Invited Editorial

Risk? What Risk?

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At first sight the excellent paper by Malcolm Harrington in this issue of Annals on the intriguing question of what it is that frightens people calls only for commendation. Most health professionals are well aware of the enormous gap between the concern we have for what others do to us compared with what we cheerfully do to ourselves. The far greater tolerance shown for risks in the workplace than that accorded to those resulting from the same hazards in the general or domestic environment is also worth note. Many readers of this journal spend their lives fairly successfully ensuring that a wide range of occupational hazards do not result in unacceptable risks. Those of us with an epidemiological bent are also quite familiar with denominators and know that high fatality rates, even for a rare event such as rabies or CJD, induce more fear than the low fatality rates of an epidemic disease such as influenza, which kills far more people. We may also agree that our role in risk communication is an important one and that by and large we do it badly; but does not most of the blame lie elsewhere? The news media in recent years, including even the more reputable television channels, have seldom missed an opportunity to fan the flame of any smouldering public anxiety. Need anything more be said about this unhappy situation? Well yes, actually. The fact surely is that whatever the unnecessary fears of a vocal proportion of the population for the numerous environmental hazards to which they may be exposed, the reverse is more often the problem in the workplace. Apart from the rather macho behaviour to which some of the younger male employees in certain industries were prone—less obvious now than in the past—it still remains difficult to persuade even mature and balanced workers to take occupational hazards sufficiently seriously. There are many reasons for this: e.g. over-confidence from familiarity, occasional lapses, the need to finish a job quickly, the unreality of delayed effects, the inconvenience or discomfort of personal protection, and so on. It is not that well-informed members of a modern workforce are ignorant of these risks, but simply that they often have more pressing, worrying or interesting things to think about and, with luck, it won’t happen to them. Those who participate in the National Lottery, who smoke, drink and drive, who eat too much and take too little exercise, illustrate a similar optimism. Among the most dangerous places of work I ever visited were the research laboratories of an institute of occupational safety. If the staff managed to complete a year without a serious accident or toxic inhalation, with sight and hearing intact, they were indeed lucky. The professor of engineering, who directed the work, unimpressed by my comments, said that they all knew what they are doing.

Others who know what they are doing and who appreciate quite well the magnitude of the risks they run, yet choose to go ahead all the same, also do so for a variety of reasons. Financial reward is a major factor in such jobs as deep sea diving, tunnelling, high level work and some horrifically dangerous construction tasks. Not money but real bravery motivates those who defuse explosives or face the inevitable risks taken by fire fighters, the police and military and by members of search and rescue services. In all these dangerous occupations skill, training and protective equipment reduce but do not remove the high level of risk; this both workers and society recognise and accept or sanction. Not to be forgotten, however, are hazardous occupational sectors such as mining, fisheries, forestry and agriculture which, though less dramatically dangerous and hardly noted for high levels of pay, attract much less social concern. I am reminded of two questions put to me some years ago by a visiting Soviet delegation: did we in Britain consider mining to be an heroic occupation, and what did I think of the policy of employing only persons over 60 for work with a cancer risk? I had no reply to either question but, now older, have firmer views on the second.

Thus far we have sought evidence that working people exaggerate the risks to which they are exposed;
there seems little sign of this. However, health and safety at work are not determined only by employees' attitudes and behaviour but at least as much by the views and actions of employers, trades unions and official bodies. Even occupational health professionals, including epidemiologists and toxicologists may have an input. On the face of it, we would hardly expect employers to over-estimate risks in their establishments, except perhaps to the extent that their workers fail to observe advice and regulations. Trades unions might be less prone to play down occupational risks but, again, there is little evidence of this, except in relation to those which an employer has failed to control or take sufficiently seriously. My own experience as an epidemiologist has been that employee representatives have often been reluctant to raise health and safety issues, or even to encourage related research, for the justifiable fear that jobs may be lost. An exception may be the tendency amongst predominantly male groups to overestimate exposures thought to threaten women working during pregnancy; the outcome has been to restrict women's employment rather than to reduce exposure.

So, finally, what about the 'onlookers'—official or professional? For these the evidence that they exaggerate risks is less clear, mainly due to the effect of some fairly obvious vested interests. Governmental bodies are understandably reluctant to suggest that there are serious occupational risks out there which they have not dealt with or considered carefully. Occupational physicians and hygienists are also disinclined to exaggerate dangers which they have failed to manage or control. Moreover, the group morale which organisations—public or private—do their best to promote, commands considerable loyalty from all concerned, including the doctors and hygienists. At the end of the day, it is the research community, whose living may depend on the discovery of unexpected risks, which could conceivably be tempted to over-justify their case in a grant application. However, handicapped by null hypotheses, statistical significance, health worker effects and survivor bias, epidemiologists, at least, are probably at greater risk of missing a real hazard than finding one. The experimental toxicologist with determination and sufficient resources will not make this mistake.

When considered in the occupational context, Malcolm Harrington's paper has opened quite a Pandora's Box of unexpected issues and important conclusions. With unemployment the predominant fear of working people it is not likely that they will overplay unapparent risks. Thomas Legge's axioms thus remain as relevant as ever: safety at work continues to depend on the removal of hazards, without dependence on employees' behaviour. Put more bluntly, don't mess around with risks, deal with the hazards.