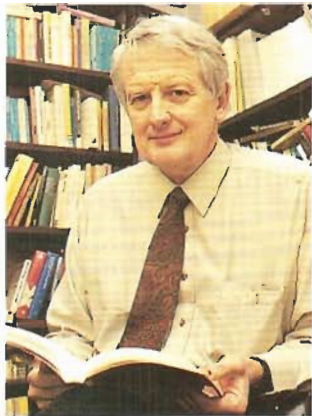


# Prudence and the gambler

**Nobody wants an accident, but we all take risks. Is there a deep-seated need for the stimulus of risk? A leading researcher believes there is . . .**



#### The Author

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Illustration: Image Bank/Hank De Lespinasse

There is now a large literature on safety covering everything from children's playgrounds to nuclear reactors. The model of human nature assumed in this literature is a character who might be called *homo prudens* – zero-risk man. He strives constantly, but not always efficaciously, to reduce accidents. It is assumed in this literature that people do not want accidents and, therefore, if they happen, they must be the result of some form of human error – mistakes, miscalculations, misjudgements, lapses of concentration or simple ignorance. Whenever *homo prudens* has an accident, if he survives, he is acutely embarrassed and tries, with the help of his expert advisers, to learn from his mistake. Major accidents are followed by inquiries into the events leading up to them to ensure that they can never happen again. Safety programmes, as a consequence, focus on the accommodation, or elimination, of human error. They concentrate on either minimizing the consequences of error – seat belts and more crashworthy cars are an example – and eliminating the errors themselves through better training, and "fail-safe" or "foolproof" equipment.

In reality, however, people do not behave like *homo prudens*. There is lurking within everyone of us another character, called *homo aleatorius* – dice-throwing man, gambling man, risk-taking man. We behave like him because we have no choice; life is uncertain. And we respond to his promptings because we want to; too much certainty is boring and unrewarding.

While corporations set their faces against personal risk and work towards the elimination of accidents, as individuals we are ambivalent about risk. No-one wants an accident, but we do willingly take risks. Gamblers may not like losing, but they do like gambling. Outside the casino, gambling and losing is called having an accident. If a large number of people take a large number of risks of a specified magnitude, the outcome in terms of gambling/accident losses will be highly predictable – inside and outside the casino.

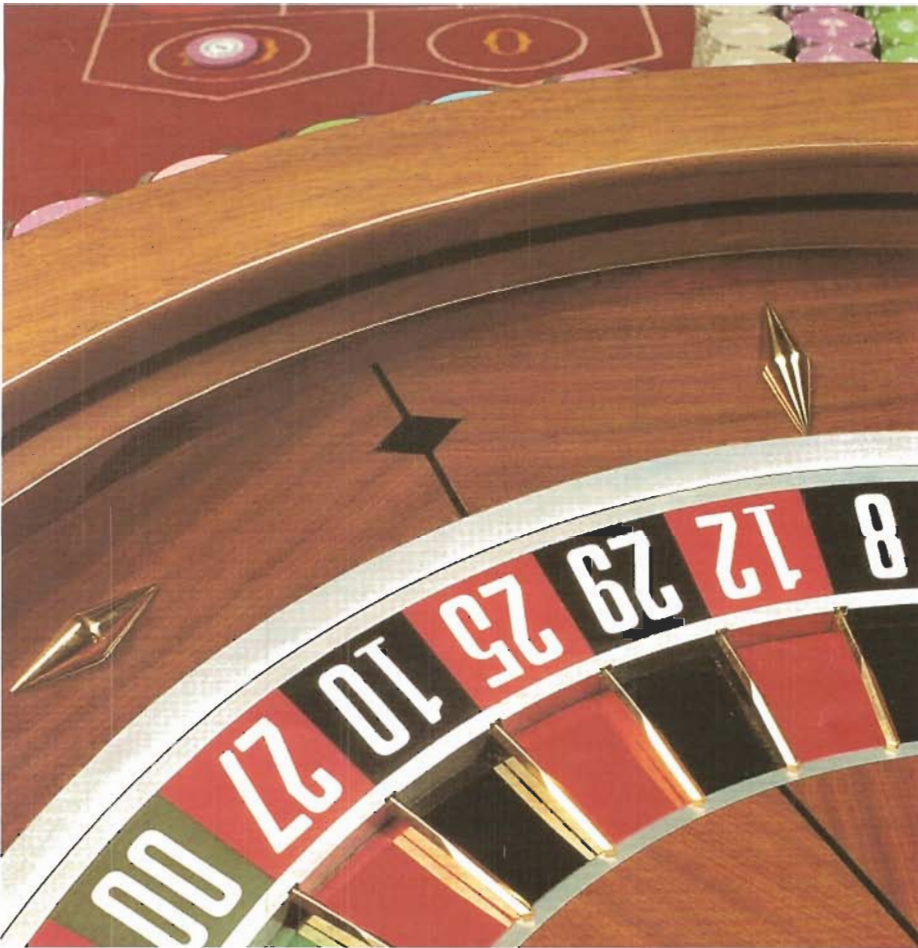
Our culture glorifies risk. The idols of the sports pages and the financial pages are risk takers. Our language is littered with aphorisms extolling the virtues of risk – "nothing ven-

ured, nothing gained"; "no risk, no reward". Excessive caution and prudence are derided as boring and jeered at – "prudence is a rich, ugly old maid, courted by incapacity". But our propensity to take risks is probably rooted in something even deeper than culture. Psychologists speak of our physiological need for arousal. Comprehensive denial of this need, in the form of sensory deprivation, is regarded as a form of torture. The observation of young children at play provides support for the view that we have an inherent need for events in our lives that stimulate the production of adrenalin; if life gets too boring or predictable, they provoke it into doing something exciting.

The idea that we all have a need for a measure of excitement in our lives has been developed into a theory of risk taking called "risk compensation" by Canadian psychologist Gerald Wilde. The theory proposes that we have risk "thermostats" and that we behave in such a way as to keep our risk (or arousal) at a level with which we feel comfortable. The settings of individual thermostats vary, but no-one, it seems, wants absolute zero.

This theory accounts for many commonly-observed reactions to safety measures such as improved car brakes. Driving is an activity which manifestly involves risk. The driver must make judgements about the likely behaviour of other road users, and constantly adjust his speed and position with respect to them and to other obstacles in his environment. If a car is fitted with better brakes, motorists tend not to drive the same way as before so as to enjoy a lower level of risk; they tend to drive faster, or start braking later, or drive with less care. The potential safety benefit gets consumed as a performance benefit. Drivers are saying, in effect, that, if they did not alter their driving, with their new brakes the world would be too safe.

The theory also appears to account for the remarkable resistance of accident statistics to the endeavours of those promoting safety. A study of rates of death by accident and violence in 31 developed countries during the first 75 years of this century reveals virtually no trend at all. Despite the passage of libraries full of safety regulations, and the work of small armies of safety regulation enforcers, there is no detectable effect to be found in death rates.



Since the Second World War, safety regulation and enforcement have intensified, yet the trend in accidental and violent death rates is slightly upward. There have been changes in the particular causes of accidental and violent death, but for most countries the total death rates for all forms of accident and violence, except during wars and natural disasters, have been remarkably stable. The theory suggests that the ultimate determinant of a society's accident rate is its collective propensity to take risks, and this appears to have changed very little.

Historically, the workers involved in mineral exploration and production were "rough-necks" — men who were physically tough and with a propensity to take risks. Their exploits have been enshrined in the exploits of the Fortyniners of California, the Dangerous Dans of the Klondike and innumerable other such characters from mining areas around the world. The personalities drawn to work in these environments today tend, like their predecessors, to have more of *homo aleatorius* in their characters than *homo prudens*. They tend to be risk takers, impatient with rules and regulations that demand what they consider to be excessive prudence.


Modern methods of oil exploration and production have reduced many of the earlier physical risks; to strive for their total elimination is

proper, but it is an impossible target. The environments in which oil and gas are currently sought and extracted have become more dangerous. The forces of nature in the North Sea, the Gulf of Mexico and the Arctic will, for the foreseeable future, present hazards that cannot be eradicated.

The financial risks associated with oil exploration and production have also increased. As the more accessible reserves are exhausted, the cost of proving and extracting the less accessible ones escalates dramatically. Markets have become global, and prices are subject to larger-scale uncertainties. The financial risks are tied to physical and environmental ones. It is estimated that following the Cullen Inquiry into the Piper Alpha disaster, £750 million has been spent on new safety measures by companies working in the North Sea. No amount of money can make North Sea oil extraction totally safe, but the more that is spent on safety and environmental safeguards, the fewer the reserves that it will be profitable to exploit.

Producing oil, as with almost every other activity in life, involves striking a balance between risks and benefits. This is a problem the Cullen Report did not address. In recommending the transfer of responsibility for offshore safety from the UK's Department of Energy to the Health and Safety Executive, Cullen avoided the question of who should strike the balance, and

how. The Health and Safety Executive is not expected to concern itself with the profitability of the oil companies. Indeed, the argument for the transfer of responsibility was that judgements about safety should not be contaminated by such considerations.

Taken literally, the target of eliminating all accidents would preclude any oil production at all. The idea that supervision of safety can be handed over to an institutional *homo prudens* who will strive diligently to eliminate all accidents is both unrealistic and undesirable. In practice, judgements about the safety of oil exploration and production will be made in the context of judgements about profitability, national security and environmental protection, and all of these judgements will be made in the face of enormous uncertainty. What is needed is a set of institutional arrangements that acknowledge this complexity and uncertainty, and opens the process of judgement to public scrutiny. Perhaps the best that can be hoped for is prudent risk taking. At present it is not clear who, if anyone, is holding the ring in the contest between *homo prudens* and *homo aleatorius*. 

## FIRST REACTION

*It is, perhaps, unusual for a magazine to receive a letter before publication of the piece upon which the correspondent wishes to comment. The contribution below was stimulated by a proof copy of this Outside View and, since safety is both important and emotive, we decided to print it. Other readers may wish to add their opinions. Letters, please, to The Editor, PAC/33, Shell Centre, London SE1 7NA.*

### From Mr Koos Visser

We are aware of the ideas on "gambling man's" need for risk and excitement described in John Adams' Outside View and take them into account in our safety policies. However, there are two important observations that should be made.

First, Adams is talking about personal, not group, motivation. While he may be right that we all have a craving for some risk in our lives, there is no suggestion that we require it all the time. Organizational culture, training and concern for others can instil the self discipline to reject risk at work. Some companies, in inherently "risky" (including some Shell exploration and production companies) industries, do achieve accident free, or virtually free, operations over many years, without losing their entrepreneurial drive.

Second, whatever the truth of Adams' thesis, it can certainly never be the basis of industrial safety policies. Companies are required by the authorities, by society and by the people that work in their operations to make every effort to be safe. They cannot decide on some "acceptable" level of accidents and count a small number of deaths as unimportant. The aim of avoiding all accidents is far from being a public relations puff. It is the only responsible policy.

Turning "gambling man" into "zero-risk man" (that is one who manages and controls risks) is just one of the challenges that has to be overcome along the way.

### Koos Visser,

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