

# Working Paper

AN OUTLINE OF THE CULTURAL  
THEORY OF RISK

Michael Thompson

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**International Institute for Applied Systems Analysis  
A-2361 Laxenburg, Austria**

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## PREFACE

This is one of a set of three working papers concerned with the System and Decision Sciences task on Institutional Aspects of Risk Management.

Even a cursory comparison of the way the same technological risks are handled reveals that things get done differently in different countries. And, *within* any one country, the debate about how to improve the handling of those risks is often a debate between the advocates of several of these different ways of doing things.

To understand these differences we need to develop a cultural theory about the *appropriateness* and the *credibility* of risk-handling institutions. Since to invoke gross differences between national cultures would be to ignore the polarized debates within each nation, we need rather the idea of *cultural bias* - the contradictory predilections, ideas of nature, and personal strategies to which different individuals in the same society can adhere. In this way the cultural approach goes beyond the comparative study of institutions to investigate the social processes responsible for the ebb and flow of support between alternative institutional frameworks.

The first paper - *Political Culture: an Introduction* - provides some of the intuitive background for this approach. The second paper - *An Outline of the Cultural Theory of Risk* - gives a more formal treatment of this cultural theory as it emerges in the particular context with which we are concerned: risk. The third paper - *Beyond Self-Interest: A Cultural Analysis of a Risk Debate* - is an attempt to apply this theory to one of the case studies currently being assembled by the Management and Technology group that is investigating the ways in which the risks inherent in Liquid Energy Gases are handled in the process of terminal siting.

## AN OUTLINE OF THE CULTURAL THEORY OF RISK

Michael Thompson

### INTRODUCTION

The Working Paper *Political Culture: An Introduction* has provided something of the intuitive background to this cultural approach and we can now move on to a more formal treatment of the theory on which it is based.

### Social Context

In the social sciences, psychologists have traditionally focused on the *individual* while sociologists and anthropologists have concentrated on the larger scale arrangements that result from the social relationships *between* individuals - clans, classes, lineages, hierarchies, age-grades... corporations. Both these - the individual and the various relationships that make him into a member of society - can be handled by the concept of social context. It is a concept that, crossing these customary disciplinary boundaries, allows us to move smoothly back and forth between the micro concerns of the psychologist and the macro concerns of the sociologist and anthropologist. The totality is described in terms of each of its constituent elements (individuals) *and* their various social contexts (their myriad relationships with other individuals).<sup>1</sup>

But the usefulness of this social context concept will depend on the extent to which it can make some generalisations about the differences between individuals. If at the end of our scrutiny each individual emerges with a unique social context that distinguishes and sets him apart from every other individual, then little theoretical or practical progress will have been made. The same is true for those other extremes of outcome: that in which every individual (being related to every other individual) emerges with an identical social context, and that in which we

cannot distinguish any criteria for deciding whether one individual's social context is the same as or different from that of some other individual. On the positive side, if these obstacles can be avoided then social context will provide us with a concept applicable to any human being, anywhere... anytime - it is not subject to cultural<sup>2</sup>, historical, technological, ecological or social qualifications. Whether it is of any use or not will depend entirely on whether it can avoid being so particularistic that every individual has to be seen as a special case without, at the same time, being so universalistic that everyone ends up the same.

The schematic representation (Figure 1. *Political Culture: An Introduction*) in which the two dimensions of social context permit us to distinguish five distinct categories into which individuals must fall, each distinct conjunction of individual and social context being stabilized by a distinctive *cultural bias* (or *cosmology*), most certainly avoids these twin pitfalls: particularism and universalism. Five not only lies somewhere between one and infinity, it is an eminently handleable number as well. If we only need take five biases - five kinds of social individual, five cosmologies, five kinds of perceptions of risk... five risk-handling strategies - into account then an anthropological theory of risk is not just possible, it is immediately useable as well.

I should perhaps stress here that the commitment is not to the number five but to *Intermediate Sociology*<sup>3</sup> - to the existence of some handleable and cross-culturally valid basis for the disaggregation of individuals into a number of categories, that number lying somewhere between one (universalism) and infinity (particularism). I would, for reasons of practicality and application, prefer the number to be small rather than large and am therefore pleased that a fivefold arrangement is both predicted on theoretical grounds (given certain specified assumptions) and appears to work quite well in practice. But I would have no objections to this intermediate number being, say, three or six or eight if such a categorisation gave better results in practice and could be predicted theoretically by making certain specified changes in the initial assumptions (and provided those changes were more realistic than those used to generate the fivefold categorisation).

### The Two Dimensions of Social Context

In sketching out the intuitive background I spoke of the two social context dimensions as running from 'individualised' to 'collectivised' and from 'egalitarian' to 'hierarchical' but, in this more formal account I need to speak of *group* (the extent to which an individual is involved in, or free from, bounded social groups) and *grid* (the extent to which he is subject to socially-imposed prescriptions). For example, the member of a

high caste is clearly a member of a bounded social group, but the dietary and pollution-avoiding prescriptions that he has to observe are not the consequence of his membership of the group itself but of that group's relationships with other groups - of its rigorously defined and energetically maintained position within a hierarchical arrangement of groups. By contrast, a member of an egalitarian group - one with no internal differentiation and with no defined relationships with other groups - would score high on the group dimension but low on the grid dimension.

But this idea of high and low scores on the two dimensions is still not enough to capture the full complexity of what is going on. The social context of an individual who is not a member of any groups, because there are no groups around for him to be a member of, is very different from that of the individual who finds himself expelled from the group to which he looks in vain for his support. The first has zero group; the second, negative group. The same sort of thing applies to the grid dimension. The prescriptions that this dimension reflects are imposed by hierarchy - either the hierarchies that result from competitive personal network-building or the hierarchical arrangements, not of individuals, but of groupings of individuals. Again, the context of the individual who, withdrawing into autonomy, is able to avoid any coercive involvement in personal networks and that of the individual who, try as he may, can neither withdraw from such involvement nor fight his way into any central positions within the networks that he is involved with are not at all the same. The first has zero grid; the second, positive grid. So it is not simply a matter of high and low scores; each dimension has a zero point from which scores may be high or low in two directions: positive and negative. Since it turns out that it is only possible to measure social context on ordinal scales, the maximum number of categories that we can distinguish with two dimensions is five (and, if the scales did not have zero points, we would only be able to distinguish four and we would be unable to recognise the distinctiveness of those hermit-like individuals who score low, or zero, on both dimensions).<sup>4</sup> (Fig. 1)

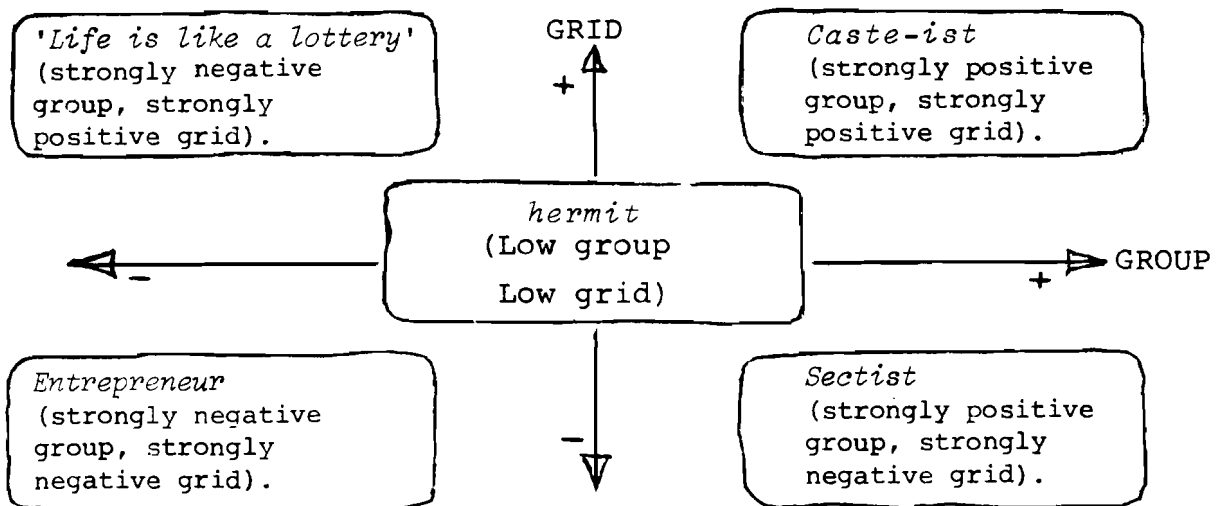


Figure 1. Social context and cultural categories

Of course, at this stage, I am not justified in assuming that these five categories are fully separate in the way I have depicted them here. They might all overlap with one another to such an extent that any disaggregation based on them would be very messy indeed. The argument for them being clearly separate, and for them providing a basis for non-messy disaggregation, only emerges when we go on to consider a third dimension that, while it is not a dimension of social context, is controlled by it. (It is, in fact, a one dimensional *behavior space* with social context acting as its two dimensional *control space*).

### Power and Control

I have argued that each conjunction of social context and cosmology will generate its own distinctive strategy and that this strategy will result either in the individual manipulating others or being himself manipulated. The members of a sect end up manipulated (collectively); the members of a caste (collectively) manipulate. Entrepreneurs clearly are (individualistic) manipulators while those whose lives are 'like a lottery' are equally clearly being manipulated (individually). Only those individuals who operate the autonomous strategy appropriate to the hermit, and who successfully avoid all coercive involvement with their fellow men, will end up neither manipulating nor manipulated.<sup>5</sup>

If we add this third dimension, *manipulation*, to the two social context dimensions and join these five equilibrium states together in the simplest possible way we obtain a graph something like this: (Figure 2)

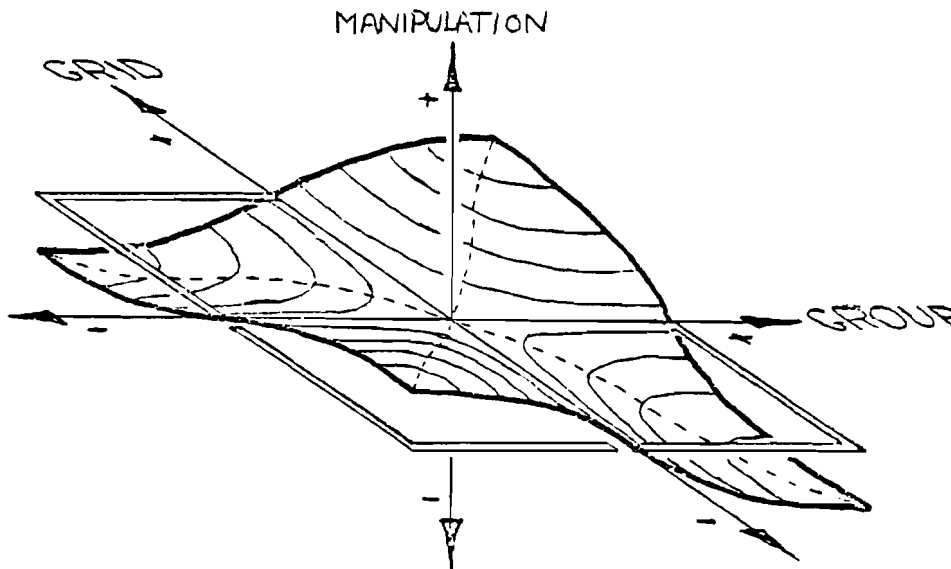


Figure 2. Relationship between social context and manipulation.

Topologically, if you have two basins and two hilltops arranged in this way then the landscape must contain a fifth equilibrium state - a saddle point. It may, of course, contain other equilibrium points as well but this is its simplest possible configuration. The five equilibrium states (the five 'flat bits') are now clearly separated from one another by means of disequilibrium states (the intervening slopes). This diagram (or simple variations of it) is my hypothesis.<sup>6</sup>

#### The Five Strategies

With each social context there goes a distinct rationality - a world view, a cosmology, a cultural bias... a particular way of seeing the world and man's place within it - that provides a moral justification for certain kinds of actions and a basis for moral disapprobation of other kinds of actions. The idea is that social context and world view will tend to stabilize one another and that, as people in a shared context come to share a particular world view, so they acquire and sustain a particular morality that enables them continually to make judgements on human actions: rewarding some and punishing others. The hypothesis states that such shareability - such stabilization of moral community - can only occur at or near these five equilibrium states and that each requires a distinct personal strategy to maintain its stability.

The result of all this is that individuals in different social contexts will tend to home in onto distinctive strategies that will enable them to act so as to steer some optimal personal course through all these socially-imposed rewards and penalties. And, if you observe an individual as he follows one of these strategies, you will discover whether he ends up manipulating others or being himself manipulated. It is these disjunctions of manipulation - sometimes positive, sometimes negative... sometimes zero - that are responsible for the clear separation of the cosmologies and their associated strategies.



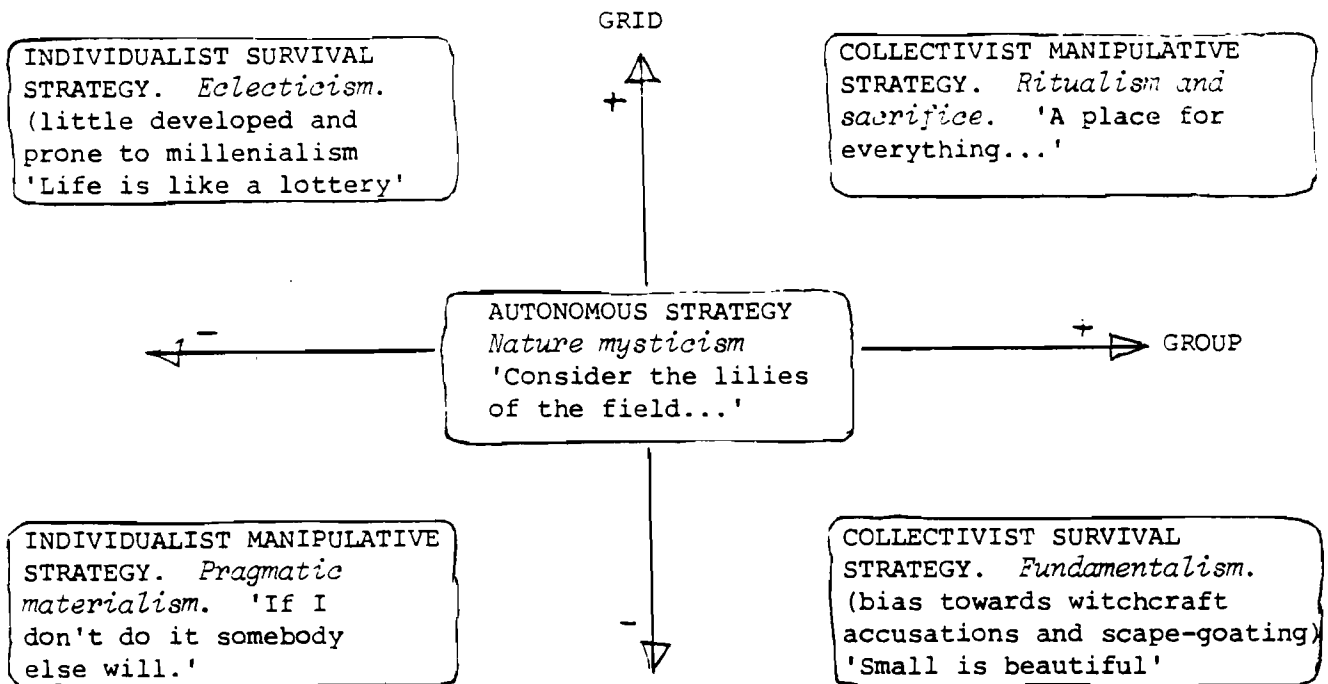


Figure 3. Thumbnail Sketch of the Strategies, the Cosmologies and the Justifications.

### The Social Bases of Perception

The unique<sup>7</sup> combination of world view and strategy that is appropriate to each social context results in an individual in that context perceiving his external world in a distinctive way. So this hypothesis forms the basis for an anthropological theory of perception<sup>8</sup> - not of how we perceive (physiology) nor of what we all perceive (psychology) but of the *patterning*s that, when more than one perception is possible, are socially imposed in order that certain moral commitments may be rendered self-evident.

Since risk is very much a moral question (and never more so than when it is being asserted that it is not) and since, as the history of risk assessment clearly demonstrates, widely divergent convictions as to what the risks 'out there' are can often coexist within the same society, this hypothesis should also provide us with a theory capable of handling these cultural biases both as to how risks are perceived and as to how they are evaluated.

### RISK PERCEPTION AND RISK EVALUATION

I have already, in the intuitive background (Working Paper: *Political Culture: An Introduction*), touched on how the perception of different kinds of risks varies with social context and how the evaluations that different people place on risks vary according to where those risks are situated in time and according to the degree of control an individual feels he has over events in time. I would not claim, at present, to have a fully-developed cultural theory of risk - the full development of such a theory is one of my objectives - but I do already have sufficient insight into the

subject to be able to set out the broad framework of such a theory. A convenient way of doing this is to reorganise and summarise the argument so far in terms of the now more formally presented hypothesis.

First of all, which risks are perceived? Making just the simple division of time into the short term and the long term is sufficient to separate three contexts - those in which we will find experts - from the other two - those in which experts are absent. Expertise and perception of the long term go hand-in-hand; so, if you only perceive the short term, there is no chance of you becoming an expert. But your inability to perceive the long term may be by choice or it may be by compulsion and this distinction provides a second criterion which enables us to separate these two expert-less contexts - that of the hermit (by choice) and that of the life-is-like-a-lottery man (by compulsion). Turning to the three categories in which the long term *is* perceived, we meet three different kinds of expert<sup>9</sup> and the problem is to explain why each kind of expert is appropriate to his particular category.

Both the entrepreneur and the sect member are able to perceive both the short and the long terms but they evaluate them very differently. For the entrepreneur, the short term dominates the long term; he is in the business of manipulation but he is realistic enough to know that his manipulation, being the product of his own energy (rather than of the authority of an institutionalised office that he, for a time, fills), does not extend too far into the future. Being an expansive optimist, he allays his fears that his short term successes may not continue indefinitely by insisting that the long term will turn out to be a prolongation of the short term. He is predisposed to give credence to the 'business as usual' scenario.

The sect member's evaluations of the short and long terms are the reverse of the entrepreneur's. Collectivised within his wall of virtue, and with little control over the short term, his main concern is just to survive; he sees himself as one of the meek who, in the long term, will inherit the earth.<sup>10</sup> In this way, the optimistically perceived long term comes to dominate the gloomy short term. If there is to be a long term at all, then the short term will have to be radically changed now. He is, in consequence, predisposed to grant credence to the 'no growth' (the 'radical change now') scenario.

Where both the entrepreneur's and the sect member's evaluations of the long and short terms are unbalanced (with the short term dominant for the entrepreneur and the long term dominant for the sect member) the evaluations of the caste member are quite nicely balanced. This is the context occupied by the planner and the bureaucrat. Insulated from the pressing daily concerns of the entrepreneur by the institutionalised framework that guarantees the continued existence of the office that he fills, he is able to give adequate attention to the long term. What is more, he sees events in that long term as being controllable, not by him personally, but by the complex collectivity of which he is a self-effacing part. Being part of an elaborate hierarchy he is predisposed to be sensitive to fine

distinctions and, in consequence, is unlikely to see the long term as a mere extension of the short term or *vice versa* (and, of course, he would be out of a job if he conceded that there was no such distinction). Each is seen in a balanced and discriminating way and, since collective control over events is seen as extending far beyond the short term, the long term is viewed with cautious optimism. The result is a willingness to grant credence to the so-called 'middle of the road' scenario. (I use 'so-called' not because I wish to denigrate it in relation to the other two expert scenarios, but in order to stress that it derives from a distinct and separate evaluation of the long and short terms and is not simply some compromise between the 'business as usual' and the 'no growth' scenarios.<sup>11</sup> Nor do I make any value distinctions between 'balanced' and 'unbalanced').

I can summarise these criteria - long versus short sightedness, choice versus compulsion, short term dominance versus long term dominance, and balanced versus unbalanced evaluation - for separating the five categories with the help of the basic diagram (Figure 4):

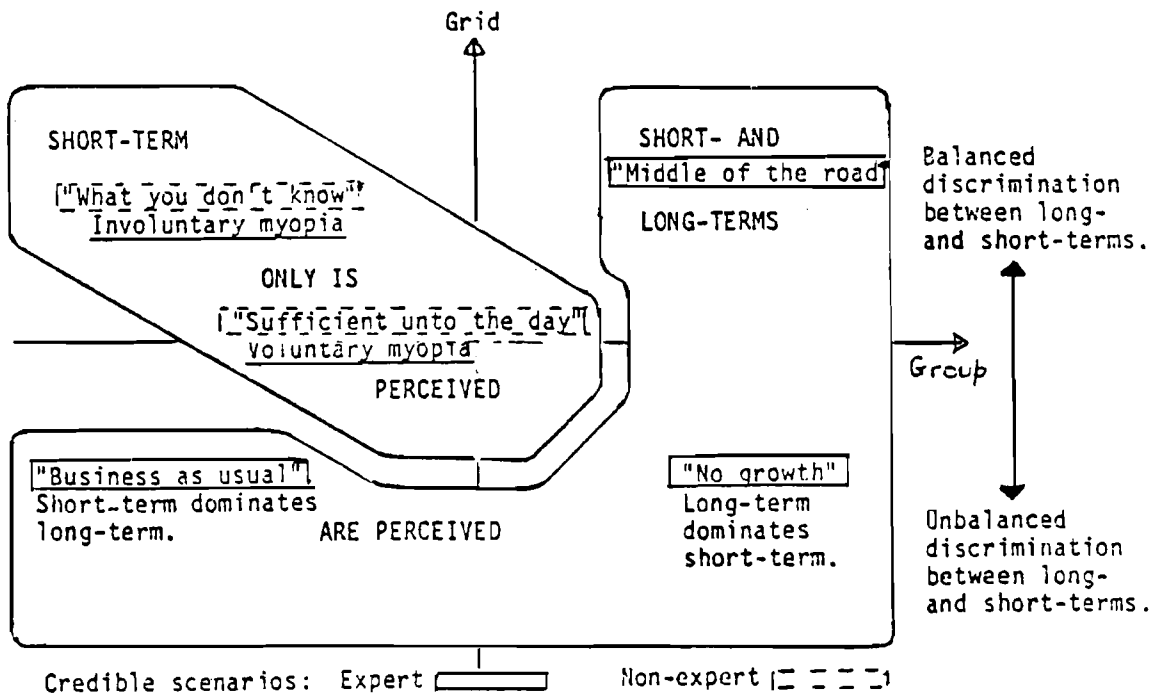


Figure 4. Criteria for separating the five categories

Next, I should ask how the acceptability of risks varies with social context. There are some philosophical problems here because, as I have just argued, the perception of risks also varies with social context. Just because an individual cannot see a risk it does not follow that he is not exposed to it (and an individual in a different social context may well be

able to see that he is exposed to it). But, if he does not even know that the risk that he is exposed to is there, is it valid to speak of him 'accepting' that risk? On top of this there are the risks that, though they are not actually there, are believed to be there (and an individual in another social context may well be able to see that they are not there). Such non-existent risks may, in some contexts, constitute a major proportion of the risks that are perceived in those contexts and they may be managed by all sorts of socially-imposed rewards and penalties which, in turn, provide the incentives for their acceptance or avoidance.

The hypothesis is designed to cope with these sorts of problems but, before we talk about 'the acceptability of risk', we should bear in mind the fact that the pool of risks to which our acceptance/avoidance criteria will be applied is itself highly fluid. It may fill up or empty according to whether our perception extends to the long term or is restricted to the short term, and it may fill up with all sorts of risks that aren't there but are believed to be there.

It is unlikely that we will find many of these non-existent risks in the two myopic contexts, nor in the context of the entrepreneur, because such risks are usually concerned with concepts of pollution and defilement - of purity and danger<sup>12</sup> - and such concepts are little, if at all, developed in the cosmologies appropriate to these contexts. Concepts of pollution arise where there are boundaries and distinctions to be maintained - in those contexts which score strongly positive on the group dimension. For instance, it is probably safe to say that there is no real physical risk involved in eating cooked rice on which the shadow of an untouchable has fallen (or, at least, no more risk than if the shadow has not fallen on it) yet such a risk is believed to be there, and a great deal of trouble is taken to avoid it, in the strongly positive group and strongly positive grid context of the high caste Hindu. The risk, of course, is to the intricate and highly discriminated social fabric but it is externalised and given expression in terms of the physical world of light and shadow, nutrition and bodily processes.

Pollution concepts develop rather differently in the social context of the sect member because his group is internally undifferentiated and rejects, rather than negotiates relationships with, the rest of society. Here there is only one crucial boundary to be defended - that which separates and protects the good vulnerable 'us' on the inside from the nasty predatory 'them' on the outside. Only by ceaselessly patrolling and maintaining this boundary can the sect retain its cohesion and survive through time. So the risks are real enough and the institutionalised steps that are taken to minimise them - the witchcraft accusations, the denunciations, the confessions and the expulsions - do serve a vital purpose but, though they are expressed as such, they are *not* risks inherent in the physical world.<sup>13</sup> And, even when the risk is there in the physical world, the concern that surrounds it may well derive from some physically nonexistent *social* risk that overlays it. Let there be no doubt that many of the most feared risks in technologies such as nuclear power are of this social kind. The anthropological approach

provides us with a means of identifying them *and* of taking them seriously.

The way in which all these factors - (1) the perception of risks, (2) their acceptability, (3) the overlaying of social (physically non-existent) risks, and (4) the rewards and penalties for different kinds of risks - vary with social context can be summarised like this. (Figure 5)

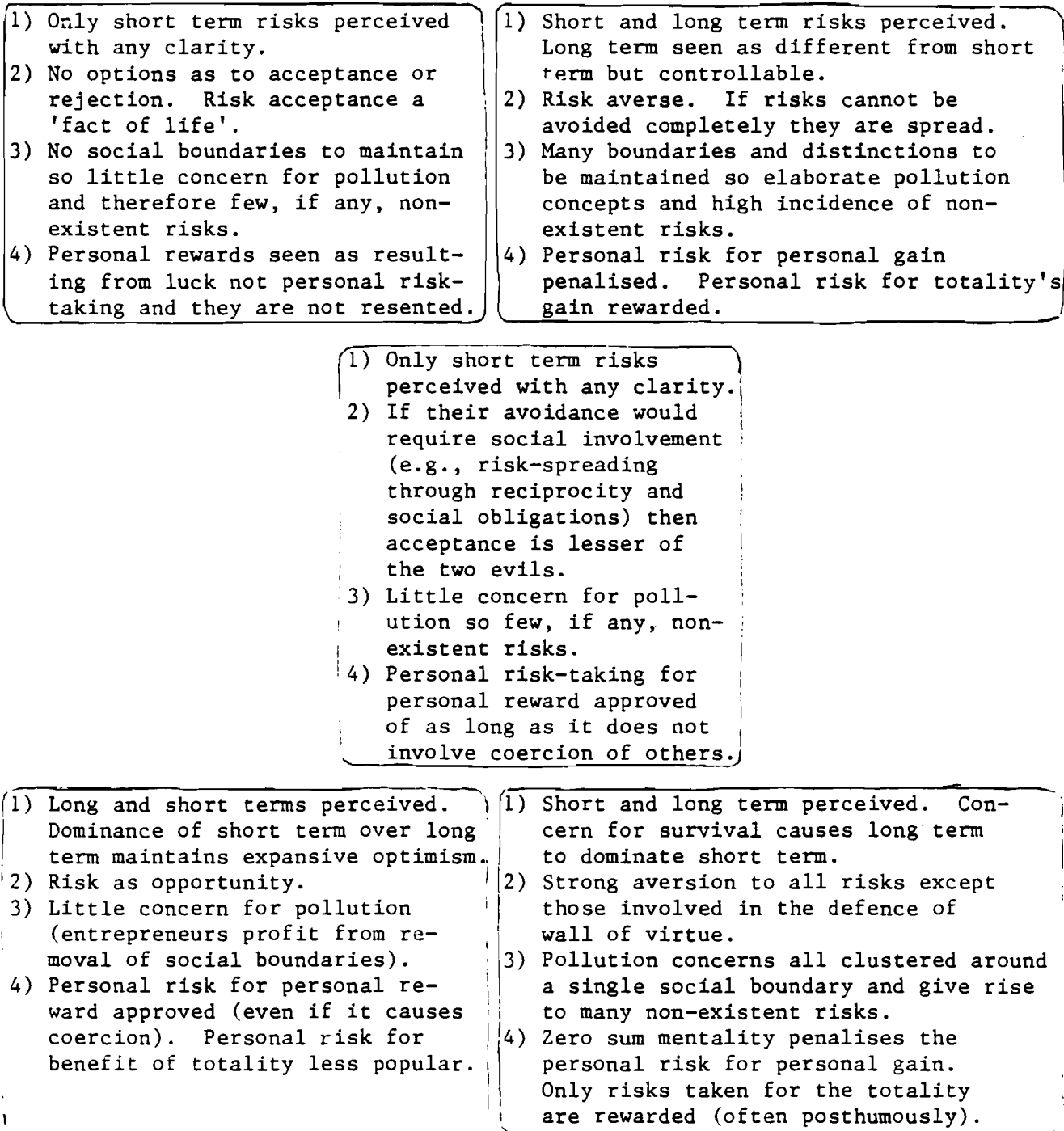


Figure 5. Risk and social context.

Next, and this at present is the least developed and most speculative part of the theory, I should try to make some predictions about the sorts of social and cultural institutions - about the different styles of risk management - that are likely to emerge within each context.

In the life-is-like-a-lottery context, individuals are very alone and very powerless to influence events. Such institutions as are able to emerge here furnish the occupants, not with a style for managing risk, but rather for just coping with it. They make something of a virtue out of necessity. Since the occupants have ignorance imposed upon them, they might as well see it as blissful and, since they have no way of mitigating whatever the risks out there are, they might as well comfort themselves by the tough-minded and slightly braggardly assertion that what you don't know can't harm you. To have to search for and identify the cause of every harm that befell the members of this context would divert their meagre resources away from their number one concern: survival.

Yet this seeking of an explanation for every ill is precisely what those in the other survival context - that of the sect member - insist on. In this context a person dies, not because his number is up, but because someone somewhere has caused him to die. It may be his own transgression or it may be the work of some other agent and the whole institutionalised framework of social risks and their causality is invoked in order to find the culprit and to exact the appropriate penalty. The easy give-and-take that concepts of chance and probability bring to the interplay between harm and its causation is not to be found here. No 'background' risk is acceptable, all harm has to be accounted for... partial models full of slippage, tolerance and expediency and incorporating the idea that some risk is inevitable, and that particular deaths are its statistically inevitable outcome, are rejected. Instead, we have a holistic style of risk management - a total system model in which causal links can be (and are) traced until the blame for every particular misfortune can be laid at some particular door. The anthropological literature on witchcraft accusations<sup>14</sup> clearly reveals that these linkages are always traced in such a way as to minimise, not the physical risks, but the social risks.

Why should these 'home-made' theories of causation and blame be so very different between these two survival contexts? The answer is that elaborate theories of causation and blame can only be constructed within a scaffolding of social risks and social risks can only exist if there is some social structure there for them to threaten. For the sect, its wall of virtue is its *raison d'etre*; in the anomic setting of individualist survival there is no social structure.

The styles of risk management that emerge in the contexts of the hermit and the entrepreneur have a number of features in common. Since both contexts are individualised, and since both focus optimistically on the short term, there is a tendency to regard risk management as a personal business and to emphasise the importance of individual skill and judgement. Where there exists a choice between handling risks individualistically (by the market, for instance) and handling them collectively (by

regulation, for instance) both hermit and entrepreneur will favor the former. Both will be biased against institutions that collectivise risks, or convert voluntary into involuntary ones. They will instead tend to give their support to those more diffuse institutions that, directly or indirectly (but more likely indirectly) increase the areas of risk that are left to individual values and decrease the areas that are handled by social choice.<sup>15</sup>

However, despite these similarities, there is some divergence in risk-handling style which derives from the different levels of manipulation that go with these two contexts. The hermit neither coerces others nor is himself coerced and this means that, when he supports institutions that individualise risks, those risks remain closely attached to the individual who chooses to take them. But, when the entrepreneur supports similar institutions, his risks are, to some extent, exported to those individuals who he is successfully manipulating. This is undoubtedly a very effective, if inequitable, way to manage risk and much of our present worries about risk are attributable to the fact that many risks that used to be exported in this way are now bearing down upon individuals in other, less impotent, contexts. As has often been pointed out, the difference between the risks involved in coal-mining and in nuclear power is that in the former they kill only coalminers while in the latter they may kill you and me as well.

In the two contexts with strongly positive group there will be a bias toward institutions that take risk-handling away from the individual and give it to the whole, or to some agency charged with the responsibility for handling it on behalf of the whole. The internally undifferentiated (and therefore egalitarian) sect will favor holistic risk management; the internally differentiated (and therefore hierarchical) caste will favor management by specialised and professionally-staffed agencies.

Such hierarchical systems are based on many fine yet clearly defined distinctions and they build up into complex social structures that are all too easily threatened. This means that social risks - anything that threatens to diminish the clarity of these distinctions - are particularly to be feared, and the result is that risks come to be handled not holistically but in a compartmentalised way. It is this chopping up of risks (and everything else) in order to minimise the social risks that justifies the cruel definition of bureaucracies as systems incapable of learning from their mistakes. Yet their record for handling social risks, albeit of their own making, is vastly superior to that of the sects. Sects are always falling apart but bureaucracies seem to know intuitively how to ensure their own existence - they do it so instinctively that they scarcely make any mistakes to learn from. Nor, when it comes to the real physical risks, is any purpose served by urging bureaucracies to abandon their chopped-up models in favor of holistic ones - it is not in their nature to do this. What is possible is to re-organise some of the dividing lines, even making some new ones where appropriate, so that as the social risks are managed the physical ones get looked after as well. And, of course, it is always possible (it has just been done for energy in the United States) to create a new high status agency specially charged

with the task of cutting through the boundaries created by other lower status agencies within the framework.

It is significant that the study of risk (which has largely been developed in and for this sort of context) has itself been compartmentalised. Risk assessment has been restricted to the real (physical world) risks while social scientists have been careful to restrict themselves to the social (the physically non-existent) risks. Both are reluctant to step outside their spheres of competence and put the two kinds of risk together.

#### THE EFFICACY OF THE FIVE STYLES

I am now face to face with a question that I can do little more than pose. Having tentatively described these different styles of risk management, how effective are they?

A first temptation might be to assume that, since the whole debate is conducted in the idiom of real physical risks, those styles that concern themselves only with those risks will be more effective than those that concern themselves with risks that are, in fact, non-existent physically. But who is to say which are the more potentially damaging: the physical risks 'out there' or the real physical consequences of the collapse of a large part of our social order and its stabilizing institutions? Rather than rush to such hasty and simple-minded evaluations of these different styles of risk management, we should concede that in social systems where such threatenable social structures exist (and that includes *all* advanced industrialised nations) social risks are among the most serious of the risks that have, somehow or other, to be managed. It is no good crying that physical scientists cannot be expected to give their attention to social risks, nor can the social scientists justify their remaining inside their disciplinary stockade. Experts may divide the world up into areas of expertise, responsibility may be chopped up between government departments, and select committees may be limited by their terms of reference but the fact remains that the risks we face and the risks we have to manage are not neatly compartmentalised; like it or not, they spill across from technology to technology<sup>16</sup> and from the physical world into the social world.

In adopting a style of risk management based on the assessment of the external (real physical world) risks, we come more and more to resemble the members of W.H. Auden's expedition:

...sound on Expectation  
Had there been situations to be in;  
Unluckily they were their situation:  
(from 'The Quest')

How can we modify our risk management so that it becomes responsive both to the external and the internal risks?

A first step is the recognition that both kinds of risk are there, and the second step is the development of some sort of theory that casts its net wide enough to catch them both. This is what the cultural approach is aimed at. It generates sets of hypotheses that predict how and when such risks will be present



and which allow us to recognise them for what they are. From the debate we can disentangle the external and the internal risks - the physical and the social - and we can take each kind seriously. When we recognise that we have caught a social - a physically non-existent - risk in our methodological net, we do not say 'Oh, it's just a social risk' and throw it back into the ocean. We recognise that it is a risk - a particular kind of risk - and we can refer it to our conceptual scheme to obtain some estimation of how serious a risk it is and of how it might best be handled.

In considering the efficacy of the different styles of risk management it is not a matter of deciding which is the best and which is the worst. It depends on the risk it is being asked to handle. Nor should we assume that the risk-handling that goes on in the myopic contexts is invariably inferior to that of the contexts that extend perception to the long term. Individuals stabilised around the zero group and zero grid context and practising the autonomous strategy tend to be organised into very small economic units<sup>17</sup> and it seems likely that the absence of economies of scale is a necessary condition for the stability of this equilibrium. The combination of the small scale of their economic operations and the lack of pressure on individuals to maximise their control over resources has the effect of minimising long term risks and, in consequence, a style of risk management based on the principle 'sufficient unto the day is the evil thereof', far from being recklessly improvident (criminally negligent, even) assures a rapid and highly resilient response to the unexpected.

The same, to some extent, holds for the entrepreneur's style of risk management. Like the autonomous individual, he too devotes most of his attention to the short term and reassures himself that, thanks to the similarly near-focused efforts of his fellows, the hidden hand can be relied upon to maximise wealth and minimise risk in the longer term. But, of course, his economic activities are not always small in scale and he is often anxious to maximise his control over resources.<sup>18</sup> Though the autonomous individual is not consciously a conservationist (such 'conscious conservationists' are found in the two strongly positive group contexts) he usually, thanks to his minimal yet resilient and responsive style of risk management, ends up conserving his environment. The same is not always true of the entrepreneur; much depends on the scale of his operation. It is interesting to note that Small is Beautiful, not in the social context where this principle is most strongly espoused (that of the sect member) but in the very different and strongly individualised contexts of the hermit and the entrepreneur.<sup>19</sup>

There are two blots on the entrepreneur's risk managing copybook - the despoiling of the long term that *may* occur as a result of the scale of his activities, and the exportation of risk that *can* go on under the banners of market forces and individual freedom. Regulation - the caste member's preferred style of risk management - is, at present, a very blunt weapon which does not discriminate at all well between the negative and the positive contributions of the entrepreneur. Much regulation is counterproductive; the problem is to know which. This cultural

approach may help us to do this. If it can help us pinpoint just when the entrepreneur is threatening the long term, then regulation can be slimmed down until it is targetted on these danger areas. At the same time, regulation could be made much more effective in its role as a system of export control designed to mitigate the excesses that are at present visited upon those (the survival individualists) least equipped to bear them.

And what of the survival collectivists - the sect members? If all their rhetoric about the horrendous risks that everywhere threaten the extinction of the human race is really aimed at averting the social risks that threaten not the whole of society but just their own cohesion and identity, should we pay *any* attention to them? A first response is that, equipped with this cultural understanding of what is involved in their style of risk management, we should not be too eager to believe that the external risks really are what they say they are. We can, with these anthropological insights, obtain some estimate of the extent to which these risks are indeed there in the external world and the extent to which they constitute an overlay of social risks that threaten, not the institutions of the wider society, but the boundary wall by which the sect members cut themselves off from those institutions.

But the sect members' style of risk management is a holistic one and they do work at it very hard - endlessly patrolling their dykes like a lot of little Dutch boys looking for holes to put their fingers in - and it is quite likely that they will, quite inadvertently, do us all a favor by discovering holes that lie beyond the field of vision of the entrepreneur and of the hermit and that have been overlooked in the compartmentalised approach of the caste member. Provided we do not take what they say at its face value, sects can act as very effective (and inexpensive) sniffers-out of those real long term external risks that have gone undetected in the other social contexts.

Finally, I must stress that these few examples I have given of the different institutional styles of risk management and of their effectiveness are highly tentative. They are in no way to be seen as hard-and-fast conclusions; they are a skimpy set of trial hypotheses which will have to be tested and refined many times before they can pass for anything more than hint of what it is that this cultural approach may achieve.

#### JUSTIFICATIONS FOR THE HYPOTHESIS

These can be of two types: theoretical (in which the hypothesis is derived by rigorous argument from a set of explicit initial assumptions) and practical (in which you look to see whether you can apply it, and if so, does it work?).

There is now a considerable body of theoretical and practical justification and it may be appropriate here to explain something of this in order to provide some indication of the robustness of the hypothesis that underlies this whole approach. Much depends on the two axes of social context. From the perspective

of theory, are they (a) independent and (b) sufficient? From the perspective application, can they be measured?

*Groups* are patterns of relationships that are, as it were, independent of the individual who happens to be taken as the reference point. If A and B are both members of a group then the list of all the people A is related to and the list of all the people B is related to will be identical (except that A's list will include B and B's list will include A) and the same will hold for every member of that group.<sup>20</sup> But not all an individual's social relationships are necessarily group relationships. Some may constitute his *network*. A network is not independent of the individual who is taken as the reference point - it is ego-focused. A's network may include B but B's network will not be the same as A's. Though there is often some scope for an individual to *perceive* some of his relationships one way rather than the other,<sup>21</sup> all social relationships resolve into groups or networks. Since, of the two axes of social context used in the hypothesis, one refers to group involvement and the other to network involvement it follows that these axes are (a) sufficient and (b) independent.

On the practical front, it has now been shown that these two dimensions do vary independently and that they can both be measured using ordinal scales.<sup>22</sup> This was achieved with questionnaires and a subsequent pilot project that used informal guided interviews has been able to take account of the third dimension as well and has successfully separated the strategies that individuals in the various social contexts are following.<sup>23</sup> The fact that these dimensions can in practice only be measured on ordinal scales means that, if there are more than five equilibrium states, they cannot be handled without more dimensions. If there are only two dimensions to social context (and I would argue on theoretical grounds that this is so and on practical grounds that two is enough to handle the diversity that confronts us) then a fivefold disaggregation represents the limits of resolution that is possible with this hypothesis.

Since two dimensions of social context is all that are possible theoretically and all that are needed in practice, the existence of this limit need cause no dismay, and I should point out that, in handling two dimensions, the theory is handling one more than do most of the grand theorists in the social sciences (for example: Durkheim's distinction between mechanical and organic solidarity, Sir Henry Maine's historical transition from status to contract, and Tönnies' contrast between *gemeinschaft* and *gesellschaft*). Perhaps the most compelling justification for this hypothesis is the part theoretical/part practical exercise in which these single dimension dichotomies, that have had (and continue to have) so powerful an influence on the shaping of social enquiry, have been shown to be 'special cases' within this two-dimensional scheme.<sup>24</sup>

However, all this is taking us away from our present concern and I have only introduced it to this extent in order to show that there is considerable theoretical and practical justification for this cultural approach and for the deep hypothesis on which it rests. The model can be operationalised, the dimensions are measurable, and the strategies are separable.

Nor is it one of those hypotheses that cannot be proved wrong. The predictions it makes are precise and detailed and the hypothesis will stand or fall depending on whether the five strategies separate clearly, on whether these separations relate to social context in the manner specified by the hypothesis and on whether both strategies and social context in turn correlate with the predicted fivefold separation of cosmologies.

These tests are at the general level and they can be reinforced by a corresponding battery of tests at the specific level relating to risk perception and risk evaluation. For example, the hypothesis predicts that experts will only be found in three of the five social contexts, and that the way in which they are treated will vary systematically between these three contexts.<sup>25</sup> The hypothesis makes similarly precise and testable predictions about how the perceptions and evaluations of the long term will change as we go from context to context.

#### WHY WE NEED TO LOOK AT THE INDIVIDUAL

Since it is one of my main contentions that the human individual is ill-equipped for coping with risk and that most of risk handling is done through social and cultural institutions, I will need to explain why it is that I choose not to approach these crucial institutions direct but, instead, elect to take this indirect approach by way of the individual and his socially-induced biases in perception and preferred strategy. First, I should stress that I approach the individual as a *social being* and, in so doing, avoid falling prey to the individualist fallacy.

#### The Individualist Fallacy

The decisionmaker, when he finally arrives at the realisation that he is faced, not with a technical problem, but with one that has to do with people, tends to reach for his psychologist. He is, alas, wrong again.

The individualist fallacy is a specific version of the fallacy of misplaced concreteness.<sup>26</sup> In the first instance, this fallacy takes the form of assuming that risk is something inherent in our external world - that the risks that threaten us are determined by the inherent physical properties of the universe. It is this assumption that leads the decisionmaker to believe that the problem he faces is a technical one<sup>27</sup> and that leads him to hire various technical experts who claim to be able to solve it. Two difficulties result. First, the technical experts can *never* gain access to all the risks that are determined by the universe. Second, public policy (unfortunately, perhaps) involves the public, and some of its members it turns out do not revise their varied perceptions of the risks 'out there' to bring them into line with those of the experts.

Which social choice should the decisionmaker take: the Platonic one based on what the real risks are (as far as the expert can see, that is) or the Benthamite one based on some aggregation of what people believe the risks to be? If he opts

for the Benthamite alternative then he will need to hire some different experts - those who can tell him what people think the risks are. But the psychologist still retains as his datum the real risks 'out there'. He discovers threshold points for low probability/high consequence events, he discovers persistent over-estimators and persistent under-estimators, optimists and pessimists, ... risk-accepting and risk-averse individuals; all plotted in against the same vast expanse of misplaced concrete - that totality of risks determined by the universe.

Far from being dismayed by the unattainability of that which the risk assessor and the psychologist have set their hearts on, the anthropologist will point out that this unattainable goal is not what risk is about anyway. Of course, the universe is not irrelevant, but it is not what determines the area of concern that we are referring to when we talk about risk. Rather than being something that is inherent in the external world, risk and its absence are qualities that are *conferred upon* it by social processes. These social processes, as they blot out some risks that are really there and as they set down others that have no counterpart in physical reality, create a fluctuating pool of risks somewhere between us and the universe. Since any debate about risk must take place within a social setting, it will inevitably be a debate about the properties of this fluid pool. Anyone who claims that it is not - that it is about the concrete expanse that lies somewhere beyond this pool - is falsely claiming to be a 'cosmic exile'.<sup>28</sup>

This - the cosmic exile's impossible claim - is the fallacy of misplaced concreteness. It is the naive assumption of the environmental fundamentalist who, when he looks at the world, believes that he is seeing it with the naked eye. And it is a serious fallacy. It is not some trivial little objection to be circumvented by conceding a touch of 'subjectivity' as the engineer moves from analysis to evaluation; nor is it something that can be put right by the addition of a 'social science input' - by bringing in 'the behavioral engineers' to sort out the 'people problems'. It is nothing less than a total misapprehension of what risk is.

Risk, though it has some roots in nature, is inevitably subject to social processes. Since we (being members of society) are at one end of these processes, we can never gain access to the raw unprocessed reality. Whether we like it or not, the risks to which we have access are *processed* risks. If only we concede that this is so, and stop pretending that we can get at the risks before they have been processed, then we can begin to understand something about them - we can begin to understand the processes of which they are the end-products. And the first thing that we must understand is that these processes have very little to do with the individual as an isolated entity; they demand very little of his innate sensory apparatus but a great deal of his socially-acquired referential apparatus. They are pre-eminently *social* processes.

An individual is led to impose cut-off points, not because his eyesight is not good enough or his nose not up to the job

of sniffing beyond a certain range, but because of the social and cultural institutions that are stabilized and made credible for him by virtue of his social context and its appropriate cosmology. As long as those institutions remain credible - as long as he is prepared to go along with them - they will do the risk management (the imposition of thresholds and the setting of their levels) for him automatically. A different individual in a different social context is led to impose on his external world all kinds of risks that have no physical counterpart (or at least none that is detectable), not because he is suffering from some serious malfunction of his sensory equipment, but because the different social and cultural institutions that he finds credible do it for him, automatically.

Human evolution has transferred risk perception from the individual (as a psycho-physiological unit) to the social fabric of which he is part (and as an adaptive mechanism it has, up to now, proved remarkably successful). In their handling of risk humans do not act as individuals but as social beings sensitively tuned to social pressures and submissive to mutual coercion.

#### The Individual as a Social Being

The hypothesis in terms of the individual and his social context is specifically designed to handle the individual, not as an isolated entity, but as a social being. The social units that do the risk handling come in a variety of forms - bounded groups, hierarchical organisations, competing personal networks... atomized communities<sup>29</sup> - and they run the entire gamut from vast Federal agencies to tiny self-help arrangements organised by nothing more formal than a shared sense of neighbourliness. The two dimensions of social context allow us to go behind these contingent differences and to categorise any individual according to the way in which he is involved with, or free from, these various social units.

If he belongs to a bounded group that can impose severe sanctions on its members then he will score positively on the group dimension. If he is at the centre of an extensive personal network he will be imposing prescriptions upon those individuals who are towards its periphery and so he will score negatively on the grid dimension.<sup>30</sup> If he wishes to purchase some drug that has been banned by the Food and Drug Administration his life will be limited (ever so slightly) by an impersonally imposed prescription. If he is subject to many such prescriptions (if he is peripheral to the personal networks of others, for instance) he will score positively on the grid dimension. On the other hand, if he is central to an extensive network and immune from group loyalties and sanctions, he will have the resources, the necessary information and the will to just go out and buy the forbidden drug on the grey market.<sup>31</sup> In that case he will score negatively on both group and grid dimensions. If he is a self-employed and largely self-sufficient farmer, whose involvement with his similarly situated neighbours, though convivial, is essentially voluntary then he will score zero on both dimensions.<sup>32</sup>

In this way, as we plot our individuals onto the social map, we build up a scatter diagram that will reveal which sorts of social units predominate in that society, and highlight where the potentially troublesome polarizations of affiliation to those units are located.<sup>33</sup> Individuals in one category of social context will, as social beings, be sensitively tuned (by their cosmology and their strategy) to the social pressures characteristic of that context and they will be disposed to submit themselves to the kinds of mutual coercion that are characteristic of that context.

These different kinds of social pressure and different kinds of acceptable coercion manifest themselves in social and cultural institutions. The Sherpa, by and large, avoids mentioning the names of the dead; the lower caste Hindu, by and large, defers to the high caste Brahmin; the lineage member whose crops have been spoiled by flooding goes to his kin on the higher ground and asks them to make good his loss and they for their part, mindful that in periods of drought positions are likely to be reversed, accede to his request. In other words, different kinds of institution are appropriate to different social contexts. Social context is, as it were, the soil in which institutions grow. The institutions (changing the metaphor) are a kind of automatic pilot; the individual grants credence to them and, in return, the institutions look after the risks for him. From this it follows that (a) different kinds of institution will tend to flourish in different social context 'soils' - that different institutionalised ways of handling risk will evolve in different social contexts - and (b) that whether an institution flourishes or withers will depend on whether individuals continue to grant credibility to it. If an individual's social context, for some reason, changes then he will be tempted to over-ride the automatic pilot that previously handled his risks for him. He will begin to question the legitimacy of the institutions, and risks of which previously he was scarcely aware will suddenly, as they become his personal concern, loom large and threatening.

If we looked only at the institutions, and not at the individuals who either support or fail to support them, then we could say nothing about the appropriateness of institutions nor could we begin to understand the dynamic social processes that distribute credibility this way rather than that and, in so doing, uphold one institution and cause the collapse of another.

For instance, perhaps the most alarming of all the problems that have emerged from around the nuclear debate has to do with the way in which institutions that have long given sterling service have become paralysed. Our institutions are designed to provide us with decisions (and with good decisions, to boot) yet everywhere we see policies stymied and nuclear industries declining into bankruptcy, not because our institutions have decided that all things considered that is what should be happening, but because they simply can no longer come up with *any* decisions - even bad ones! Any approach that concerns itself only with the institutions and not with the social dynamics of their support will be powerless to explain why hitherto healthy institutions have suddenly become paralysed in this distressing way. And,

if it cannot diagnose the disease, what hope is there that it will be able to come up with prescriptions that will effect a recovery?



## NOTES

1. The individual, it should be stressed, is handled as a social being not as a unique phycho-physiological entity. But it is not being argued that individuals are indistinguishable empty vessels until they are filled with the breath of social life, only that the manner of their involvement in social life will superimpose a distinctive bias upon whatever was there to begin with.

Once an individual has become a social being it is often difficult, and sometimes impossible, to say where this line between original content (nature) and social overlay (nurture) lies. A consequence of this is that, to the extent that this line is blurred, the concerns of the psychologist and the anthropologist overlap. Anthropology has often tended to pull back from this fuzzy region; the present approach does the opposite.

2. Though I have spoken of it as a cultural approach it is, properly-speaking, an approach in terms of cultural *bias*. I am interested in *patterns of culture* rather than in culture itself and so, in this sense, the concept of social context is free from cultural qualification.
3. Refer here to DOUGLAS, Mary *Intermediate Sociology* (a lecture or paper which has, I think, been published).
4. Strictly speaking, the maximum number is nine with zero points on each dimension and 4 without them:

-+	0+	++
-0	00	+0
--	0-	+-

-+	++
--	+-

But it turns out that, when the third dimension is introduced, only five out of these nine have stabilizable equilibria associated with them. Before we can apply the necessary condition that each of these categories must correspond to a stabilizable equilibrium we have to incorporate a third dimension so as to be able to depict the *singularities* (peaks, troughs and saddlepoints) that are the preconditions for stabilizable equilibria.

In the four category case, we have to have at least two peaks and two troughs; the peaks being at the ends of one diagonal (which Douglas has called the *stable diagonal*), the troughs at the ends of the other diagonal (*the unstable diagonal*). Such a landscape *has* to contain another singularity - a saddle-point - where these diagonals cross and this means that the minimum number of stabilizable equilibria in the four category case is five (see diagram on page 4) but that the saddle-point, though it has to be there, cannot be distinguished.

In the nine category case, the same five stabilizable equilibria have to be present but the difference is that now the saddle-point can be distinguished. What is more, it is also possible to distinguish four more points - those mid-way along the four sides of the matrix - and we need to ask whether in identifying these we uncover any more stabilizable equilibria. The first part of the answer is that, though there do not *have* to be stabilizable equilibria at these four identifiable points, there can be. The second part of the answer is that, if the landscape does indeed flatten out at those four points, this does not result in any increase in the number of stabilizable equilibria. All that has happened is that the saddle-point has spread out until it has reached the four point mid-way along the four sides. So this nine equilibrium picture is simply a *trivial extension* of the five equilibrium one.

5. For some, the word 'manipulate' may be value-laden. No such judgement is intended here. The simple fact is that social life often involves manipulation - a fact that some will deny and others will acknowledge. The present argument is that these divergent responses (and the further distinctions between those who, in acknowledging this fact, regard manipulation as inevitable, regrettable, avoidable... desirable) are not uninfluenced by social context.
6. For a fuller treatment and for some illustration see THOMPSON, Michael, 'A three dimensional model of risk perception' and 'The problem of the centre' in DOUGLAS, Mary

and OSTRANDER, David (eds.) *Essays in the Sociology of Perception*. Routledge, Kegan Paul, London and Basic Books, New York (to be published January 1981). This is the simplest possible landscape and differs from the one used elsewhere (e.g., in IIASA Working Paper *The Social Landscape of Poverty*) in not including any *catastrophes*. These have been omitted because they make no difference to the present argument.

7. Strictly speaking, some conjunctions may not be unique. See cusp catastrophes depicted in the full model - 'A three dimensional model' op. cit.
8. 'Perception' is being used here in the lay sense of gut convictions about how things are rather than in the narrower meanings of the word as it is defined by psychologists and physiologists. See OTWAY, Harry J. 'The perception of technological risks. Proceedings of the CEC/CERD Seminar *technological risk: its perception and handling in the European Community*, Berlin, FRG, 1 - 3 Apr. 1979.
9. These different kinds of experts and the way in which they manifest themselves in the debates over energy futures and over the size of oil and gas reserves will be described in a later Working Paper - *Blind Spots in Risk Perception*.
10. Not surprisingly, this friend of the earth often joins with others to become a Friend of the Earth and together they draw up Blueprints for Survival designed to ensure that the earth does not disappear before their inheritance falls due.
11. For further evidence of the separation of these three scenarios, in the form of a matrix showing how the other incredible scenarios are perceived from each credible scenario, see: HARMON, Willis, REUYL, J. et al. *Solar Energy in America's Future* Ch. 5, The broader issues. Working Paper SRI March 1977.
12. For the elaboration of this see DOUGLAS, Mary. 1970. *Purity and Danger* Routledge and Kegan Paul, London. For its relevance to risk and public policy see: DOUGLAS, Mary 1972. 'Environments at risk' in BENTHALL, Jonathan (ed.), *Ecology: The Shaping Enquiry*. Longman, London.
13. The reason why they have to be expressed in the medium of real physical risks is that, under the strict regime of collectivised control that tends to be generated by this context, this is just about the only permissible medium. See: OWEN, Dennis. 'Spectral Evidence: Body Metaphor and Social Experience in the Salem Witchcraft Trials.' in DOUGLAS, Mary and OSTRANDER, David (eds.) *Essays in the Sociology of Perception*. (Forthcoming in Jan. 1981). Basic Books New York, and Routledge, Kegan Paul, London.
14. The classic work being: EVANS-PRITCHARD, E.E. *Witchcraft Oracles and Magic Among the Azande*.

15. An illustration of such a risk currently in this flexible state is provided by the debate in Britain about the controversial legislation that has made the wearing of safety helmets (or should one say crash-hats) compulsory for motor cyclists.
16. For instance, from nuclear weapons into nuclear power. There are two kinds of radioactive material in the United States - military and civilian. This is not a physical distinction - it is an administrative one - and it is a distinction which is probably not shared by anyone wishing to steal such material in order to make a nuclear device of his own. The Nuclear Regulatory Commission is currently funding a research project (at Lawrence Livermore Laboratory to systematically consider all the possibilities of such diversion but, because its terms of reference do not extend to the military material, the crucial calculation of the point at which as the security system is improved the adversary will decide that it is easier to steal a readymade bomb rather than all that civilian material has been completely overlooked.
17. Sherpa villagers in Nepal, for instance, and caretakers of small office buildings in Washington D.C.
18. For an explanation of how social context relates to variations in personal resource management and personal need management see IIASA Working Paper - *The Social Landscape of Poverty*.
19. It has been suggested (CLARK, William 1980, 'Witches, Floods and Wonder Drugs' in SCHWING, R., and ALBERS, W., (eds.) *Societal Risk Assessment*. Plenum, New York.) that some risks should be taken away from the regulatory agencies and given over to individual management because they would be handled better that way. The trouble is to know which risks should be handed over and to know whether such a transfer will benefit all the people or only some of the people. The 'economies of scale test' should help to sort out the risks by their technologies, while the disaggregation based on the five categories should help in telling who will be advantaged and who will be disadvantaged.
20. Strictly speaking, there may well be other individuals on A's list and B's list because of their non-group relationships. The crucial point is that the group relationships will constitute a common core running through the relationships of all the members of the group.
21. This is because social relationships have some curious properties when it comes to transitivity. In general, social relationships are transitive in that, if A is related to B and B is related to C, then A is related to C; but at the same time it does not follow that A is related to, say, T or Z. Strictly speaking, if the relationships are transitive, A must be related to T and to Z but he simply

may not be able to see that far; so it is the identity, not the transitivity, of the relationships that can have this cut-off point. Moreover, the cut-off point can itself vary with social context - for the hermit it is very close; the caste member and the sect member may be able to see far into the social distance.

22. HAMPTON, James, 'Giving grid/group dimensions an operational definition' in DOUGLAS, Mary and OSTRANDER, David (eds.) *Essays in the Sociology of Perception*. Basic Books, New York, and Routledge, Kegan Paul, London. (To be published Jan. 1981).
23. See: IIASA Working Paper - *The Social Landscape of Poverty*.
24. OSTRANDER, David, 'Accounting for the distribution of beliefs' in DOUGLAS, Mary and OSTRANDER, David (eds.) *Essays in the Sociology of Perception*. (Forthcoming Jan. 1981) Basic Books, New York, and Routledge, Kegan Paul, London.
25. Respected in the caste-ist context, suspected in the sectist context, and used in the entrepreneurial context.
26. WHITEHEAD, A.N. 1926. *Science and the Modern World*. Macmillan, New York.
27. Rather than one that has some technical *aspects*. This is not to say that the technical expert has no part to play in risk management, only that, when he *insists* that the problem itself is technical, he is playing the wrong part.
28. QUINE, W.V.O. 1960. *Word and Object*. MIT Cambridge, Mass. page 275.
29. This is the one that has, by and large, been missed by social scientists. See: MUNCH, Peter A. 'Anarchy and anomie in an atomistic society' *Man* (n.s.) 1974. 2. pp. 243-261. Also THOMPSON, Michael. 'The problem of the centre' (op.cit.)
30. There are good theoretical reasons why the contradictory situations in which he is both included and excluded by groups and in which he is central to one powerful network and peripheral to others are unlikely to occur. Nor do they seem to occur in practice. See THOMPSON, Michael. 'A three dimensional model of risk perception' (op. cit.)
31. A situation sympathetically described by an economist who himself exhibits the bias appropriate to this context. See: FRIEDMAN, Milton. 'The government as nanny' *The Listener* 17th April 1980.
32. In this context not everyone, I should have pointed out, is a hermit. It is not social involvement *per se* that has to be avoided but only *coercive* social involvement. See THOMPSON, Michael: 'The problem of the centre' (op.cit).

33. The question of how different kinds of governmental institutions act as to stabilise or destabilise these different patterns is touched upon in the next working paper - *Beyond Self-Interest: An Analysis of a Risk Debate*.

(Some references are still incomplete)