

Ethical Considerations in Radiation Protection

a presentation given by Richard Bramhall of the Low Level Radiation Campaign
to
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The Committee has not yet had time to think about Ethical Considerations. Questions of Scientific Philosophy and Scientific Method, which the Low Level Radiation Campaign would like to discuss, have also been left to one side. And in this Workshop we have been asked to "keep to the scientific issues". I am wondering whether Ethics and Scientific Method are thought to be unscientific. Is this slowness to come to grips with them an example of the reductionism Steve Wing criticises in the context of modern epidemiology? (Wing 1994) I argue that ethics can be analysed scientifically. It's not as if we can escape it. Even if there are wide variations, we all operate (live our lives, act in the world) from some ethical framework; I don't think any of us is like the rocket scientist in Tom Lehrer's song:

*"I just make them go up
Who cares where they come down?
It's none of my business"*
Says Werner von Braun.

We are concerned with mutagenic mini-rockets and we have to care where they come down. People who believe that low doses of radiation are beneficial might think they don't have to care, for they might consider that radioactive emissions are a form of mass medication. The ethical debate of that would be the same as in the water fluoridation debate, however. A second exception would be the author of a Japanese book on the nuclear industry (I regret that I have lost the reference) who argued, presumably from a Buddhist standpoint, that we don't have to worry about the mutagenic effects of radioactive releases because the law of Karma ensures that the people who will get cancer are the ones who had it coming to them anyway. This is not a fair representation of Buddhist teaching - it doesn't stand the test of Right Livelihood for a start, because we have a duty of care. And we do care, though even in our everyday lives the logic and the standards are fuzzy. The reason for the fuzziness is that we are not only compassionate people but are also rational economic actors (in the jargon of economics) which means that we are all trying to maximise our well-being with the minimum of effort or expense. How much thought do we give to the true costs of our activities as they are borne by other beings? As we drive a mile to buy a pint of milk do we consider the global warming gases we generate, the effect of the road on the community it passes through, the interests of the moth that just hit the windscreen (or rather *that the windscreen just hit*)? Usually our concern is just for what we have to pay for. The extent to which we consider the things outside that benefit/cost equation - the "externalities" - depends on whether we are aware of them at all, and is in direct proportion to the size and fluffiness of the things we accidentally kill.

In the paper I referred to yesterday (Wing 1994) Steve Wing argues for such externalities to be included in the remit of epidemiologists. Arguments for them to be included in economic analyses also are well rehearsed, leading to the idea that if the price of aviation fuel, for example, included a factor for its impact on the survival chances of a child on the coastal plain of Bangladesh we would not so lightly buy Easyjet tickets for weekend breaks in Barcelona. Such economic tools could be used to approximate an ethical market, so long as the externalities could be costed, but I ask whether the cost/benefit approach is valid at all. There is another view which is shaping the area we work in, especially as far as consulting the public is concerned.

The prevailing view in radiation protection is that of the International Commission on Radiological protection. It is firmly rooted in cost/benefit and ICRP's Publication 60 makes it clear that the logic is that of the Utilitarian ethic. The principal characteristic is to assess the ethical rightness of an action or a policy in terms of whether it maximises the total aggregated

well-being of society. To point out that this way of averaging benefits is only to be expected of an organisation which averages radiation doses as well is a cheap shot, but that hasn't stopped me making it. The analogy is apt, anyway; if Society decides to tolerate radioactive releases and if the Linear No Threshold model is valid some people get benefits (electricity, jobs, pensions) while other people inevitably get dead. And if Society sets the lower level of regulatory concern at one fatal cancer per year per million population (or whatever figure is claimed to represent a publicly tolerable or *trivial* risk) then the dead ones become invisible on the cost/benefit sheet. On just the same reasoning one of the oldest criticisms of Utilitarian averaging is that it can be used to justify slavery. I can't see any reason why it shouldn't justify practices or perversions even more repugnant than slavery. There are other problems with the cost/benefit approach. One is that polluting practices such as waste tips are pushed into economically marginal areas - places where poor people or ethnic minorities live, or where unemployment is high. Why? because land costs are lower, because poor people won't litigate and if they did litigate compensation settlements would be smaller. Accountants' logic. Secondly, the accountants will also perceive a pressure to defer decommissioning on the basis of discounting (investing now to pay later) which makes the dangerous assumption that the economy will continue to grow but more fundamentally demands that if the economy does continue to grow future generations are required to work in order to create wealth to generate interest payments or dividends. I have always seen this as another form of slavery, all the more ironic because it enslaves our own children.

It is the fact that there is no logical limit to the Utilitarian tendency to create inequity that leads me to conclude that it is fundamentally flawed, ethically, and should be abandoned. Fortunately, as I suggested a few moments ago, there is an alternative - an ethic based on the rights of the individual is gaining the ascendancy. The 2003 Recommendations of the European Committee on Radiation Risk (ECRR 2003), on which I have based much of this talk says *Rights based theories argue that each human being has inviolable rights as an individual and that the state may only override these with the express permission of the individual.*

ECRR also quotes John Rawls' Theory of Justice (Rawls 1971):

Each person possess an inviolability founded on justice that even the welfare of society as a whole cannot override.

There are vast implications for practices which pollute people's bodies without their consent. The litigation has already begun and a new mood of consulting the public is growing. People who regard themselves as *Stakeholders* cannot be kept out and will be deciding big questions like *Who bears the burden of proof, the industry or the environmentalists?* and *Just how much uncertainty does it take to trigger the precautionary principle?*

Roger Clarke, Chairman of ICRP, recently wrote (Clarke 2003):

the previous process of optimisation had become too closely linked to formal cost/benefit analysis.

This does not mean that he has been converted to rights-based ethics. In context, and in the context of Clarke's long-standing ambition to abandon the concept of Collective Dose, he does not mean that cost/benefit will be abandoned - he is merely reflecting a desire to get away from the embarrassments of overtly considering health impacts that are far distant in time and space. In other words, he wants to ignore the externalities. His main concern is for workers who, unlike most of us, do at least have a benefit to put into their risk equations. But as far as environmental exposures are concerned we have been told here in this room by a member of ICRP that we should not be using Collective Dose to predict human effects. I note that ICRP 60 commits itself to doing so, but if the rules are changing, if we are not now to use Collective Dose, then ICRP has no relevant tool. Where should we look? Clarke offers nothing and further reveals his failure to understand the new climate.

The process of optimisation in future may best be carried out by involving all the bodies most directly involved, including representatives of those most exposed, in determining or negotiating the best level of protection in the circumstances.

I don't suppose I have to tell you that the words *In the circumstances* appears many times in this context (sometimes expressed as ... *in all the circumstances...*). It is code for dragging *social and economic factors* into the equation to override the rights of the individual and the moral standing of the environment. When the industry or the regulators are determining standards who will represent the environment? Who will negotiate on behalf of unborn children and animal species? Clarke adds:

It is not obvious how ICRP's recommendations will deal with this degree of societal process.

A touch of irony there? Perhaps he recognises that ICRP is out of touch and out of date - he ought to. Some of ICRP's potential clients are already moving on; the UK Ministry of Defence in its enthusiasm for selling off redundant sites is removing tens of thousands of tonnes of minimally contaminated soil rather than face a debate over ICRP's view of the health impact of leaving it in place. Meanwhile the aboriginal inhabitants of the Maralinga atom bomb test site in Australia are unwilling to take it back since they are unconvinced that the standards to which the land has been decontaminated will be regarded as adequate in the future. They may be living in the desert half a world away from Oxford, but they are not stupid nor poorly informed, and they have their eye on the international radiation protection community as it wrestles with its ethical dilemma.

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