

and trade-offs involved in the key issues of reconciliation.

On the other hand, Dr Pamela Ryan, managing director of Issues Deliberation Australia, responded gracefully to my criticisms. She said that she welcomed suggestions for other panellists, and for ways of improving the briefing document.

I gave her the names of a number of articulate Aborigines who question the value or direction of the reconciliation process, or the conventional stance on an apology. But there were no dissidents in the final line-up of Aboriginal panellists in the plenary sessions. I have since discovered that two of the Aborigines I suggested were not even contacted. Another two heard nothing further after preliminary discussions, although one of them made it clear that she wished to become involved.

And although the discussion of some issues in the final version of the briefing paper was less tendentious than in the draft, it was still a document that could be embraced by most 'black armband' historians. There was no suggestion, for example, that *Bringing Them Home*, the report on the 'stolen generations' that first triggered the clamour for a national apology, is a document whose credibility is increasingly under serious challenge.

In this regard, it is unfortunate that the Lowitja O'Donoghue story did not break a week earlier. At the very least it would have led to questions that were simply not raised during the deliberative poll.

But as long as no-one takes the results of the poll seriously, there may be some benefits from the weekend's proceedings. They gave Aboriginal and non-Aboriginal Australians from all over the country an opportunity to meet with each other and form new friendships. And that is what reconciliation should be all about.

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IPA

Focus on the Precautionary Principle

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PRECAUTION has long been a basis for taking action to prevent harm, and where dangers are well characterized there are clearly merits in this: it is not advisable, for example, to build a house on the edge of a volcano that is expected to erupt imminently; nor indeed to build a house on the banks of a river likely to flood on a regular basis. But the 'precautionary principle' goes way beyond this conventional look-before-you-leap prudence. Indeed, the precautionary principle is cited as a justification for taking action primarily in those circumstances when dangers are *not* well characterized.

Consider this statement by Jeremy Leggett of Greenpeace: 'The *modus operandi* we would like to see is: "do not admit a substance unless you have proof that it will do no harm to the environment"—the precautionary principle'. This requires the proof of a negative, which is a philosophical impossibility (it is always possible to imagine harms that might result from the release of a substance into the environment, not all of which can be disproved). As a result, the precautionary principle becomes an excuse for arbitrary restrictions on technologies.

Take the threat of human-induced climate change, which is presented by a broad range of groups as a possibly catastrophic problem.

Governments justify fuel taxes, as well as subsidies to wind, wave, solar, and biogas energy schemes, on the grounds that they will reduce emissions of carbon dioxide, the primary putative cause of human-induced climate change. But the effects of man's emissions of carbon dioxide on the global climate are unclear. Global mean temperature appears to have risen over the past 140 years by somewhere between 0.4 and 0.8 °C. Much of this warming, however, occurred between 1860 and 1940, which was before most of mankind's emissions of carbon dioxide were put into the atmosphere. Moreover, there appear to be inconsistencies between the ground-based temperature data (which show a significant warming over the past 20 years) and the data collected by weather balloons and satellites (which show no such warming).

A simple doubling of atmospheric carbon dioxide concentrations (such as might be expected to occur some time between 2050 and 2100) would result, all other things being equal, in about a 0.3 °C rise in temperature. Predictions of future catastrophic warming therefore rely upon assumptions of strong positive feedback effects, particularly from water vapour. However, some of the world's leading experts on cloud formation question this assumption. Richard Lindzen, Sloane Professor of Meteorology at MIT, has consistently pointed out that the evidence

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does not support the hypothesis of strong positive feedbacks and indeed argues that there may even be negative feedback effects from clouds—limiting the warming.

Others point out that increases in carbon dioxide concentrations would increase growth rates of most plants, whilst any warming would also lengthen growing seasons in both northerly and southerly latitudes. In other words, human-induced climate change could actually be beneficial!

Perhaps most importantly, the evidence from the temperature record of the past suggests that climate is going to change with or without man. This means that man must adapt if he is to survive. The people most susceptible to such change are those engaged in weather-dependent activities such as farming, for whom two adaptive strategies might be adopted: diversification and the adoption of new technologies. Diversification requires that there be other activities available. This is not a problem in developed countries, but in developing countries it means that development is absolutely essential; and with current technologies that means using carbon-based fuels to generate electricity, plant and harvest of crops, and process and transport goods. New technologies might include new varieties of crop, but also new production processes, which are likely to require carbon-based fuels. Restricting emissions of carbon dioxide would therefore limit man's ability to adapt.

Applying the precautionary principle to climate change tells us on the one hand that we must limit emissions of carbon dioxide, in order to prevent change, and on the other that we must not limit emissions of carbon dioxide, in order to enable man to adapt. Not very helpful, I think you will agree.

The European Commission has on several occasions used precautionary reasoning to impose bans on technologies in spite of an absence of evidence of harm. In 1985, it

banned the use of all animal growth promotion hormones even though its own inquiry had concluded that use of three natural hormones posed no risk to human health. Last year it instituted an emergency ban on the use of phthalate plasticizers in baby toys, in spite of protests from the head of the scientific committee charged with analysing their impact. The committee had concluded that following 40 years of use there was no evidence of ill effects.

The precautionary principle has become a convenient catchphrase by which environmentalists and consumer organizations justify calls for restrictions on the use of tech-

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nologies they dislike. In so doing, they threaten to stultify technological progress and consequently perpetuate human suffering. A good example is biotechnology or 'genetic modification' (GM).

Environmental and consumer organizations campaign vigorously against the use of GM in agriculture (Greenpeace, for example, wants a ban on GM food). Yet, GM plants are likely to have many benefits, including reduced use of fertiliser and pesticide, increased yields, better adaptation to more extreme conditions (such as saline soil, high and low temperatures, and low precipitation), and reduced allergenicity

(hypoallergenic wheat and milk are already in the pipeline; allergy-free nuts are a few years away). Of course there may be costs (such as out-crossing of certain characteristics), but these can be (and to a large extent are) dealt with by obliging the producers of GM plants to test their products before they market them. A simple common-law liability regime would create incentives for GM producers to make appropriate pre-market assessment and also ensure compensation for any harms that might arise. Such a regime would also be considerably less opaque than the current regulatory framework.

An outright ban on GM foods would be counterproductive. If people are really concerned about human health and the environment, then they should be encouraging more rapid adoption of GM technology, especially in the developing world where yield enhancements and greater adaptive potential would be most beneficial. Yet, sadly, the Cartagena Protocol on Biosafety, signed this year and justified on 'precautionary' grounds, achieves the opposite by imposing unnecessary bureaucratic hurdles in the way of trade in GMOs.

As these examples demonstrate, the precautionary principle is already having perverse effects. If applied widely, it would have quite the opposite effect to that intended, subjecting us to more risk and uncertainty. By preventing us from using newer, safer technologies, the precautionary principle would both limit our ability to cope with the risks we already face, and make life more uncertain, undermining our capacity to cope with risks that might arise in the future.

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