seeking to do the other.

I have gone on at some length about cultural analysis because of its unfamiliarity and because of the stress it lays upon two key concepts--*style* and *regime*. Within the context of the positivistic, scientific, technical-fixing, objective kind of systems analysis that developed during 1960s, "style" is a dirty word[16]; and, of course, the last thing the applied systems analyst wants to do is look too closely into the nature of the regime over which his client holds sway. Applied systems analysis has, over the years, been content to define its client as a person who wields "legitimate authority"; cultural analysis goes beyond this to investigate the dynamic basis for that legitimacy.

So much for the deeper implications of this cultural approach; let me now conclude by outlining the remaining three biases that complete the analytic framework, and by giving a little example of the way this framework, when applied, gives us some kind of handle on social regimes.

THE FRAMEWORK

Not for one moment do I wish to suggest that American society is composed almost entirely of sects and British society almost entirely of castes. All I am saying is that *in*

those reaches of American and British life where bounded social groups predominate, this contrast is valid. But this still leaves undescribed all those reaches of both American and British life in which groups are not predominant. An adequate comparison will have to take some account of what is simultaneously going on in these reaches as well. So the question we have to ask is: "What happens to this bi-modal distribution when the strongly grouped condition is progressively relaxed?"

Relaxing the strongly grouped condition means being less stringent about the boundedness of the group--moving toward what are called "open-ended groups," for instance, or tolerating some borderline or, perhaps, part-time members. Such relaxations will immediately result in a decrease in consistency in the kinds of relationships that the group supplies to its members. In other words, the bi-modality of the distribution will be eroded and, as the relaxation proceeds (and assuming no new countervailing forces intervene), so the distribution will gradually fill in toward the middle until finally it becomes unimodal.

But somewhere along this line, other countervailing forces *do* begin to intervene. As group affiliations decay, so the opportunities for individuals to construct *personal networks* increase. Unlike a bounded social group, whose membership remains the same no matter which individual is chosen as the initial reference point, a personal network is ego-focused. This means that the network of the rather ineffecive individual who finds himself indirectly related to some forceful and energetic entrepreneur is not at all the same as that of his successful patron (nor is it the same as those of the individuals through whom he establishes his linkage to his patron). The former is a pathetic little thing--just himself out at one end of a long chain that ends at the patron; the latter is an impressive and balanced affair with the patron sitting at the center of a whole array of radiating linkages culminating in a dense encircling fringe of ineffectuals. Our particular ineffectual, therefore, is *peripheral* and *one among many*; his patron is *central* and *unique*.[17]

But this network-building process does not automatically cut in the moment the strongly grouped condition is relaxed. Personal networks can really get going only if the forceful individual can obtain some sort of purchase on those whom he wishes to make (in varying degrees) peripheral to him, and such a purchase is possible only when opportunities exist for economies of scale. Once such opportunities exist, however, networks will proliferate throughout the individualized social fabric. The result is a pattern that, though generated entirely from the processes of network-building, has one thing in common with the pattern that is generated by the altogether different processes of group dynamics--it is bi-modal.

It is not too easy to see what is going on in all this network proliferation. Unlike groups, which have clear boundaries and remain the same no matter which individual we happen to choose as our initial point of reference, networks interpenetrate one another in an apparently chaotic way and, to make matters worse, there is a different network for every single individual. The chaos is only apparent, however, and individuals do become sorted out according to whether they enjoy *network centrality* or *network peripherality*. Those inconsistent cases--individuals central to some networks and peripheral to others--that, if present, would make the distribution uni-modal are rendered unviable by the requirement that social relationships must always to some extent be transitive. Again, this bi-modal distribution (along the central/peripheral dimension, this time) is best advanced as a hypothesis. Though it is possible to provide theoretical arguments to support this hypothesis, empirical ones are simpler and carry more conviction. How, for instance, if this bi-modality was absent would we in the West have been able to perceive those recurrent regularities *the bourgeoisie* and *the proletariat*? And how, on the other side of the globe, would the New Guinea Highlanders have been led to denominate two fundamental categories of social beings--*Big Men* and *Rubbish Men*?

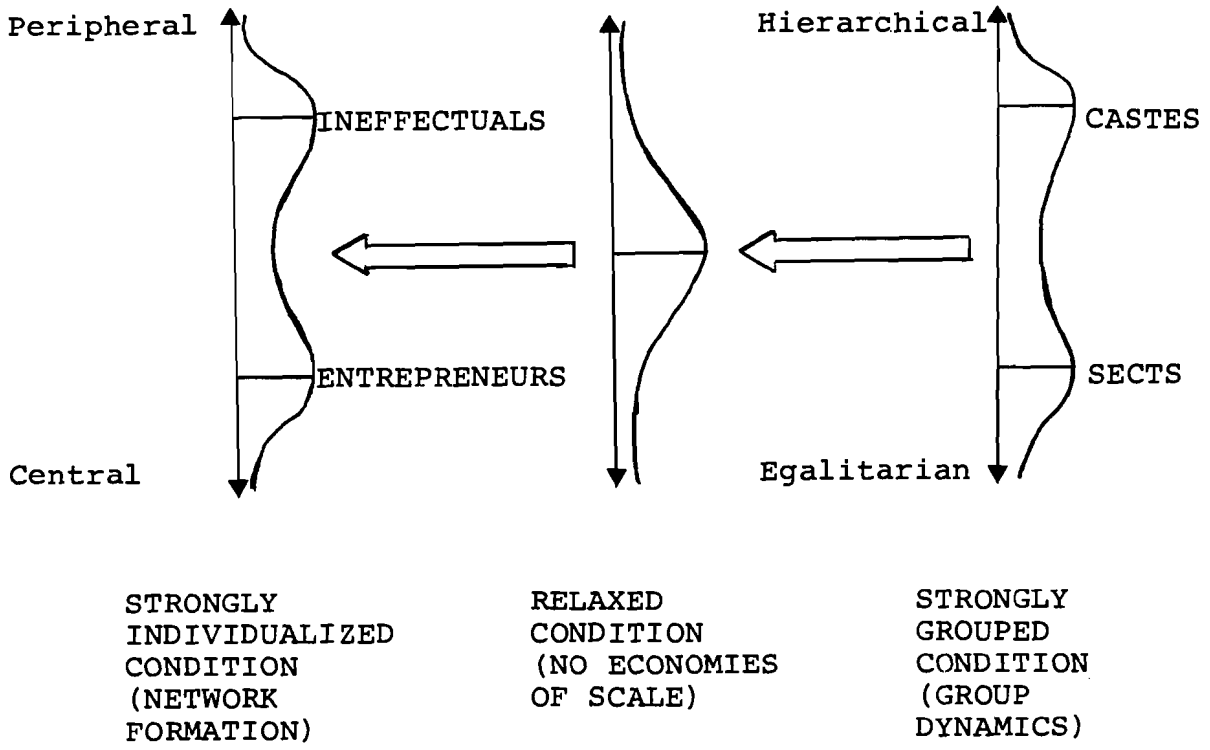

Figure 4. Progressively Relaxing the Strongly Grouped Condition (the relaxation runs from right to left)

But one more step is needed before we can express these consequences of relaxing the strongly grouped condition in terms of a second dimension of social context. At present, though the three different distributions in Figure 4 are laid out at right-angles to the individualized/group axis, each has its own dimension. At the strongly grouped condition the bi-modality of castes and sects is revealed by the hierarchy/equality dimension, at the strongly individualized condition the bi-modality of ineffectuals and entrepreneurs is revealed by the peripherality/centrality dimension, and at the relaxed condition the yet-to-be labeled uni-modality is revealed by a dimension that is still undefined. All these distributions, I will argue, can be mapped onto just one dimension--a dimension that expresses the extent to which an individual has the scope to open up options for himself or, conversely, finds that options are closed off to him.

For instance, at the strongly individualized condition, the ineffectual finds that his scope to form network relationships with other individuals is severely constricted. Wherever he

turns he finds himself hemmed in by the ramifying networks of other, more successful, individuals. The vast personal networks of the Big Man result in the preemption of most of the relationships that, at first glance, appear available to the Rubbish Man. So it is not simply that the Big Man *finds* his options open and the Rubbish Man *finds* them closed; the Big Man, in his coercive exuberance, is actually opening up options for himself and, in the process, closing them for the Rubbish Man. So we can say that the Rubbish Man is subject to a high level of *prescription*, in that his freedom to form network relationships is severely restricted, whilst the Big Man is not just free from prescriptions but is actually *prescribing*. If we use *prescription* as the dimension onto which the peripherality/centrality distribution can be mapped, then the ineffectual emerges with a strongly positive score, the entrepreneur with a strongly negative score, and the zero point on the scale (corresponding to the absence of both prescription and prescribing) turns out, not surprisingly in view of all the network-formation that is going on, to be only sparsely and transiently inhabited.

At the strongly grouped condition, the hierarchy/equality distribution similarly maps onto the prescription axis. Within the egalitarian group--the sect--there is no internal differentiation and, in consequence, no obstacle to interpersonal relationships and transactions. But this picture—in which there is no preemption, no closure of options--changes dramatically once the boundary of the group is reached. Here the members of the group act in concert to reject the outside world. Their freely proliferating relationships suddenly stop dead at this line, and all relationships with those beyond the wall of virtue are preempted. So the members of a sect are not just free from prescription; they actually maintain themselves by prescribing. Like the entrepreneur, they score strongly negative on the prescription dimension.

By contrast, the members of a caste voluntarily submit themselves to all manner of prescriptions. Rank, gradation separation, interrelation, and completeness are the qualities that have to be preserved and sharpened if any hierarchical arrangement of groupings is to successfully perpetuate itself.

Whether it be the dietary observances of the Hindu silversmith or the tea-tray niceties of the senior British civil servant, there can be no doubt that it is prescription that maintains the caste member in his appointed station.

One interesting consequence of mapping the results of both group dynamics and network formation onto this single dimension of prescription is that as one goes from right to left--from the strongly grouped condition to the strongly individualized condition--so the power axis is reversed. In great empires it is the hierarchs who wield the power and the poor little sects (like the early Christian church or the Mennonites) that find themselves persecuted. But, in those more individualized social reaches that generate the trade that follows the imperial flag, it is the entrepreneur who exercises power over his un-unionized "hands." To avoid the complexities of a third dimension, we can represent this right-to-left reversal of the power gradient by drawing in two diagonals on our picture--a *positive diagonal* that links the centers of power, the castes and the entrepreneurs, and a *negative diagonal* that links the centers of impotence, the sects and the ineffectuals.

At the crossover point these diagonals form a saddle-point--a flattening out at the midway position between power and impotence, between prescription and prescribing, and between the strongly grouped and strongly individualized conditions. And this crossover point, with its zero scores on the power, prescription, and group axes, corresponds to the still unlabeled peak on the remaining--the uni-modal--distribution. We can now see that this single peak forms a sort of absolute zero--a stationary point at which both the forces of group dynamics *and* the pressures of network formation are stilled. So this depicts the rather tenuous social equilibrium attained by those truly autonomous individuals--Himalayan hermits, New York taxi-drivers, British owner-driver haulage contractors--who successfully resist all coercive social involvement. So, with this fifth cultural bias--the *autonomist's*--mapped onto the prescription axis, the analytic framework in now complete.[18]

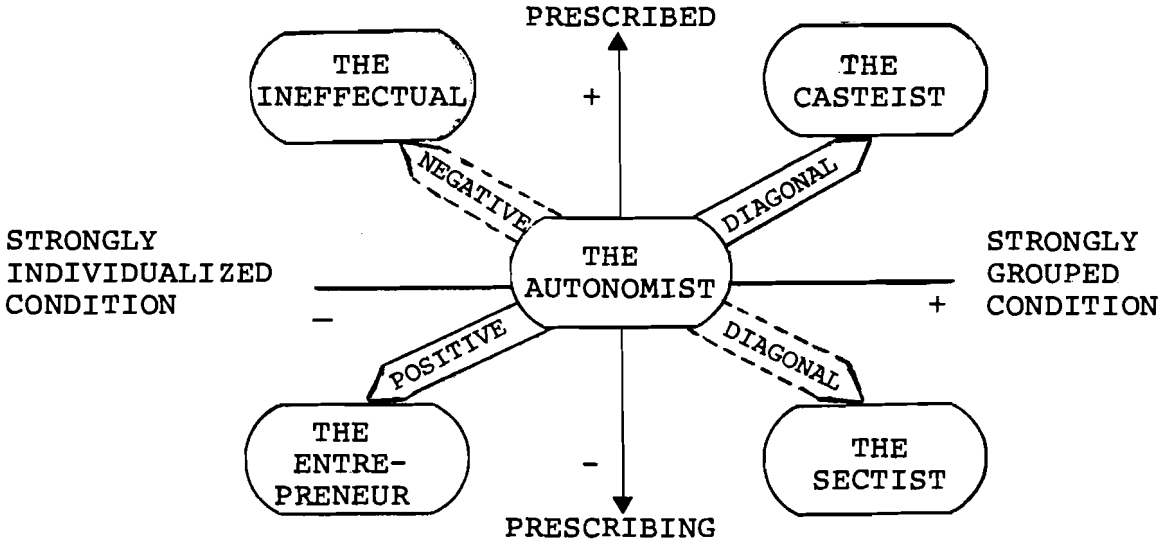

Figure 5. The Analytic Framework

AN APPLICATION: TWO RISK DEBATES COMPARED

This analytic framework is a tool for disaggregating individuals and for interpreting a debate in terms of the pattern of disaggregation. Such an interpretation allows us to uncover the social processes that, working sometimes towards stability and sometimes towards instability, cause the debate to develop in one way rather than in another. But, though these processes begin and end with individuals, they are also *modified* by public policy. Public policy is something that happens at one remove from the individual--it is the product of social and cultural institutions. More specifically, the social and cultural institutions that we call "government" are the means by which the debate is modified.

Because the debate takes place right there in the midground, as it were, between populace and government it provides the key to understanding the relationship between individual and institution; we can identify three clear levels which, in order

of increasing exclusiveness and control, are *populace*, *debate*, and *government*. The question we want to answer is: "When it comes to the matter of risk, who gets to talk about it and, out of those who get to talk about it, who gets to be listened to?" According to the democratic (or Benthamite) ideal, all three levels are concentric--each is a miniature version of the one below--and the debate is the mediating mechanism by which government accedes to and implements the wishes of the populace. In practice government, to a considerable extent, goes it own way--"you can fool all of the people some of the time, some of the people all of the time..."[19]

So, in practice, the three levels are not concentric. The composition of each is skewed from that of the one below; the debaters are drawn predominantly from certain social contexts and hardly at all from others; in turn, government, in formulating policy, pays more heed to some of these contradictory counsels than it does to others. The attraction of the cultural bias approach is that it allows us to steer a precise course between the Scylla of insisting that everyone is the same and the Charybdis of insisting that every individual must be treated as a special case. By enabling us to recognize five distinct kinds of social individual it provides us with some sort of methodological grip on the skewing of the three levels.[20]

To put it another way, the paradoxes of social choice, by their insistence that these three levels cannot be concentric, suggest that skewing (of one kind or another) is only to be expected in any workable arrangement--in any realizable regime. So this three-tiered system, when mapped out in terms of the five cultural biases, allows us to describe the different workable varieties of Arrow's celebrated "machine" into which citizens feed their preferences at one end and out of which, at the other end, the best social choice is produced.[21] Since Arrow's Theorem proves that it would be impossible for the machine to do this if it swallowed and digested all the individual preferences, there will have to be some fairly well-disguised rejection mechanism--the machine will have to quietly secrete, somewhere along the line, those preference orderings that it is incapable of processing. The analytic framework in

terms of cultural biases enables us to pinpoint these secretions and to identify different social regimes according to the different ways in which those secretions are patterned.

When we look at nuclear power debates in the United States we find that three cultural biases are strongly represented. The entrepreneurs (in the shape of the utilities, the manufacturers of the reactors, and their sub-systems, and the consultants who pronounce on everything from the economics to the engineering to the safety aspects of it all) are well entrenched. But so too are the castes (among which must be included certain government agencies, the anti-nuclear Sierra Club, and the pro-nuclear Scientists and Engineers for Secure Energy) and the sects (the Clamshell Alliance, the Abalone Alliance, and the Friends of the Earth, to mention a few of the anti-nuclear ones, and, on the other side, the pro-nuclear Fusion Energy Foundation).[22]

Much the same sort of pattern obtains in the case of the California LEG terminal debate and, when we look to see who out of these speakers in the debate gets listened to--when we look at the decision (or, as is more often the case, the indecision)--it is fairly obvious that the sectist position carries at least as much weight as do the other two. Government, if it is to preserve an adequate measure of consent, has, somehow or other, to strike a complicated three-cornered balance between these three strongly represented positions within the debate. That some, at least, of those positions are themselves divided into pro- and anti- factions only exacerbates an already difficult task.

When we look at similar debates in Britain the picture is remarkably different. In the debate surrounding the Braefoot Bay/Mossmorran siting decision, the entrepreneurial bias is well represented (for instance, by the initiators Shell/Esso and by the local Chambers of Commerce) and so too is the casteist bias (in the shape of the strongly anti Conservation Society and the Aberdour and Dalgety Bay Joint Action Group and of the cautiously pro Health and Safety Executive). But the sectist bias is conspicuous by its absence. In all this great debate just one voice --that of Mr. Jamieson (a member of the ADBJAG who also registered

as an individual objector at the Public Inquiry)--is raised in the name of sectism. With fine and xenophobic frenzy, Mr. Jamieson castigates the proposers and their allies for despoiling "the land that fed a thousand Scots."[23]

When we look at the final decision we see, first, that there is one and, second, that it pays scant heed to poor Mr. Jamieson. In fact, it is a straight trade-off along the positive diagonal --a congenial settlement between the entrepreneurial bias in favor of "wealth creation," "employment opportunities," and that great argument-stopper "the national interest," and the casteist bias that insists that the decision should be reached in a rational and orderly way and that due consideration must be given to questions of safety (though, here again, weight is given, in the interest of order and rationality, to those parties who have "standing" within the debate).

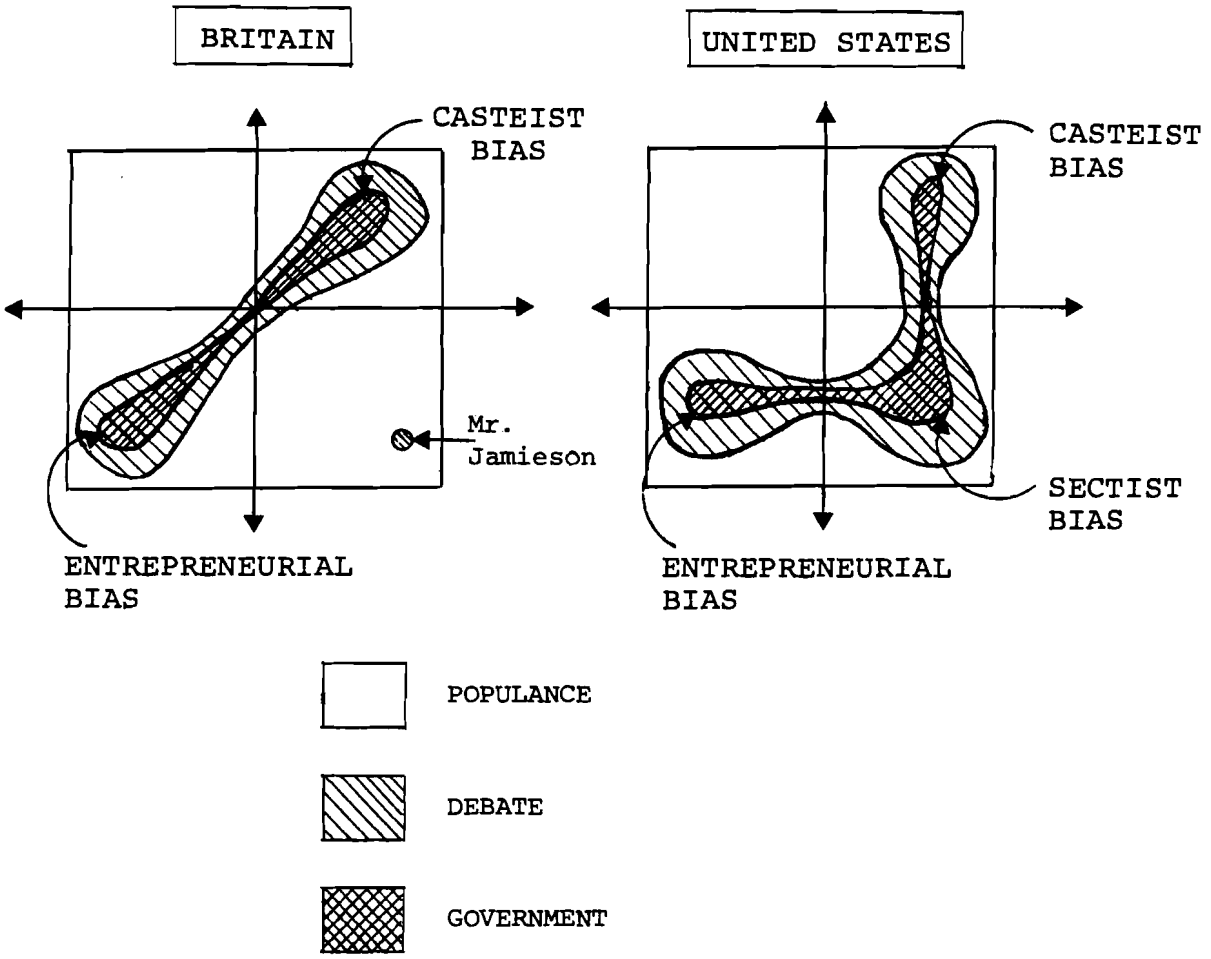

Figure 6. The British and American Versions of Arrow's Machine

To abstract from these two machines the different patterns in which each secretes[24] the individual preferences it cannot digest we need to look at the mismatch between the top layer--government--and the bottom layer--populace. In the strongly different patterns of balances that each system of government has to strike in order to husband consent--in order to arrive at a social choice that looks (to the more troublesome members of the populace, at least) as if it might be the aggregation of individual values--we can see just what it is that distinguishes the British regime from the American regime. The iron law of consent--that you can't fool all of the people all of the time--holds true for both sides of the Atlantic but what these pictures reveal is that, in Britain, you can fool the sects, the ineffectuals, and the autonomists all of the time and get away with it whilst, in the United States, you can only fool the ineffectuals and the autonomists.

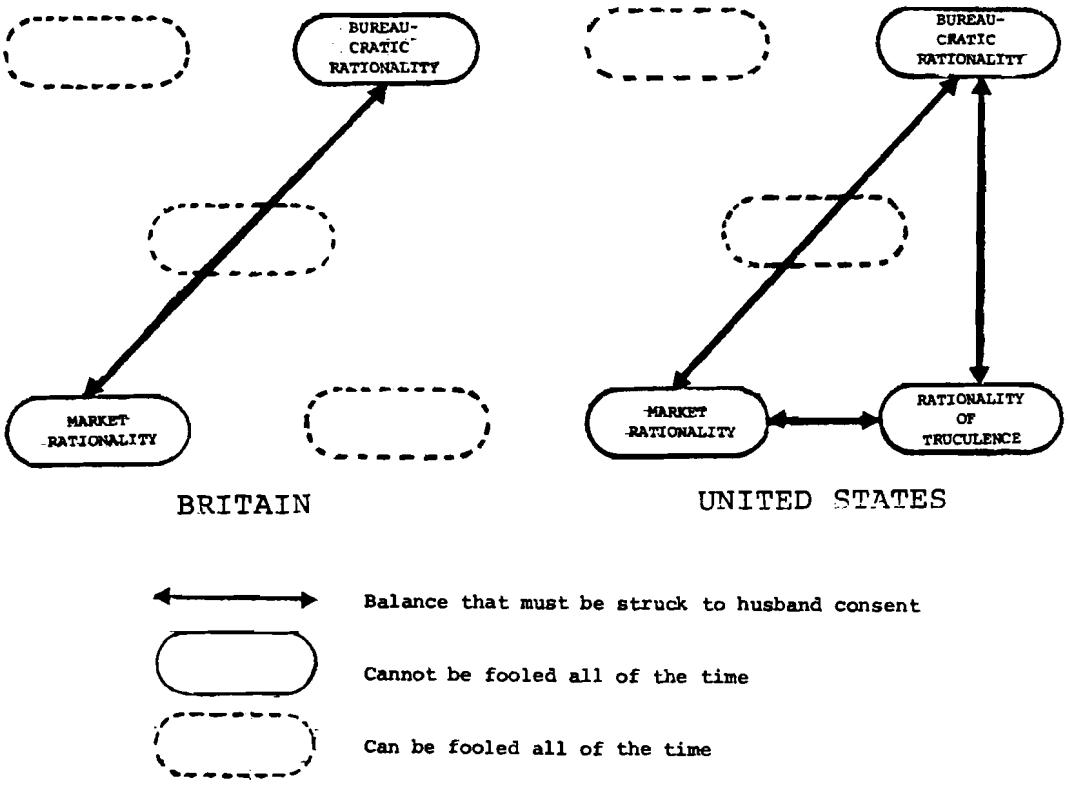

Figure 7. The British and American Regimes

Finally, it is perhaps worth pointing out that the two familiar notions of rationality--market rationality and bureaucratic rationality--correspond very nicely to the entrepreneurial and casteist cultural biases, respectively. In consequence, these two notions of rationality are adequate for describing the British regime (but not for understanding the obstacles that, from time to time, it runs up against). But, in the case of the American regime, we need a third kind of rationality--a *rationality of truculence*--that is remarkably different from the two rationalities that lie at opposite ends of the positive diagonal...but no less rational for that!

FOOTNOTES

1. Subject to clearance on seismic risk--a Californian preoccupation that does not enter into the Scottish debate.

2. Implicit in this is the assumption that residents and their houses are "given"--that you cannot first remove them and then apply the criteria. By contrast, in the Soviet Union relocation of settlements is one of the variables and relocation costs are among the factors that have to be considered in what is seen as essentially an optimization problem. The legislation surrounding compulsory purchase places Britain somewhere between these extremes.

3. See O.H. Critchley, "Aspects of the Historical, Philosophical, and Mathematical Background to the Statutory Management of Nuclear Power Plants in the United Kingdom," Radiation Protection in Nuclear Power Plants and the Fuel Cycle (London: The British Nuclear Energy Society, 1978), pp. 11-18.

4. "Regime" (in the sense that it has to do with the relationship between leader and led) is certainly "political", yet at the same time it can also be seen as the arena (in the sense of a particular framework of social arrangements) within which the political action takes place. To emphasize the way in which arena and action are static abstractions from what is a far-from-static system, I will use the terms "political regime" and "social regime" interchangeably.

5. Christoph von Fürer-Haimendorf, Himalayan Traders (London: Murray, 1975) and The Sherpas of Nepal (London: Murray, 1964). Both provide an excellent and very readable account of Sherpa society and its changing involvement with the wider world.

6. I refer here specifically to the Nyingmapa (or "Redcap") variety of Lamaist Buddhism practiced by the Sherpas, though what follows may be valid for other varieties of Buddhism as well.

7. Sanskritization--the process by which people on the fringe of the Hindu world become incorporated into it--has tended to be viewed as a one-way historical trend. But transitions in the reverse direction, though less obvious, do occur. Haimendorf, for instance, describes the rather casual way in which all kinds of non-Sherpas become Sherpas but there seems to be no general description of this sort of process. 'Sherpaization' serves as a label for the specific instance but I am at something of a loss when it comes to labeling the very general transition away from the group constraints of Hinduism and towards the individualized yet non-exploitive world of Tibetan Buddhism. "Modernization" would do

nicely were it not for the economies of scale that usually accompany it (and the gratuitous insult to Hindus). Perhaps "autonomization" would be best.

8. This was a research project carried out in 1979 by David Vachon, Aaron Wildvsky, and the author as staff members of the Institute for Policy and Management Research.

9. British ASH is prepared to add the issue of non-smokers' rights to its present range of issues only if there is good evidence in support of the claim that passive smoking (inhaling the smoke produced by others) is injurious to health. This evidence is now emerging and British ASH is now taking up the issue.

10. I am simplifying the argument a little. It is a balanced (or near-balanced) mixture of the two that is impossible or rather, I should say, uncommon. There will be some, but the essential point is that this middle-ground is sparsely inhabited.

11. This hypothesis, if valid, will call into question some rather deep-seated assumptions. I use the anthropological terms "sect" and "caste," rather than the perhaps more familiar "voluntary association" and "bureaucracy," for two reasons. First, to establish some psychic distance from organizations that, because of their very familiarity, we have difficulty in discerning. Second, to avoid the confusions that would otherwise ensue once, thanks to this increased discernment, we are confronted, on one hand, by egalitarian groups that by imposing high exit costs on their members are voluntary only at a price and, on the other hand, by "bureaucracies without hierarchy" and "hierarchies without bureaucracy."

12. The premise of inequality, though it pervades the entire casteist context, does, however, allow some scope for those who are lower in the hierarchy to pursue latent goals that are, to some extent, in conflict with the manifest goals that are defined toward the top of the hierarchy. Students of organization are familiar with the different information cultures that tend to crystallize out at the lower levels of all but the smallest of organizations. And indologists similarly point to the alternative strategies that can be adopted at different levels of the caste hierarchy without seriously infringing the premise itself--the all-pervasiveness of rank. Louis Dumont, Homo Hierarchicus (London: Paladin, 1972). McKim Marriot, "Hindu Transactions: Diversity Without Dualism" in Transaction and Meaning, Bruce Kapferer(ed) (Philadelphia: Institute for the Study of Human Issues, 1967).

13. Hunter S. Thompson, Hell's Angels (Harmondsworth: Penguin, 1967).

14. As defined in Mary Douglas, "Cultural Bias," Occasional Papers of the Royal Anthropological Institute, no. 34, 1978.

15. The contrast, perhaps, is not between "centralized" and "decentralized" but between sharp hierarchies--those with clear chains of command and well-defined areas of responsibility--and fuzzy hierarchies--those with some ambiguity in delegation and some overlapping of responsibilities. Though all four countries fall within the consensus culture category, France and Britain would seem to have sharper hierarchies than the Netherlands (with its proportional representation and resultant fluid coalitions) and the Federal Republic of Germany (with its conflicts between Federal and Lander spheres). Crises of rationality might be related to failures in the fuzzy parts of the hierarchy; crises of legitimation to failures in the hierarchy.

16. A point that has been well made in the context of architecture and systems theory. See James Powell and Barry Russell, "Model Blindness," Cube Working Paper (Portsmouth: Centre for the Utilization of the Built Environment, Portsmouth Polytechnic School of Architecture, 1982).

17. For a more detailed discussion, see Michael Thompson, "A Three-dimensional Model," in Mary Douglas (ed), Essays in the Sociology of Perception (London: Routledge and Kegan Paul, 1982).

18. Complete, that is, for present purposes. For a more detailed discussion of how this works out in three dimensions, and for some suggestions about the nature of the possible transitions between these positions, see Michael Thompson, "A Three-dimensional Model."

19. Abraham Lincoln, attributed the 8th September, 1858.

20. A note on relativism and universalism is called for here. Since the cultural bias approach begins by rejecting the universalist hypothesis, it might appear that this places it firmly in the relativist camp. But this is not so. The relativism of its position is severely constrained, both by nature and by social context. It is not so constrained that there is only one mode of being-in-the-world (universalism) nor is it so relaxed as to provide an infinitude of such modes (extreme relativism). Rather, it is a position of constrained relativism within which the considerable constraints limit us to just a small number (I would suggest five) modes of being-in-the-world, patterns of values, socially induced rationalities, or whatever.

21. Kenneth J. Arrow, Social Choice and Individual Value," (Chichester: Wiley, 1963, First Edition 1951).

22. For further elaboration of the bases on which these groups are assigned to caste and sect, see Mary Douglas and Aaron Wildavsky, Risk and Culture (Berkeley and Los Angeles: University of California, 1982) and Michael Thompson, "Fission and Fusion in Nuclear Society," RAIN (Newsletter of the Royal Anthropological Institute), No. 41, December, 1980.

23. Recorded in the transcript of the Public Inquiry.

24. If this metaphor appears a little mixed--after all it is organisms that secrete, not machines--I apologize. The idea of style does not fit comfortably into mechanistic analogies and, if the option were open to me, I would prefer to speak of Arrow's genus and of the regimes as its species.