Risk and Morality: three framing devices

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Risk and Morality: three framing devices

Risk-management decisions are moral decisions made in the face of uncertainty. This paper proffers three framing devices that it is hoped will assist an understanding of the process.

The first – three kinds of risk – is a typology of uncertainty; any attempt to relate risk to moral principles and ethical conduct should be clear about the type of risk under discussion.

The second – the "risk thermostat" – characterises risk management as cost-benefit analysis without the £ signs; it calls attention to the diversity of incommensurable risks and rewards, the importance of being clear about who gets the rewards and who bears the costs, and the consequence of ignoring the reasons that people have for taking risks.

The third – a typology of ethical filters – makes the point that in the realm of risk management there is no such thing as "society"; there is no moral consensus about the right way to manage risk, but rather a set of contending moralities.
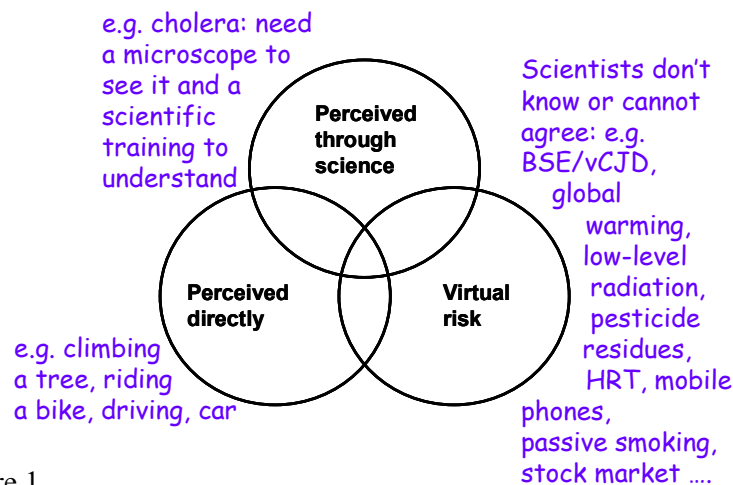
1. Three kinds of risk

Figure 1

Directly perceptible risk

Directly perceptible risks are managed instinctively and intuitively - we all duck if we see something about to hit us. The ability to deal with such risks successfully has been built into us by evolution. We manage them intuitively; we do not undertake a formal quantitative risk assessment before we cross the street. We seek to manage these risks ourselves. We monitor our environment for signs of safety and danger and respond to what we see. Attempts by institutional risk managers to impose upon us safety standards that differ from our own, are resisted. This risk category can be used to introduce three interesting sets of ethical problems: risks to children, risks imposed on others, and the role of the state.

The problem of children.

Newborn infants have all their risks managed for them by their parents or guardians. The process of *development* is one in which responsibility for managing risk is progressively handed over until the child reaches the *age of responsibility.* A study of this process can be rewarding for ethicists because it is here that one often finds the rules of moral behaviour most explicitly enunciated.

The question of how the process of development ought to be managed raises a host of ethical issues. Parenting strategies range from over-protective to reckless and irresponsible – with each extreme being defined by the other. If the handover of responsibility is too slow, physical fitness, and the acquisition of social skills and a sense of responsibility will all be impaired (Hillman (ed) 1993). If it is too fast more accidents will result. Inculcating a sense of responsibility for risk management involves the development of a sense of self-preservation, but also a sense of duty to others.

The problem of imposed safety and danger. Moral behaviour, responsible behaviour, respects the rights of others – however they might be defined. In a study of children's independence (Hillman, Adams, & Whitelegg 1990) we discovered that these rights were defined differently in England and Germany, with interesting consequences. We tried to chart the ages at which certain responsibilities for managing risk were handed over from adults to children by recording the ages at which children acquired parental "licences" to go to school on their own, use buses, ride their bikes in the street etc. We found that the age of licence in Germany was much lower than in England; German parents were allowing their children more independence because they felt that they could rely on other adults in the community to discipline other people's children in public if they saw them misbehaving. This might be construed as evidence of a greater sense of community engagement in Germany – or perhaps as evidence of a culture requiring a strict adherence to social rules.

Further Anglo-German comparisons throw up other differences in the ethical codes governing behaviour on the road. Germany's road death rate is about twice that of England; the explanation is not to be found on the autobahns which, despite fewer speed limits, have fatality rates similar to those on English motorways. The Germans appear to have much stricter rules, more strictly enforced. A pedestrian in Germany crossing against a red light, for example, is committing a criminal offence, whereas in England such signals are merely advisory. Germans of my acquaintance, by way of explaining their high road death rate, quote the inscription on the mythical German tombstone: "I had the right of way". Rule-bound cultures it seems are not necessarily safer.

The role of the state. The rules that ought to govern state intervention in the management of risk are the subject of endless debate. With respect to directly perceptible risks the state often acts *in loco parentis,* for adults as well as children. Despite reaching *the age of responsibility*, adults are frequently not trusted to behave responsibly. There is little disagreement with the view that the criminal law should be invoked to punish behaviour that puts others at risk - such as speeding, or disobedience of red lights and stop signs. But should it also declare criminal, not behaviour, but mental or physiological states that predispose people to behaviour that imperils others, such as driving while under the influence of drink or drugs? A person 2.5 times over the permitted alcohol limit is 20 times more likely to be involved in a fatal road accident, but people diagnosed as having personality disorders are ten

times more likely than "normal" people to die in a road accident; should they also be forbidden to drive? Or young men who, on average, are 100 times more likely to be involved in serious road accidents than middle-aged women? (Adams 1985, 1999, Evans 1991). Should blood-alcohol limits be supplemented by testosterone limits?

The search for consistency in defining the role of the state in the management of risk encounters contending moral codes. In the United States where the ratio of people killed by guns to people killed by fireworks is about 3000:1, fireworks in most states are more strictly controlled than guns.[1] Increasingly the state now criminalizes self-risk in the form of behaviour such as driving without a seatbelt, or riding a motorcycle or bicycle without a helmet. Should it, to be consistent, ban all behaviour that carries with it an elevated risk of self-harm – including smoking, drinking and eating too many cream buns?

Risks perceived through science

Such questions become increasingly pertinent when one enters our second category of risk. While directly perceptible risks are still mostly managed by individual perceivers, risks that can only be seen with the help of science usually have institutional risk managers.

Advancing science is routinely discovering risks invisible to the naked eye. Cholera was a disease whose cause was discovered, in a preliminary fashion, by the father of modern epidemiology, Dr John Snow, some decades before its microbial cause was discovered by researchers with microscopes. It is an early example of the application of science to the management of risk; Dr Snow removed the handle of the Broad Street pump on a well in Soho in the west end of London. He was acting upon a suspicion - that the source of the illness was a contaminated well. This form of risk management has become much more statistically sophisticated. Not everyone who drank from the well succumbed to cholera, only a percentage. Suspicions, now called hypotheses, are converted into probabilities.

Risk is a close relation to uncertainty. Where we cannot be certain about the connection between cause and effect we clutch at the straw of probability. At present, for most illnesses we must content ourselves with probabilities. Ultimately, genetic science may be able to identify the causes of certain diseases precisely; we may be able to say with certainty who will, or will not, develop a particular illness. But difficulties in measuring exposures, ignorance about dose response relationships, and variability in human susceptibility will continue to make work for actuaries and epidemiologists who deal in probabilities, as will accidents that are the consequence of human fallibility or an unpredictable nature.

Estimates of the probability of particular harms are quantified expressions of ignorance. One can estimate that the *average* Briton has a 1:17000 probability of dying in a road accident *this year*; this risk estimate is calculated by dividing the number of people killed in road accidents *last year* by the total population, and assuming nothing much will change. However as we noted above, the road accident literature reveals that the *average* young man is about 100 times more likely than the *average* middle-aged woman to be involved in a serious road accident; that you are 10 times more likely to die, *on average* if you have a personality disorder; and 20 times more likely, *on average* if you are 2.5 times over the alcohol limit. And all these averages have variances that must be explained by invoking further variables such as the condition of the brakes, state of the road etc, etc. The veneer of scientific authority imparted by quantified probability often can withstand little scratching.

Virtual Risks

When we reach our third category the veneer has been stripped away completely. Here we can no longer pretend to sufficient knowledge to ascribe probabilities. When scientists admit to ignorance, or reputable scientists contend with each other in ways that mystify the rest of us, we are in the realm of virtual risk. Virtual risks may or may not be real, but they have real consequences if sufficient numbers of people believe in them.

They are liberating. If scientists cannot pronounce convincingly, we are freed to act upon our convictions, prejudices, and superstitions. Figure 2 below, borrowed (and amended) from the risk management manual of a major airline, describes a common form of virtual risk. Down Victorian coal mines, in conditions of high-dose exposure to radiation or other known toxins, or in transport systems with high accident rates, danger is obvious, and the measures required to reduce it usually equally so. But when all the obvious measures are in place accidents will still, occasionally, happen. 100% safety is a utopian goal. Indeed it is possible to have too many safety measures. So long as there is a residual dependence on the vigilance of fallible humans, their level of vigilance will depend on their belief that something can go wrong. The impressive safety record of civil aviation, and all the safety redundancy built into modern aircraft have created a problem of keeping pilots awake on long flights across time zones. Why should anyone stay alert in anticipation of something they believe will never happen? When you are on the flat part of the curve you do not have a clue whether further safety precautions will have any beneficial effect, but there are circumstances where they can have a perverse effect – where the belief in safety measures can induce complacency – the *Titanic Effect.*
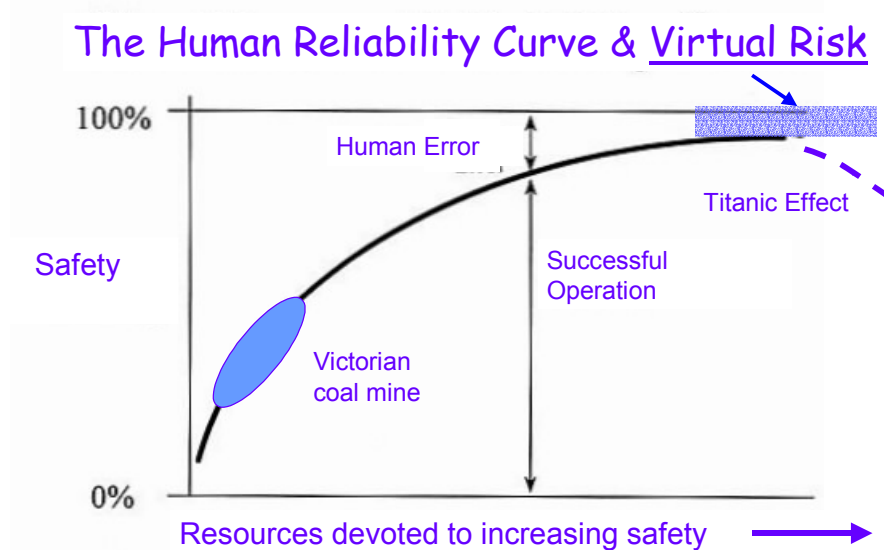

Figure 2

We do not respond blankly to uncertainty. We impose meaning(s) upon it. And in so doing we impose ethical principles upon it. Before considering how we do this with the help of our third framing device let us look first, with the help of our second framing device, at the process of risk management.

2. The Risk Thermostat

A risk thermostat with <u>filters</u>

Propensity to take risks

Rewards

Balancing behaviour

Perception of risks

Accidents

Money, power, love, glory, food, sex, rushes of adrenaline, **control ...**

Money, health, life, status, self-esteem, embarrassment, jail, **loss of control ...**
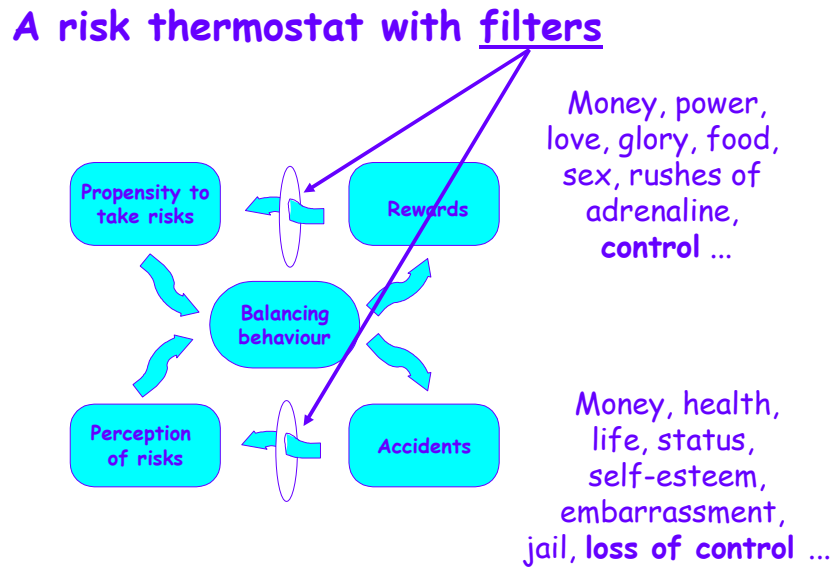
Figure 3

Risk management involves balancing the rewards of actions whose outcomes are uncertain against the losses. Figure 3 is a model of this balancing act. The model postulates that

- everyone has a *propensity* to take risks
- this propensity varies from one individual to another
- this propensity is influenced by the potential *rewards* of risk taking
- perceptions of risk are influenced by experience of *accident losses* - one's own and others'
- individual risk taking decisions represent a balancing act in which *perceptions* of risk are weighed against propensity to take risk
- accident losses are, *by definition*, a consequence of taking risks; the more risks an individual takes, the greater, on average, will be both the rewards and losses he or she incurs.

Figure 3 is a conceptual model, not a quantifiable one. Both the rewards and accidents boxes contain very large numbers of incommensurable variables that defy reduction to a common denominator. With individual risks directly perceived this balancing act takes place inside the head of the individual risk taker. The risks that I will take dodging traffic in order catch a bus approaching on the opposite side of the road will depend on how urgently I want the reward – catching the bus.

In the case of risks perceptible only with the help of scientists, engineers, actuaries or epidemiologists, the risk manager is usually a government regulator or a safety officer in a public or private institution. The institutionalising of risk management commonly leads to an important bias. *Institutional* risk management is usually considered synonymous with *accident reduction.*

The institutional risk manager's job frequently forbids any contemplation of the rewards of risk taking; judgements about safety are to be protected from corruption by concerns about profits. Institutional risk management is commonly confined to the bottom loop of the risk thermostat model. This can lead to the fruitless

pursuit of safety at any cost. Rarely does the risk manager ask "Do we have enough accidents?"[2]

3. A typology of ethical filters

In Figure 3 the risk thermostat is fitted with filters. The influence of these filters increases as we move from clearly perceptible risks and rewards to the uncertainty we are calling virtual risk. Most debates about whether risk is "real" and capable of objective measurement, or something that is socially constructed, usually arise out of a failure to be clear about the type of risk under discussion.

The filters operate for all three types of risk. Even with clear and directly perceptible risks – such those taken by a rock-climber clinging to a sheer face – filters operate. His (it is usually a young man) perception of the risks and rewards that motivate his behaviour will be very different from that of his nervous mother. With invisible, and possibly non-existent risks, such as those associated with pesticide residues or low-level radiation, the filters will be all-determining.

The typology presented in Figure 4 has been fully described elsewhere. It has been variously called as a "typology of rationalities", a "typology of social solidarities", and a "typology of perceptual filters". For purposes of this paper it is relabelled *a typology of ethical filters* because, inextricably bound up with every rationality, solidarity or perceptual framework, one finds sets of moral principles and ethical codes that inform risk taking behaviour.

Figure 4
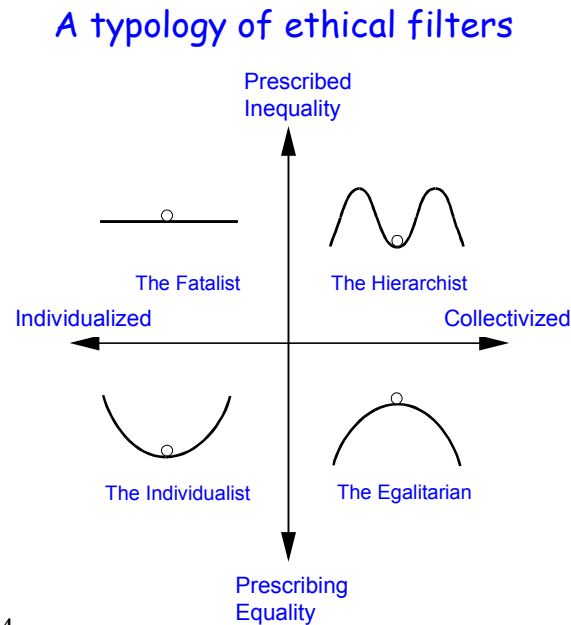
The characters in this typology: the Hierarchist, Fatalist, Individualist and Egalitarian all adhere to different myths of nature represented by the icons. The Individualist myth, the ball in the cup, stands for nature robust, benign and cornucopian; you can shake it about and the ball always comes to rest safely and securely in the bottom of the cup. The Egalitarian sees nature as everywhere fragile, ephemeral and threatened – as represented by the ball perched precariously on the overturned cup. The Fatalist

sees nature as untrustworthy and unpredictable. The Hierarchist sees it as reliable and well-behaved within limits, but cautions against pushing the ball over the rim.

Like all models, Figure 4 is a simplification of a rather more complex reality, but the typology nevertheless captures not only significant differences in the way nature is perceived, but also significant differences of opinion about what constitutes moral behaviour both with respect to the physical environment and to those with whom we share it.

An example; **genetically modified food.** Some of the risks associated with food can be assigned to the category of *risk directly perceptible*. Our senses of sight, smell and taste form our first line of defence against food that might make us ill. Putrid food offends all three senses and is rejected. Commonly the rewards are also directly perceptible; eating is one of life's pleasures and we are attracted to foods that look, smell and taste delicious. Hunger and our sense of repleteness also govern, more or less satisfactorily, the quantities we consume.

Science also plays an important role in what we eat. Folk science, in the form of accumulated knowledge about which plants are poisonous, or curative, has assisted direct perception for many millennia. Increasingly the range of direct perception is being extended by the printing on packaging of use-by dates and other advice relating to preparation and nutrition. Modern science in the form of knowledge about poisons, vitamins, allergies, metabolism, genetic susceptibilities etc. also guides the regulators of the food chain. But at the same time that science is illuminating, and reducing, old risks, it is creating new ones. It produces impressive rewards - in the form of nuclear power, new materials, effective pesticides, new crops etc. - but often accompanied by uncertain, and potentially catastrophic, side-effects. The appendix applies the typology of Figure 4 to responses to the perceived risks (or lack of them) of genetically modified food.

The perception of all three types of risk is strongly influenced by whether they are seen as imposed or voluntarily assumed. In the lists of contents of the Rewards box and Accidents box in Figure 3, **control** and **loss of control** have been put in bold type because a sense of being in control over the choice of what risks one takes is essential to a sense of moral autonomy. Some risk-taking behaviour appears to be explicable only as the pursuit of confirmation of moral autonomy. Dostoevsky suggests that such confirmation in itself might be considered the ultimate reward for risk taking. Only by invoking such a reward can one account for behaviour that would otherwise be seen as perverse and self-destructive (Adams 1995). Dostoevsky (Dostoevsky 1960) puts it this way:

> "What man wants is simply *independent* choice, whatever that independence might cost and wherever it may lead. … Reason is an excellent thing, there's no disputing that, but reason is nothing but reason and satisfies only the rational side of man's nature, while will is a manifestation of the whole life … I repeat for the hundreth time, there is one case, one only, when man may consciously, purposely, desire what is injurious to himself, what is stupid, very stupid – simply in order to have the right to desire for himself even what is very stupid and not be bound by an obligation to desire only what is sensible. Of course, this very stupid thing, this caprice of ours, may be in reality, gentlemen, more advantageous for us than anything else on earth, especially in certain cases. And in particular it may be more advantageous than any advantage even when it does us obvious harm, and contradicts the soundest conclusions of our reason concerning our advantage – for in any

circumstances it preserves for us what is most precious and most important – that is, our personality, our individuality."

While this may seem a plausible insight into the self-destructive behaviour of some rebellious young people asserting their autonomy by defying authority, most of us of more mature years would probably reject it as a description of our own mental processes when confronting risk. But, while our behavioural responses may be less extreme we are all to some degree sensitive to, and resentful of, both imposed risk, *and imposed safety.* We want wherever possible to be our own risk managers, and we scrutinize very closely the motives of those who would do it for us.

Trust: an ethical rudder

Confronted by virtual risks, what one believes depends on whom one believes, and whom one believes depends on whom one trusts. Figure 5 presents the results from an English survey of trust; it records the percentage of respondents who said they would "often" or "always" trust institution X to "tell the truth about risks". X referred to the Government, Companies, the media etc.(Marris, Langford, & O'Riordan 1996)
• Least trusted were companies - at 9% - and the government - at 6%. These are the main producers and regulators of threats to the environment, and the people likely to have the most useful knowledge about them.
• Most trusted are friends and family at 78% and 86%. Unfortunately these are the people least likely to have useful knowledge about threats to the environment.
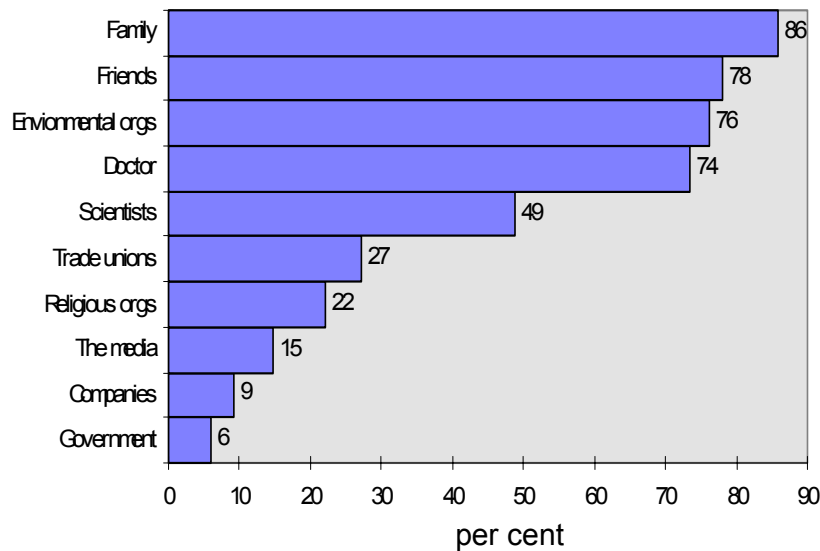
Whom do you trust?

Figure 5

Expressions of trust and distrust are statements about perceived motives. Assuming that the views summarized in Figure 5 come from a representative cross-section of the English public[3], the message is interesting. The motives of Government (hierarchists) and big business (individualists) are viewed with suspicion by the great majority; indeed in controversies such as Brent Spar and BSE government and big business were widely held to "be in bed with each other". Environmental organizations

(egalitarians) appear to have captured the popular moral high ground. Doctors are seen (mostly) as working in the interest of their patients. When the *scientist* category is unpacked, trust is revealed to be highest for those scientists working for environmental organizations, and much lower for those in the pay of government and big business. The relatively low position of trade unions probably reflects the view that they are defenders of narrow sectional interests rather than the wider public interest. The relatively lower levels of trust enjoyed by religious organisations possibly reflects a suspicion, in a secular age, of religious dogma and those who "spin" its message. And the lowly position of "the media" (there are numerous honourable exceptions) may reflect "risk fatigue" – a state of cynicism engendered by the popular media's habit of sensationalizing every newly discovered virtual risk.

The high levels of trust enjoyed by family and friends are noteworthy. It is unlikely that most respondents trust their families and friends to tell them the *scientific* truth about risks; few people have scientists amongst their families and friends competent to judge the science. It is more likely that these high scores are saying that they trust them not to lie. Perhaps Figure 5 has captured the ethical perspective of what might be called *the fatalistic majority.* According to this perspective

- where the truth threatens profit, profit will prevail,
- where the truth threatens the electoral prospects of government, government spin will prevail,
- you should place your provisional trust only in those who have no obvious motive for lying to you,
- you can only trust with confidence those whom direct personal experience tells you you can trust.[4]

Paranoia flourishes in conditions of hypermobility (Adams 2001). Hypermobile societies are characterized by high levels of anonymity and low levels of trust. Both the generators of risk and the regulators of risk are seen by ordinary citizens as remote, self-interested, and unresponsive to their concerns. As mobility – both physical and electronic – continues to increase, the size of the fatalistic majority is likely to grow larger still.

We are all risk managers and the moral ground on which we stand while performing this task is shifting. The decline in civic engagement and social solidarity documented by Garland and Putnam (Garland 2001, Putnam 2000) is producing a response to risk that is more fatalistic, more cynical and more selfish. We are increasingly mistrustful of, and resentful of, large institutions which seek to impose either danger or safety upon us. Traditional deference is no more. In Britain MORI reports "a dramatic decline in public faith in the way companies use their profits over the past 30 years" (1999). And in 1939 Douglas Jay (later to become President of the Board of Trade) could write, without fear of universal derision, "in the case of nutrition and health, just as in the case of education, the gentleman in Whitehall really does know better what is good for people than the people know themselves."

As risk managers most of us, most of the time, are realistic fatalists. We duck if we see something about to hit us; we vote in declining numbers for the hierarchists who oversee our safety, and with diminishing expectations that it will make a difference; and we tend to mistrust the scientific advisers of both governments and big business. Large virtual risks such as global warming are met by most with a fatalistic shrug; the Prisoner's Dilemma is played out by strangers who do not trust each other

– there is dwindling confidence that individual acts of self-sacrifice will be reciprocated. At the level of individual risks, what used to be seen with the benefit of foresight as risks worth taking, are increasingly seen with the benefit of hindsight and the help of clever lawyers as culpable negligence. Our first instinct is not to sue a close friend or relation who negligently harms us, but the rise of the blame-litigation-compensation culture encourages us to sue strangers, especially ones with deep pockets. The result is a society increasingly fearful of litigation and encumbered with pettifogging rules and regulations - a world beset with the practice of defensive medicine, the withdrawal of school trips and sports and recreational facilities, and demands for assessments of every conceivable risk.[5] Unless and until we can rebuild mutual trust and widen its scope, these unattractive trends look set to continue.

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Notes

[1] In Kennesaw in Georgia, one of the states in which the sale of fireworks is prohibited, a local ordinance requires heads of households to keep at least one firearm in the house.

[2] Less commonly, usually in the realm of financial risk, we encounter risk management incentives that are biased by a preoccupation with rewards. The annual bonuses of successful financial managers, speculating with other people's money, can be large enough to retire on comfortably for life. If they have an "accident" the worst that is likely to happen is that they will need to find another job.

[3] Figure 5 combines the results from two samples in Norwich: A – stratified by housing type (N = 127), and B – three groups: scouts, Chamber of Commerce and environmentalists (N = 70).

[4] In *The Origins of Virtue*, Matt Ridley describes the conditions necessary for altruism to flourish and concludes that a social scale sufficiently small for individuals to recognise each other is of central importance (Ridley 1997).

[5] At the time of writing this conclusion British newspapers were chronicling some of the consequences.

- The High Court ruled that a school was 50% responsible for the injuries suffered by a 17 year old boy on a school skiing trip. The boy was injured skiing off-piste, despite having been reprimanded for doing it previously. The Court held that a reprimand was insufficient and that the supervising teacher should have confiscated his ski pass. As a result of this and similar judgements the National Association of Schoolmasters and the Union of Women Teachers are now advising their members not to organise school trips: "our advice is stark. These trips are so fraught with difficulty that we advise our members not to go on them. If something goes wrong, they place their jobs at risk and may face prosecution" (*The Times*, 26 July 2001).

- The implementation of new safety rules were preventing the touching of wildlife in zoos and aquariums. The cost of meeting the requirement that washbasins be provided for hand-cleaning afterwards has led a number of aquariums to stop touching and holding sessions. The reward foregone for obviating a miniscule risk? "Touching the creatures brings the whole thing to life for children. It makes it more memorable, and that helps the learning process" (Mark Oakley, spokesman for Sea Life Centres, quoted in *The Sunday Telegraph*, 29 July, 2001).

- A 17 year old boy was paid £100,000 compensation for injuries caused by a "negligent tackle" in a school rugby match, because "the time he spent out of school recovering from his injuries meant the grades he received were well below the level predicted by his teachers." As a result of his low grades he could not pursue a course in dentistry and had to do business studies instead (*The Times*, 8 August 2001).