

THE Ecologist

VOLUME 31 NO 10 £3.50

RETHINKING BASIC ASSUMPTIONS

DEC 2001/JAN 2002

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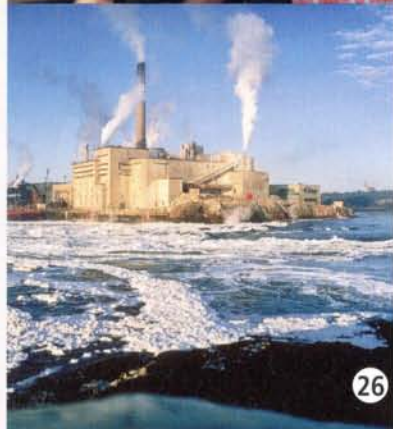
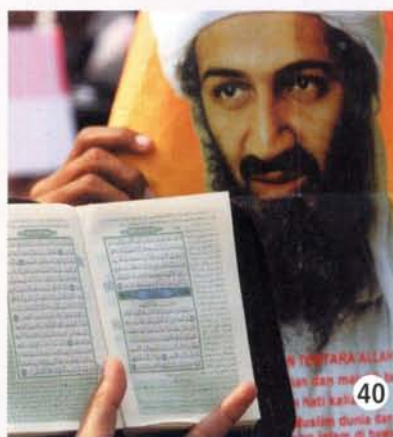


32



THE Ecologist contents

VOLUME 31 NO 10, DECEMBER 2001/JANUARY 2002



FEATURES

26 Save the planet (and prosper) **cover story**

Following November's feature on the need for an eco-economy, Lester Brown shows us what it would look like.

32 Do bears fish in the woods?

Robert Semeniuk reveals a delicate ecosystem at work, and how man is threatening its continued existence.

50 Return to Jordan

Jill Burberry reviews nearly 40 years of Jordanian conservation.

52 The pig issue

Ed Metcalfe examines changes in European pig laws; Iain Elliott reveals the state of pig-farming in the US.

COMMENT

57 Reclaiming democratic language

Jeff Milchen says its time for anti-globalists to set the agenda, rather than react to it.

58 Inner-city duck story

Judy Ling Wong wants access to nature to be seen as an inalienable right.

59 Wake up to reality

Unless we act now, writes Stephi Roth, Europe's right to control its own food could be gone forever.

60 Bombers and burqas

Aidan Rankin is concerned that misplaced liberal fundamentalism is shrouding the real issues.

FOCUS

62 High relief

Richard Buxton hopes a ruling on night flights augurs a change of direction.

63 Hung out to dry

Richard Milton brings us a parable of misplaced aid from Yemen.

64 To whale or not to whale?

Sigrún Davíðsdóttir explains Iceland's attitude to whaling.

66 My life as a corporate pawn **cover story**

Ernest Partridge on the moral downfall of the American Chemistry Council.

COLUMNS

7 From the front

Paul Kingsnorth reaches Colorado on his world tour.

9 Coward's stand

Ros Coward looks at the aesthetics of wind farms.

73 Sick century

Eduardo Goncalves reveals the hidden truth about biological warfare.

75 En Garde

Gard Binney wants the US to come clean on the 'War on Drugs'.

TERRORISM SPECIAL SUPPLEMENT

36 Globalisation and terror

A return to localisation is the best defence against terrorism, writes Helena Norberg-Hodge

40 At war with the spirit of Islam

Islam should not be understood through Bin Laden's eyes, writes Sayyid Rida al-Sadiq.

41 The worldwide net

Simon Reeve explains why terrorism is too widespread to be defeated with bombs.

43 Profits of doom

Edward Hammond reveals the real winners in a world scared by the threat of biological war.

46 A world out of touch with itself

Rabbi Michael Lerner calls for a return to a world based on understanding.

47 So what are you going to do?

David Edwards despairs at our species' lack of heart.

48 Why America?

If only Americans knew what their own government has been doing, wishes William Blum.

REGULARS

6 Letters

10 News cover story

16 Campaigns

20 Debate

25 Profile cover story

69 Reviews

78 The Exchange

82 References



Nuclear: nowhere to go

With hindsight, it was as predictable as clockwork. The planes hit America; America hit back; Blair put his fingers in the national till and exploited the situation to his heart's content. And because the media have been otherwise engaged, so far at least he appears to have succeeded. The result is that unpopular laws which in normal conditions would have been subjected to national scrutiny are flying by unnoticed.

To be fair, Mr Blair had a head start. A few weeks before 11 September, Secretary of State Stephen Byers announced new measures that will make it easier for his government to push through controversial development projects without subjecting them to normal levels of public scrutiny. Presumably with Heathrow's proposed Terminal 5 and controversial US-style road projects in mind, mega-projects will now be debated and agreed in parliament before being subjected to dumbed-down public enquiries that instead of addressing the generalities, will now focus on marginal specifics of already-agreed projects.

Civil Servant Jo Moore famously suggested that the WTC attacks presented ideal conditions for the burial of bad stories. She was given a lambasting. But the truth is, that is exactly what Mr Blair's government has been doing since 11 September. And the sesame seeds on New Labour's McDonald's-sponsored burger are plans to revive Britain's nuclear industry with the construction of up to 15 new reactors. In the light of what happened in New York, this is like painting a large bullseye on a map of Britain and inviting anyone with a grievance to engage in target practice.

Soon after the attacks, the International Atomic Energy Agency warned that an attack on a nuclear power plant is 'far more likely' following 11 September. Director general Mohamed El Baradei warned that 'radiation knows no frontiers', and that previous safety measures are now fruitless. 'If the terrorist is willing to die, that changes the security equation drastically', he said. British Energy echoed those calls immediately following the attacks, and pleaded with the government to take protective measures. Their pleas, they said, were largely ignored. British Nuclear Fuels Ltd (BNFL) meanwhile described the prospect of a fuel-laden commercial jet colliding with a nuclear plant as 'unthinkable'.

Our government, though, appears to take the view of nuclear installation giant COGEMA which claimed that its plant at La Hague was perfectly safe because 'it is forbidden to fly over it at low altitude'. On the advice of a Cabinet panel that only a few weeks ago expressed doubts about nuclear (before being ordered to reformulate



its conclusions), Mr Blair is to replace all our ageing reactors with new models.

So what does that mean for Britain? An attack on Sellafield in Cumbria would be 100 times more disastrous than the Chernobyl accident and would, according to experts, be likely to cause more than 2 million people to die of cancer. At best, a significant chunk of this island would become permanently uninhabitable.

But with or without terrorists, the lives of British people dangle from the hands of the technocrats each and every day. And as we all know, technocrats make mistakes. Earlier this year, for instance, Sellafield came close to disaster, when explosive gases were allowed to build up in tanks that store highly radioactive nuclear waste. Amazingly, the BNFL staff on duty ignored warning alarms for nearly three hours, and had the situation been left for another 10 hours, the resulting explosion would have released more radioactivity than at Chernobyl. Nuclear power is frighteningly unstable.

And even without such disasters, routine radioactive emissions ensure cancer clusters around virtually every installation. Sellafield, for instance, enjoys a cancer cluster 10 times the national average.

Ugly stuff. So why would any government endorse it? It's not cheap. On the contrary, BNFL has admitted it faces a clean-up bill of £34 billion, and on top of the hundreds of billions of pounds in taxpayer subsidies over the past two decades, the government believes the only way nuclear power can remain viable is if the state relieves the industry of its liabilities. Nuclear energy is the most expensive form of energy by far.

And it's not green. Even if we build no further plants, nuclear waste is expected to increase by 500 per cent over the next 10 years. What's more, Mr Blair's own energy advisers have described nuclear as 'a red herring in [the climate] debate. You can,' they told him, 'achieve a low-carbon economy without nuclear.'

With a fraction of the allocated money, Britain could replace nuclear power entirely with renewable energy. Wind is already cheaper than nuclear, and with energy-saving devices, we could save 12.5 per cent of the power we use at no extra cost within eight years. What's more, renewables pose no security risk.

To describe nuclear as a gamble is misleading. For in any gamble there are potential wins and losses. With nuclear, we can only lose. There are no benefits. Yet the government continues to support it, while routinely disavantaging renewables.

An honest national debate followed by a referendum would certainly result in the rejection of nuclear and its replacement by alternatives. The only possible explanation for this government's support for nuclear is that it has succumbed to the seedy pressures of corporate lobby groups. For that reason alone, Mr Blair is a far greater danger to the people of this country than any terrorist network.



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Spinning your rights

In vol 31/7 The Ecologist featured a campaign regarding the UK government's new measures to speed up decisions on major infrastructure projects. We invited readers to write to Stephen Byers, Secretary of State for Transport, Local Government and the Regions (DTLR) and to copy replies to The Ecologist. Below, we publish a typical example of the DTLR's replies, followed by the reaction of Hugh Ellis, Friends of Earth's planning adviser.

On 20 July, the Secretary of State announced a package of measures to streamline the planning procedures of major infrastructure projects. The package comprises national policy statements and an improved regional framework for considering individual projects, new parliamentary procedures for approving projects, improved public inquiry procedures and reform of the arrangements for compulsory purchase and compensation.

The aim is not to prevent people making their views known; quite the contrary. The proposals will not prevent anyone, including environmental groups from objecting to these projects. The proposals are specifically framed to ensure that adequate opportunity remains for the public to make their views known, while

at the same time reducing the scope for unnecessary delays and costs in the overall process. People may be involved at three different points in the process. Firstly, through consultation on up-to-date statements of Government policy to be put in place before major projects at this early stage. Secondly, new parliamentary procedures are proposed – on which there will be consultation shortly – which will enable anyone to make representations when the Secretary of State puts a project of national significance to parliament for debate and agreement on the broad principles ahead of a more detailed inquiry. This would allow the issues – including sites for major projects – to be fully debated in public. Finally people would be able to make their views known at a public inquiry.

You say that decisions will be based solely on the economic merits of a scheme. In all planning applications the key issue for the decision maker in deciding whether to grant a planning permission is that a balance should be struck between the impact of the projects on the local environment, and the wider contribution to social and economic issues.

Fiona Emslie, Development Control Policy PD3B, Department for Transport, Local Government & the Regions, London, UK.

Hugh Ellis replies:

The DTLR response to your readers' letters restates the Government's proposals on major infrastructure projects and suggests that these changes will lead to increased public involvement. Such claims represent the triumph of spin over reality. The DTLR alleges that the changes will create new rights for public participation in major inquiries while speeding up the process. These include the ability to lobby MPs prior to a parliamentary debate and rights to object during public examinations of regional guidance and to participate in national policy reviews. Rights to object to regional guidance already exist, but such is the complexity of participating in the process that most communities are unaware that such policy even exists, let alone have any influence over its content. National policy reviews are even more inaccessible, with consultation restricted to a narrow group of insiders in industry, government and NGOs.

The ability to lobby one's MP by letter or in person is of course a long-standing opportunity to have your say, but is not the same as the right to attend a public inquiry and make formal objections. There is no opportunity to test evidence in front of an inspector and in any event, the limitations of parliamentary debate would restrict the ability of any individual MP to represent their constituents' views. So, Government is effectively removing a long-standing right for an individual to make a full objection to a major proposal and in its place is offering a system based on talking to your MP and participating in policy reviews which most people never get to hear about.

The public would, of course, still have a right to attend a local public inquiry but only after parliament had decided the principle of the scheme. The principle of whether a development should proceed is of course intimately related to its detailed environmental impacts. The Government's suggestion to separate these two issues is both irrational and probably illegal in relation to EU directives on Environmental Impact Assessment.

Government does of course have the right to set broad policy objectives, but it should not impose site-specific proposals, particularly with huge environmental impacts. Local people must have a right to question the principle and the detail of major developments, which impact upon their communities. Removing these rights will lead to more protest and more legal challenges and consequently more delay. Time for government to think again.

Dr Hugh Ellis, Planning Adviser, FOE UK

PS: In early November the Observer featured an article claiming to have uncovered details

MILLBANK TOWERS



THE GOVERNMENT PUTS ITS MIND TO A REVAMP OF BNFL'S IMAGE



Getting bolder in Boulder

of more than 30 highly controversial plans for massive US-style motorways and new roads that slice through sensitive nature areas and historic sites, most of which already have the backing of the Highways Agency, official consultants and local authorities – a perfect example of 'streamlining the planning procedures for major infrastructure projects'.

Mast Action

In her article, 'Ringing the Changes' Karen Barratt (vol 31/8) writes that the Government tells local authority planners that they need not consider health concerns. The real position, confirmed in a court decision in August, is that planners are effectively barred from taking account of health concerns. Most planners share the public's fear and would like to take a precautionary approach, but they cannot.

The public should continue to protest at planning application stage – but ensure that the MP is involved. It will be in parliament that pressure on government will bring results and MPs must be told repeatedly of the fears of the public.

Of course most planners have also seen how the objectors can co-ordinate their protests and demonstrations against masts – by using their own mobile phones!

Des Derrien, retired town planner, Dorchester, UK

Cheesed off

You note that Sally Fallon (*Debate*, vol 31/8) founded the Weston A Price Foundation and co-funded a non-PC cookbook. Why do you not tell readers what the Foundation's aims are and who funds it? Let's hope Fallon never stumbles over a genuine health concern. Nobody would believe her if she cried wolf, considering the silliness of her remarks. For example, she points out that plant food does not contain vitamin D – technically correct – but, since humans obtain most of this vitamin from sunlight, this is hardly a problem for vegans.

Nor does one need animal products to obtain a single one of the nutrients Fallon lists. She must know this. If there is a case for meat eating, why does Fallon feel she must scare new vegetarians with misleading assertions? Fallon refers to animals 'giving' their lives 'when the time comes'. Their lives are taken, which is not the same. 'The day' comes early for the day-old male chicks killed on the 'family farms' she praises. Slaughter is not necessarily painless. The RSPCA, which endorses animal farming, is concerned that stunned animals may regain consciousness before being slaughtered. Soil fertility can be maintained without animals – ask the Soil Association,

Resistance is all very well, but at some stage those who clamour for a new world have to lay their cards on the table and answer the big question: what's our alternative to 'business as usual'?

The answer, of course, is that there is no one alternative: solutions will be as different as people, places, landscapes and cultures. And coming up with new models that work is a long, hard, unglamorous slog. But it can be done. Some of the seeds are being sown in the US state of Colorado; one among many small, local initiatives which point to a way forward.

In the town of Boulder, where the Rocky Mountains meet the Great Plains, Jeff Milchen runs ReclaimDemocracy.org, the organisation he founded in the mid-1990s. He runs it with his fiancée, Jennifer, from his small wooden house in the suburbs, and its aim is simple yet ambitious: 'To inspire people to choose consciously the role corporations will play in our society.' Milchen says that the original American concept of democracy, dating from the Founding Fathers, has been hijacked by money and capital. He wants it given back to the people.

His vision for how this can be done involves the people themselves. ReclaimDemocracy.org is a grassroots organisation; one which doesn't just put out policy papers or hobnob with other activists, but gets its hands dirty persuading local people that change is only going to come from them.

It has only been running a few years, but it's already had notable successes. It runs as many projects as Jeff and Jennifer can fit into their working days. Current work includes running workshops on how to undermine corporate power; fighting the corporate infiltration of education; setting up an independent commission to regulate Presidential debates, so that all candidates, not just the rich ones, get a look in; and working with like-minded groups across the country to roll back corporate influence. But the area in which they've achieved most so far is their work to promote local independent businesses, and save their town from the ravages of the chain stores.

In 1998, Milchen got together with a handful

of local business owners and founded the Boulder Independent Business Alliance (BIBA). Its aim was to raise awareness about the threat to local businesses from the rapidly spreading chains which were invading Boulder, and to protect the unique identity of the town. In this, it has been more than successful. BIBA now has more than 150 members, from pubs to bookshops to chemists to record shops. Debate has raged in the town about the role of local versus chain businesses. Promoting yourself as 'locally-owned' is now an acknowledged way to advertise your business. And the citizens of Boulder are becoming increasingly protective of the uniqueness of their town, their local businesses and their local people.

Milchen gets calls every week now from people all over the States who want to set up their own business alliances. He is extending the BIBA model nationwide. When I visited him he had just received the papers affirming the charitable status of his new organisation AMIBA – the American Independent Business Alliance. Flushed with success, ReclaimDemocracy.org has even put forward a proposed local law, the Community Vitality Act which would put a cap on the number of chain stores in the town.

This is the kind of work which not only changes opinions, but also changes the reality of how things work. I asked David Bolduc, owner of Boulder's oldest independent bookstore, and a founding member of BIBA, how membership had helped him. 'It's hard to quantify', he said, 'but put it this way – a branch of Borders just opened across the road, and it didn't touch my sales at all. Walk past and have a look inside – it's virtually empty. I heard a rumour that it's the worst performing branch in the country.' He grins, slightly, then pretends not to. 'That makes me feel terrible,' he says, '– really.'

Paul Kingsnorth is writing a book about the new global resistance movement, to be published by Simon and Schuster in spring 2003. An article by Jeff Milchen is published on page 57 of this issue.

DEFRA, or the Co-operative Wholesale society. The percentage of the world's land which is tillable is irrelevant because much plant food can be obtained from perennial rather than annual crops. Vegan-organic organisations promote diversity, not monocultures. Fallon stereotypes vegan food. Par for the course. We get slagged off both for eating 'junk food' and for eating

carrots. Suffice it to say that not all vegans eat hydrogenated fats, or chemicals. It is true that inconsiderate manufacturers put bits of animals in all sorts of things, but most of these can be avoided. If animals weren't bred for food, the price of such ingredients would sky rocket and manufacturers would avoid them.

Katherine Gilchrist, Canterbury, Kent.

Beefed up

Thank you for running the vegan debate with Sally Fallon and Bruce Friedrich (*Debate*, vol 31/8). It let me know beyond any doubt how intellectually and morally bankrupt the vegan movement is. That said, there were still several shortcomings in Friedrich's responses.

Firstly, when Fallon cited the International Atherosclerosis Study of 1968 as proof that the Lipid Hypothesis of heart disease was not true (which it isn't), Friedrich first responded by virtually accusing Fallon of fabricating the study out of thin air to prove her contention. When Fallon came back with the journal reference, Friedrich then attempted to denigrate it by claiming that the study was published in an 'obscure journal', as if this, somehow, invalidates it. Are so-called 'obscure journals' intellectually dishonest? I'm sure the editors of such 'obscure journals' would have a lot to say about that implication.

When Fallon referred Friedrich to Dr Uffe Ravnskov's excellent and comprehensive book *The Cholesterol Myths* for a thorough debunking of the Lipid Hypothesis (which vegans and vegetarians always bring up to scare people into the vegan/vegetarian lifestyle), Friedrich ignored it.

Secondly, ignoring Fallon's arguments is quite common in Friedrich's responses. This is shown by his continuous falling back on that old vegan saw about animal cruelty (he brings it up in every letter). He says: 'Every time we sit down to eat, we make a decision: do we support animal cruelty, or do we support kindness?' In their zeal to shelter animals from death to supply food, vegans forget that 'cruelty' includes cruelty to ourselves and our children. Omitting animal foods from our diets deprives us of pivotal nutrients not found in plant foods. The real question to ask, then, when we sit down to eat is: 'Do we support cruelty to ourselves and our children?' Vegans have lost sight of the very real fact that in this world we live in, death is a part of life and that humans, like every other living entity on this planet, are part of the food chain.

Thirdly, Friedrich, incredibly, refers to Dr Weston Price's seminal worldwide studies of traditional peoples and their diets (all of which included animal foods and fats) as 'peculiar anecdotes'. Considering the scope of Price's work, as well as the confirming work done by nutritional anthropologists, the 'peculiar anecdotes' happen to be the 'anecdotes' of the entire human race!

A 'peculiar anecdote' that Friedrich and vegans should consider is the recently

reported tragic death from malnutrition of 9-month old vegan Areni Manuelyan, a British-born child of Armenian immigrants. Despite her parents following available vegan literature on infant feeding, according to the report in *The Scotsman* newspaper, little Areni resembled a 'famine victim' in the days before her death.

As a practitioner, I have not dealt with any sickly vegan children (yet), but I have seen more than my share of adults. When confronted with 'peculiar anecdotes', vegans typically respond that 'these people didn't do the diet right'. In this they are correct, because, without supplements and/or fortified foods, it is not possible for anyone to do a vegan diet correctly because veganism is not a human way of eating.

Stephen Byrnes, PhD, RNCP, HHP,
www.PowerHealth.net

Clear vision

It was a pity that Angela Wood and Kees Biekart's otherwise perceptive analysis of the world-wide protest against globalisation (*Many Hands...*, vol 31/8) echoed a view also held by publications such as the *Financial Times* and *The Economist*. They too assert that the main weakness of our movement is its lack of 'alternative proposals'.

Protesters both in the West and the third world are increasingly aware that ever more ruthless competition between countries is not benefiting the majority. As a result, demands are growing for a more cooperative and internationalist linkage between countries, but with a new end goal of protecting and rebuilding local economies. I have used such suggestions from around the world in my book, *Localisation – a global manifesto* (Earthscan). This details the trade, investment and aid rules needed to bring about a coherent alternative. In addition *Localisation* pulls together comprehensive measures to introduce a 'site-here-to-sell-here' policy for commerce, a range of approaches to ground most capital in its country of origin, local competition law to prevent monopolies, and energy and other resource taxes to both protect the environment and contribute to the enormous funding required for such a radical transformation.

Crucial to such a global improvement is the question of being able to raise protective barriers, a debate now taking place in India. Every fourth farmer in the world is an Indian, yet their huge agricultural sector is being devastated by WTO rules forcing India to lower its protective tariffs. As a result it has been

swamped with subsidised food from the US, and edible oil imports from for example Malaysia. Not surprisingly, there is a growing public and political clamour in this, the world's biggest democracy, for the WTO's direction to be reversed, so that tariffs can be raised to re-establish food security through increased self-reliance.

The situation will have been made worse if, as expected, China joined the WTO at the Doha Ministerial meeting. China's rural majority will be disadvantaged by cheap food imports, especially from the US, and will join the 100 million Chinese who have already left the land looking for urban work. This recipe for ever lower wages at a time of an export emphasis will further devastate its third world competitors, such as the Bangladesh's textile industry, as well as costing jobs in the West.

Localisation is no longer just a proposal, it now has the beginnings of a political component. It is the policy of this country's Green Party, and Caroline Lucas, Green Member of the European Parliament, has been trying to shift the debate about the enlargement of the European Union eastwards to be about an enlargement of localisation, rather than damaging neoliberalism. She will also be an EU delegate to the WTO Doha Ministerial meeting where she will be detailing the localisation policies needed to shift the end goal of world trade away from the curse of international competitiveness towards protecting and rebuilding local economies.

Let's further the crucial transition of the anti-globalisation movement from opposition to proposition by hearing no more of the almost Thatcher-esque assertion that there is no alternative!

Colin Hines, Twickenham, Surrey, UK

Blurred Vision

Does Colin Hines (*Blurred Vision*, vol 31/8) not read *The Ecologist*? If he does, why has he ignored the excellent article on the scandal of Monsanto's influence with India's vital mustard seed oil in a previous number of *The Ecologist* (*The Mustard Oil Conspiracy*, Special Issue, vol 31/5) Colin Hines chooses to ignore this vital matter to India's farmers and indeed, to the vast majority of people who will be deprived of their mustard seed oil which they love, in favour of Monsanto's soya bean oil. Please ask him to look it up and comment in a future issue.

Mrs PRC Molony, Blackrock, County Dublin

To the point

In *Letters* (vol 31/9), Andrew Lockhart Walker illustrates his involvement with



An ill wind?

Can environmentalists ever learn to love a new industry, especially one which involves building in previously undeveloped areas? That's the question wind power is beginning to pose since it is now taking off in the UK as never before. But when it comes to building on the tranquil places we love, or in the views from our own windows, will we give the habitual conservationist 'no' or will we embrace the new industry?

It so happens I have to ask myself these questions. Recently, plans have been submitted to build a wind farm which will be in the view from my house in Whitstable. It's a big offshore development, with 30 turbines, proposed for one of the eighteen coastal areas which The Crown Estates have just released for development. In terms of national energy policy its advantages are obvious. It will supply roughly half the electricity for that area and will reduce national carbon dioxide emissions by as much as 265,000 tonnes. But do I want it in my view?

In theory most people support the idea of renewable energy but in practice several projects have already bitten the dust because of objections to wind farms as noisy and visually damaging. Local resistance has been a brake on wind power's development. But are wind farms really a blot on the landscape? Alone of all energy generating technologies wind farms have the potential to enhance the landscape not spoil it. Wind turbines have a beauty and drama, unmatched by any other source of energy provision. Aesthetically, they can be elegant, with blades resembling bird wings, creating dramatic shapes against the skyline. They have an aspirational, uplifting and positive symbolism.

No one could ever claim the same for other bits of the modern energy infrastructure like pipe lines, oil refineries, or nuclear power stations – although Dungeness does have its fans (including myself) who feel its peculiar bleakness somehow matches the desolate shingle area in which it is situated. Even solar energy has no particular visual appeal, apart from some of the grander architectural projects in mountain regions like the Pyrennes. Chiefly, the solar industry is functional.

In countries where wind farms are a reality, it's clear people can feel positive. In Denmark 20 per cent of energy needs are supplied by wind power and clusters of wind farms on hillsides like rotating crucifixion scenes, and grander offshore developments, are familiar sights. Images of wind turbines in attractive settings are promoted as 'positive' tourist images. The Copenhagen wind farm has been built as an immense swooping arc of turbines, clearly visible from Sweden.

Some wind farms are truly amazing, like the huge farm situated overlooking the Straits of Gibraltar in Spain. If not exactly beautiful, it is

certainly dramatic, a breathtaking sight of turbines marching up the crest of each hill, with the huge wings casting dramatic shadows across the road. Spain, which has recently been investing heavily in wind energy, is now the world's fourth biggest wind power user. But unlike Denmark, where turbines tend to be small scale, owned by individual farms or communities, the Spanish trend is towards huge onshore farms. They are awesome but can dominate the landscape.

For the most part, wind turbines don't dominate their surroundings; they work with it. Turbines are slender without the bulk and solidity of other buildings, so landscape remains visible. The constant movement enhances this and adds the feeling of dramatising nature, making nature's movements visible rather than giving a feeling of suppressing or altering nature's forces as a hydroelectric dam does.

A human symbolism also attaches to wind turbines. Don Quixote, who laid the groundwork for Spain's current embrace of wind energy, tilted at a windmill he mistook for another knight. Electrical pylons also evoke human forms but quite differently. They are gigantesque, roped together with massive cables suggesting chain gang enslavement of humans and countryside. Wind turbines, with arms uplifted and constant motion, are aspirational and with their crucifixion shape, they also connote hope.

The old windmills provoke great sentimental attachment and there are numerous organisations dedicated to preserving or restoring the old buildings. In Holland, windmills are a national symbol and these are not just quaint little solitary mills. The restored village of Zaanse Schans outside Amsterdam shows how massive and loud these mills were. Yet the drama of an energy source translating nature's movement into power turns them into awesomely beautiful buildings.

This is not to gloss over problems. Wind farms have to be sensitively situated. In Spain, some farms have been built in bird migration paths and caused damage. And there is still a case for opposing any building in areas which have special value for emptiness or tranquillity. There's also a risk of saturation. Danes are beginning to feel their landscape can't take many more wind farms.

So when it comes to my view, how will I jump? I'm convinced the proposed farm won't destroy a view but may enhance it. The English channel is already busy, with old forts, ships and sails of yachts and windsurfers. The wind farm will add a grace and drama – white wings against the changing sky. More importantly it will be an emblem of a future where our energy needs will be supplied by working with nature not by pillaging and exhausting it.

Ros Coward

'grassroots action' and the dispersal of power by stating that he is a member of the Globalise Resistance movement. This is quite ironic since Globalise Resistance is a national organisation set up by the Socialist Workers Party in order to cash in on the recent upsurge of protest against corporate globalisation and neoliberalism. The direct action newsletter, *SchNEWS*, has produced an excellent pamphlet on this called 'Monopolise Resistance: How Globalised Resistance Would Hijack Revolt'; it can be downloaded from www.schnews.org.uk or ordered by mail. **Loukas Christodoulou, Manchester, UK**

Angling the Angle

I write in protest at the singularly biased commentary of Nick Fisher (*Fishing for Compliments*, vol.31/8). He says that anglers are the ones that care about fish, and thus the environment. If we are to take his approach then it is tantamount to saying that the mistreatment of animals is acceptable as long as the beaters care for the environment at the same time. Not a very tenable position really. And yes, all scientific evidence supports the position that fish feel pain.

We challenge the angling community to produce to the contrary and, please, not the old chestnut that the NFA produced a report (the Pottinger Report) that refuted all the science on fish and pain; it does nothing of the sort. There are anglers who do care, but the vast majority do not. Leading figures in the angling movement have said as much, as well as various scientific reports. Fishermen are interested in their fish and the environment only up to the point where they can catch the biggest fish possible. How Fisher can claim that commercial carp waters are perfect habitats is beyond belief. They are set up to for easy fishing and in terms of biodiversity are essentially dead. As for anglers using 'especially formulated antiseptic', that is a breath-taking claim to say the least. Having observed anglers for a few years now, it is the first we have heard of it.

Finally, if anglers are such caring people, why do they protest whenever there is a price rise in the fishing license? They easily pay out over £500 on equipment alone, yet have a problem with paying £20 towards improving the rivers of this country? Fisher also does a great disservice to the various conservation groups who help protect our rivers and lakes. If anyone wishes to discuss this further then please feel free to contact us.

Max Gastone, Co-Ordinator, Campaign for the Abolition of Angling, <http://www.anti-angling.com/> London, UK

Costa Rican coastal clearance causes cloudforest decline

A study published in *Science* (19 October) explains how the weather in Costa Rica is changing due to distant deforestation. The findings, which are the work of a team from the University of Alabama and Colorado State University, indicate that as trees on Costa Rica's coastal plains are replaced by farms, roads and settlements, less moisture evaporates from soil and plants, in turn reducing clouds around forested peaks 100km away.

Using satellite data the researchers found that the moisture content of

the clouds over the mountains had declined by around half since intensive land clearing began in the 1950s. According to the scientists: 'These results suggest that current trends in tropical land use will force cloud forests upward and they will thus decrease in area and become increasingly fragmented and in many low mountains may disappear altogether.' At risk in this particular case study is the famous Monteverde Cloud Forest Reserve. Worldwide, about 130,000km² of tropical forests are cleared each year ■



BBC WILD

US gene 'theft' threatens Thai rice industry

The Thai agriculture ministry and various NGOs are accusing Professor Chris Deren at the University of Florida of stealing genetic data from Thailand's jasmine rice and seeking to patent it in the US. According to the British *Observer*, Deren hopes to develop a mutation of the rice that can grow in Florida. 'The US must realise that they would destroy the livelihood of millions of Thai farmers, whom they have tried to help for decades,' said Ampon Kittiampon, of the Thai Agriculture Ministry.

According to a new report by Action Aid, a total of 918 patents have been taken out on rice, maize, wheat, soybean and sorghum, which are vital staples for the poor. Monsanto, Aventis, Dow, Dupont, Mitsui, and Syngenta hold 633 or roughly 70 per cent of these patents. Prior to the 1995 WTO TRIPs agreement patents were applicable only on a national level. The world is now faced with a globalised patent system ■

NOTES &

'Over the last five years... we have not only marvelled at the enormous variety of life supported by the seas, but we have also seen the extent to which man has damaged the unseen underwater world.'
Alastair Fothergill, series producer of the BBC documentary *The Blue Planet*.

'Our seas are host to 50 per cent of the UK's wildlife, yet less than 1 per cent is properly protected. From plankton to dolphins, the results of millions of years of evolution, is at risk.'
Sir David Attenborough, naturalist and broadcaster.

'We do not believe that the protocol as it currently exists... serves the interests of the United States or anyone else that is trying to stop the spread of biological weapons.'
Condoleezza Rice, White House national security advisor on the 1972 Biological Weapons Convention.

'I think that the Russians are beginning to see what we've said all along is true: that the near term programme for missile defense, which is really a testing and evaluation programme, is not actually a threat to them.'
Condoleezza Rice again.

'The legitimate fight against terrorists and also against extreme fundamentalist movements shouldn't become a pretext for cracking down the legitimate secular opposition.'
Mircea Geoana, chairman-in-office of the OSCE, in reference to Uzbekistan.

'The danger is that either by accident or design, we create a virus that destroys us... I don't think that the human race will survive the next thousand years, unless we spread into space. There are too many accidents that can befall life on a single planet.'
Stephen Hawking, Lucasian professor of mathematics, Cambridge University.

Polluting meatpacker IBP to pay \$4 million

IBP Inc, the world's largest meatpacker, is to pay the US \$4.1 million in penalties for violating several environmental laws. The agreement resolves charges that IBP violated the Clean Air Act, the Clean Water Act and other environmental laws at its 200-acre complex in Nebraska where around 5,000 head of cattle are slaughtered each day, as well as additional violations at its facilities in Iowa, Kansas and Texas. Approximately 4 million gallons of contaminated wastewater

treated at the plant before being discharged into the Missouri were found to still contain large amounts of ammonia. The excessive discharge of ammonia is of particular concern because of its potential to harm the river's aquatic life. Federal officials also alleged that IBP regularly failed to report its known releases of hydrogen sulphide. In all, IBP operates 40 plants in North America. Since late September it has been a wholly-owned subsidiary of Tyson Foods Inc. ■

China crosses fingers and embraces WTO

'Friends, you clap, but even I don't yet know how big the competition is after we enter the WTO,' said Zhu Rongji, China's Prime Minister, to a group of executives the week after the Geneva talks were concluded. We may not know, but we can certainly make an educated guess on the basis of what is already known.

Duties on imported agricultural products will be reduced on average from 22 to 17 per cent, and reductions are said to be even greater on some US farm produce. Import quotas will be relaxed, hugely increasing the competition local farmers will face from imports. According to the *International Herald Tribune*, Chinese farm incomes are already falling, and poverty is spreading amongst rural households, which now often depend upon money sent home by relatives working in the cities.

There may be plenty of cheap labour available in China's countryside, but the total production costs on China's small farms are actually higher than in the large

mechanised 'economies-of-scale' farms in the West. Thus competition from foreign agricultural goods will lead to further substantial migration from the country into the cities. The influx will worsen unemployment figures until finally, and most importantly, China will become ever more dependent upon agricultural imports. Then the WTO's work will be complete ■

'Let the Chinese leader Jiang Zemin look me in the eye and take the measure of the US President.'
George W Bush



REUTERS

QUOTES

'We must learn about foreign ideologies and other religions, such as Islam. And we must also acquire a full knowledge of our own governments' foreign policy, using our democratic rights to oppose them, should we deem this to be necessary.'
Karen Armstrong, in the *Guardian*.

'We remain at the end of history because there is only one system that will continue to dominate world politics, that of the liberal-democratic West. This does not imply a world free from conflict, nor the disappearance of culture as a distinguishing characteristic of society. But the struggle we face is not the clash of several distinct and equal cultures... the clash consists of a series of rearguard actions from societies whose traditional existence is indeed threatened by modernisation. The strength of the backlash reflects the severity of this threat. But time and resources are on the side of modernity, and I see no lack of a will to prevail in the West today.'

Francis Fukuyama, professor of international political economy at Johns Hopkins University.

'The terrorists wanted to kill the world's economies and divide us. But we are more united than ever.'

Laurent Fabius, French Finance Minister.

\$850 million has been raised to help the victims of 11 September.

\$2 million has been raised by Christian Aid from the British public for their Afghanistan appeal.

'...like something out of a movie.'

Captain Chuck Wright, describing destroying an Afghan MiG-21 in his US Navy F-14 Tomcat.

'The expansion of the war outside Afghanistan would turn

Heinz means...

When HJ Heinz Co launched a green ketchup in the US last year, shelves were empty within hours. According to the product developers, the new container, built to fit snugly in a child's hands, significantly added to its success. And now this child-orientated aesthetic food is being extended. Log on to www.heinz.com and your progeny can learn how to build a fort using French fries with the all new Funky Purple ketchup as mortar. 'As long as they are putting it on their plates, we're happy,' says Michael Mullen, a company spokesman, to the *Wall Street Journal*.

Other companies are also doing their bit to get a share of the fun and the funds. Quaker Oats, part of PepsiCo Inc, wants children to dig through their cereal and find eatable gold coins, treasure chests and jewels. ConAgra's Parkway margarine now comes in not one but two irresistible colours: electric blue and shocking pink – both heavily advertised during



Saturday morning cartoons. Get that Kraft Foods' toy-like food set and your child can build his own miniature pizza and sandwich with the enclosed pre-cooked parts. For dessert Kraft subsidiary Nabisco offers toy food too. Fun Fruit Gamesters are fruit snacks that can be used as pieces in a game of tic-tac-toe.

'All our advertising is targeted to kids.

You want that nag factor so that seven-year-old Sarah is nagging mom in the grocery store to buy Funky Purple [ketchup]. We're not sure mom would reach out for it on her own,' says Kelly Stitt, a senior brand manager for Heinz. Not a word about nutritional value ■

Green minister turns yellow over European nuclear safety

In early October, Germany's environment minister Juergen Trittin, of the Green Party, threatened emergency nuclear plant closures in case of a credible threat of terrorist attack. But aren't many of the world's (including Germany's) nuclear power plants currently faced by just such threats? No, said Trittin, currently there isn't any real threat – so it's business as usual. Truth is that the German government made promises to the various nuclear utilities not to take an initiative that would alter either current security standards or any underlying security philosophy.

Yet only a couple of days later in France the credibility of a terrorist attack on a nuclear power plant was interpreted in a very different manner. As a precaution against airborne suicide attacks, France positioned surface-to-air missiles at Ile Longue, a military base for nuclear submarines off the Brittany coast,

and at La Hague, the site of a large nuclear waste reprocessing plant. Frederic Solano, a French air force spokesman, said that the missiles could be used to identify aircraft 'and if necessary shoot them down.'

Meanwhile back in Germany a route for a contested shipment of radioactive waste to a north German dump was hit by an overnight arson attack. And furthermore, news has emerged that safety rules at one plant have been broken for years. However, rather than acting swiftly and enforcing emergency plant closures or stopping waste shipments, minister Trittin urged a review of security at the country's 19 nuclear power stations and urged utilities to move fast to restore trust. Now think a few years back and imagine what would have been the Green reaction if a Christian-Democrat politician had behaved in the manner Green minister Trittin just has? ■

Tony's a jolly good Fellow

By Andura Spinacek

'Greenpeace wins damages over professor's "unfounded" allegations', ran the headline in the education *Guardian* after Edinburgh University biochemist Professor Tony Trewavas, FRS, was named in the High Court as the source of a libellous letter published in a Scottish newspaper.

What gave the news an added twist was the fact that Trewavas is not only a leading Fellow of the Royal Society – the very body that has sat in judgement on the issue of journalistic accuracy in relation to issues like the GM debate – but that he can be also found in the society's very own media directory of eminent experts available to help busy hacks get their stories straight.

And it isn't just the Royal Society that has given Trewavas a place of honour. The British government has also sought to benefit from his impartial expertise by appointing him to its Advisory Committee on Genetic Modification (ACGM). Trewavas is also on the Governing Council of the John Innes Centre (JIC), the UK's leading plant biotechnology research institute. And, perhaps unsurprisingly, he features a lot on Monsanto's 'knowledge centre' website too.

The director of the JIC, Professor Chris Lamb, has publicly expressed both his concern at the 'polarisation of discussion about agriculture' and his commitment to fostering 'balanced scientific discussion' – an aim that can hardly have been helped by having a member of his Governing Council named as the source of libellous accusations against a major environmental organisation over its GM campaign.

But given that the JIC's own Professor Jonathan Jones has shown his commitment to avoiding 'polarised rhetoric' by terming critics of GM 'the Green mujahedeens', and posting material on the JIC website describing them as 'bigoted', 'anti-scientific', 'myopic' and prone to erupt with 'Green bile', the JIC is perhaps even less likely to take action over Trewavas and the implications of the libel case than either the British government or the Royal Society.

Over-committed academics, it seems, are still in hot demand ■

(the) whole region into a ball of blood and fire. It is inevitable for such a turmoil to engulf Turkey.'

Mesut Yilmaz, Turkey's Deputy Prime Minister.

According to a *USAToday*, CNN, Gallup poll conducted between 19–21 October, 77 per cent of US citizens are confident their government could respond effectively in the event of a major anthrax outbreak. 58 per cent are confident the government could respond effectively to a nuclear attack on the US. But 70 per cent said that to be on the safe side, the US should proceed with building a missile defence system, up 53 per cent from before the terrorist attacks on 11 September.

'When I hear the US president saying he is not interested in what the Taliban say, that's just going to lead to further antagonism.'

David Stancliffe, Bishop of Salisbury, quoted in the *Guardian*.

'If you overstay your visas even by one day, we will arrest you. If you violate a local law, we... will make sure that you are put in jail and be kept in custody as long as possible. We will use every available statute. We will seek every prosecutorial advantage. We will use all our weapons within the law and under the constitution to protect life and enhance security for America.'

John Ashcroft, US attorney-general on new police powers.

'Western civilisation wants to be free of the threat of terror and at the same time be free of the burden of war, which like all wars, costs the lives of innocent people. Now there is the realisation that we can not have the one without

Monsanto claims soy gene patent

Greenpeace has accused Monsanto of seeking to monopolise one of the world's main food crops, soya in both its wild and cultivated varieties. At the start of the United Nations Conference on Biodiversity in late October in Bonn, Greenpeace revealed that Monsanto had applied for a patent that would grant the company exclusive rights over soy plants, their seeds and progeny with high yield traits.

Monsanto claims rights to a natural gene sequence

discovered in wild plants originating from China. The sequence is directly linked to the yield characteristics of soybeans. The patent application was filed simultaneously in over 100 countries, including the US and countries in Europe. China is regarded as the centre of diversity for soya with more 6,000 existing wild varieties. As 90 per cent of the world's wild soya is growing in China, the patent would have far-reaching consequences ■

...and derails anti-pollution action with 'unacceptable' settlement

Around 5,000 people living along Choccolocco Creek and Lake Logan Martin in Alabama are receiving cheques as a result of the recent disbursement of the \$43.7 million Dyer and Shelter Cove vs Monsanto class action settlement. With \$21 million allocated to environmental cleanup, \$10.9 million is being disbursed to claimants. However, some are doubtful about the benefit of cashing their cheques in.

The case, filed in 1993 after the Alabama Department of Public Health issued a no-consumption PCB advisory for fish in the creek and lake, was settled in 1999, but payments were delayed. According to the 31-page Dyer vs Monsanto settlement agreement, cashing the cheques will prevent claimants from filing any future property damage claims against Monsanto, claims for mental anguish related to the

alleged property damage or claims for medical monitoring. To people like Paul Guldin, \$999 seems like small handout. 'I don't feel like I'm being treated fair, the soil here is so bad we can't afford to fix it,' he told local newspaper the *Anniston Star*. The judge presiding over the lawsuits alleging PCB contamination said that he wants to consolidate cases against Monsanto and speed up litigation ■

NONSANTO

Fraud • Stealth • Hype



Antibiotics are creating food superbugs

It has again been confirmed that the blanket treatment of healthy livestock with antibiotics is creating super-bacteria in food that are a serious human health threat. The latest findings are published in the eminent *New England Journal of Medicine*, which considered the situation so serious that it also published a guest editorial by Professor Sherwood L Gorbach from Tufts University, calling for regulators to change the rules so that antibiotics can be used only to treat sick animals and only by prescription from a veterinarian. Gorbach also called on regulators to prohibit livestock from receiving antibiotics used to treat human illnesses.

In the light of this overwhelming evidence, can one

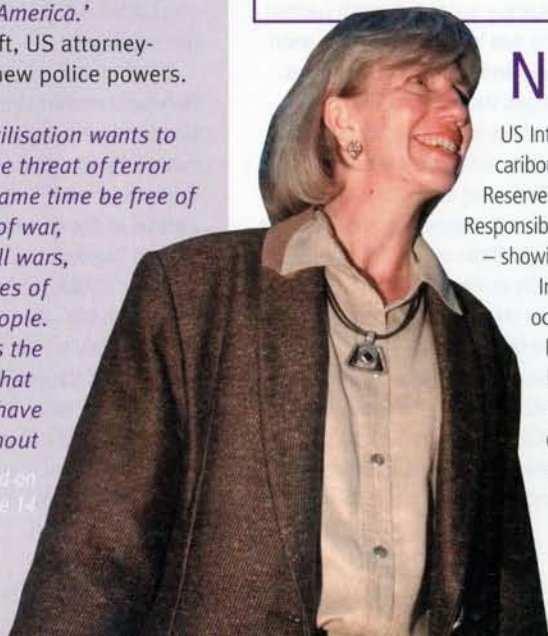
expect change for the better? Unlikely, concludes the *Wall Street Journal*, since the pharmaceutical industry is geared to protect the annual \$4.2 billion animal drug and vaccination market, dominated by companies such as Bayer AG, Pfizer Inc and Abbott Laboratories. With more than 9 million kg shovelled into US livestock each year, the US Food and Drug Administration (FDA) isn't interested in requiring farmers to follow the same rules for their animals as, say, doctors for their patients. Linda Tollefon, deputy director of the FDA's centre for veterinary medicine called Professor Gorbach's suggestion 'a laudable idea, but impractical.'

Norton admits data doctoring

US Interior Secretary Gale Norton has said 'we made a mistake' in mis-characterising patterns of caribou calving when reviewing how oil drilling could affect Alaska's Arctic National Wildlife Reserve. Norton admitted the mistake after leaders of Public Employees for Environmental Responsibility released draft documents from the Fish and Wildlife Service – an agency Norton oversees – showing that the Interior Secretary had substantially altered the agency's findings.

In her initial remarks, Norton said that in regard to porcupine caribou, 'concentrated calving occurred primarily outside the 1002 Area [designated for drilling] in 11 of the past 18 years.' However, the Fish and Wildlife Service report shows that caribou herds do appear to have been adversely affected by oil development in the Prudoe area.

Norton also said that the 11 September attack had strengthened the administration's determination to reduce US reliance on foreign oil. She complained that the US even imports oil from Iraq, thus funneling \$4 billion a year into Saddam Hussein's economy, which might explain how he affords to be a US-recognised sponsor of terrorism ■



US airline bail-out brings EU 'open skies' nearer

Six weeks after the terrorist attacks on the US, transatlantic air traffic is down 36 per cent and papers are reporting airline job cuts and bailouts on a daily basis. In response, the US, which regularly lectures Europe on the evils of state intervention, has bailed out its airline industry with a \$15 billion package, \$5 billion in direct subsidies to offset losses and \$10 billion in loan guarantees.

On this side of the Atlantic, however, the EU and, specifically, Loyola de Palacio, the commissioner responsible for EU transport policy, have been reluctant to follow suit. This is understandable, given de Palacio's mission to liberalise the skies (see *Campaigns, Climate Change Special Issue*, November 2001). Concerned that US airlines will use subsidies to undercut European rivals, the French and the British are in talks with the US aimed at increasing their market share.

The US has 'open skies' treaties with 53 countries, allowing airlines to fly to any airport in the US, and on the schedule, and vice versa. A joint venture between BA and American Airlines would create the most powerful force on the North Atlantic routes, dominating services and dramatically increasing the number of flights between the US and London Heathrow, where the controversial fifth terminal is poised for approval. Rod Eddington, BA's chief executive has lobbied both the US and UK governments to open the skies before 2002.

The 'anti-subsidy' European Commission has approved a £250 million loan to Rolls-Royce to develop engines for the Airbus A380 super-jumbo. The UK has committed £530 million to develop the A380 as part of state funding provided by the UK, Germany, France and Spain ■

World Bank ombudsman damns Uganda dam project

In late October, the World Bank's directors approved an investigation by the inspection panel of a claim against Bujagali Falls Dam on Uganda's White Nile (see *Campaigns*, vol 30/5). The decision follows a report by the Compliance Advisor Ombudsman (CAO) of the World Bank's private sector arm, the International Finance Corporation (IFC). The report describes serious outstanding issues concerning the dam and recognises many of the issues raised by Ugandan NGOs. It also noted that there is a 'lack of conclusive evidence' that the Bujagali Hydropower Project is the least-cost option for supplying electricity to Uganda.

'Questions exist as to how the IFC assessed and screened alternatives, especially vis-a-vis how "least-cost" was defined, and how affordability was determined for poorer sectors of Ugandan society, 90 per cent of whom would still not have direct access to electricity 10 years from when the dam is completed,' the report states.

The CAO, which addresses concerns of people affected by IFC projects, investigated Bujagali Dam in response to a complaint filed by the Ugandan National Association of Professional Environmentalists last June. The complaint detailed a number of issues concerning the economic, environmental, social and cultural impacts of the project.

The proposed Bujagali Dam would have a generating capacity of 200MW. Its reservoir would displace more than 700 subsistence farmers and affect 8,000 more. The project is being promoted by the US energy giant AES, which is hoping to receive a \$70 million partial-risk guarantee from the World Bank, and \$85 million from the IFC to construct the dam. The IFC's investigation will evaluate whether or not it will financially support the project.

For more information visit: irn.org/programs/bujagali/.

STAN AT EASE by Stan Eales

ANTHRAX



Nuclear 'red herring' makes mockery of MOX

Technically, British Nuclear Fuels Limited (BNFL) is bankrupt. It has clean-up bills estimated at up to £34 billion, and liabilities for decommissioning its ageing power stations and disposing of the radioactive waste over the next 100 years. These liabilities are increasing every year, so BNFL has asked its one remaining friend, the UK government, to help resolve the issue.

In late September, BNFL received a boost when the government approved the £470 million mixed-oxide fuel (MOX) plant at Sellafield in Cumbria, thus safeguarding the future of the entire nuclear reprocessing site – said BNFL. The decision is good for a company trying to improve its image and stock value – with hopes of being partially sold off in a couple of years time. Sellafield does earn cash from its waste processing operations (see also this month's *Campaigns*) but these too have been hit by the company's bad reputation. Luckily for BNFL, in late October energy minister Brian Wilson embarked on a mission to assure Japan, once BNFL's biggest customer, that the company is back on track after the damaging data falsification scandal of two years ago. Lucrative Japanese

contracts could account for half the business of the new MOX plant.

In October the Irish government, in an unprecedented move, asked the International Tribunal on the Law of the Sea to block the opening of the MOX plant. Joe Jacob, the Irish minister for nuclear safety, said the UK had withheld information on the plant and did not carry out a proper environmental risk assessment concerning transportation and discharge of radioactive materials. Meanwhile, Friends of the Earth and Greenpeace are contesting the validity of the plant's operating licence under European law. BNFL's long-term strategy is expected by the end of the year – a fascinating read no doubt, especially in the light of a new report from the Carbon Trust, which aims to present a strategy for UK CO₂ emission reductions. According to the report: 'Nuclear is a red herring in this debate. You can achieve your low-carbon economy without nuclear. It's not necessary to meet the targets.'

Will Tony Blair accept the findings of the Carbon Trust report? He should. He commissioned it ■

the other.'
Süddeutsche Zeitung.

'Now that the shock has worn off and it's clear there is a huge pile of money sitting out there, no lobbyist can resist trying to get a piece of that for their clients.'

T R Goldman, who monitors Washington lobbying for the newsletter *Influence*.

'We fight the war on two fronts. Part of the war we fight is to make sure our economy continues to grow.'
George W Bush.

'We are actively involved in trying to tone down the most extreme positions, to try to get agreement in Doha on a substantial political declaration which reconciles the flexibility on the Trips agreement with developing countries' need for access to drugs and the need to guarantee innovation in research.'
Pascal Lamy EU trade commissioner.

'Imperialism is a dirty word, but when Tony Blair is essentially calling for the imposition of western values – democracy and so on – it is really the language of liberal imperialism. Political globalisation is just a fancy word for... imposing your views and practices on others.'
Niall Fergusson, professor of political and financial history, Oxford University.

'The convergence of financial and terrorist interests, apparent particularly in Great Britain and Sudan does not appear to have been an obstacle with regard to the objectives pursued (by Bin Laden).'
From the French parliamentary report on 'dirty money'.

'Great Britain does not co-operate with European countries and offers a totally unacceptable haven for criminal funds.'
Arnaud Montebourg, main

continued opposite

TAKING THE MAC

Health officials in Buenos Aires have asked a court to fine McDonald's up to \$500,000 after tests showed beef and chicken burgers at four restaurants to be tainted with the potentially deadly *E. coli* bacteria.

SIEMENS SCHROEDER ALLES

One would think that in a country so sensitive to democracy and as 'Green' as Germany, overwhelming official evidence against an ecologically and socially disastrous project would win. Unfortunately, Chancellor Schroeder answers to a higher calling – profiteering.

In late October, the Chancellor overrode opposition by both the Ministry for International Development and the Ministry for Exterior Affairs, both resisting moves to guarantee a loan to Siemens to participate in the construction of the controversial Tehri dam in India. Nor did it seem to matter that in April, Hermes, the German Export Credit Department, had introduced guidelines that for the first time included an ecological impact assessment. And it certainly did not seem to matter that at least 100,000 people will be displaced for the lands that support their living. What might have mattered was that Chancellor Schroeder's decision came only a few days after he had boarded a plane for an official visit to India upon which he was accompanied by none other than Siemens chief Heinrich von Pierer. However, this is all water under the bridge, so to speak. By the time you read this, the flooding of the city of Tehri will already have started.

BSE RISK IN SHEEP

In October, the Scientific Steering Committee (SCC), advising the European Commission on BSE, said that one could not exclude the risk that sheep were fed with potentially infected meat-and-bone meal in the past, and reaffirmed their view that the possibility that BSE is present in sheep cannot be discounted. They recommended urgent testing on sheep and goats to detect whether an animal is infected with a Transmissible Spongiform Encephalopathy (TSE), which can be either BSE or scrapie. The press release did not say which scientific body would conduct the new tests.

KILLED IN THE NAME OF...

One of Mexico's most respected human rights lawyers, already threatened in the past, was shot on 19 October. Digna Ochoa, a defender of the country's Zapatista rebels, peasant environmentalists and other activists, was found dead in her office in Mexico City. Ochoa won prominence for defending high-profile suspects in political cases, but also defended peasants and street children. Much of her work focused on representing political activists who were victims of persecution on the Pacific coast of Guerrero, site of many of the country's most violent conflicts and home to the Popular Revolutionary Army. She also led the defence of two peasant environmentalists, Rodolfo Montiel and Teodoro Cabrera. In 2000, she was awarded the Amnesty International Enduring Spirit Award. According to Mexico City's attorney-general's office, investigators are focusing on possible military participation. For more information and a letter writing campaign asking for a thorough investigation visit: www.globalexchange.org/campaigns/mexico/digna102201.html.

ELF RISK

TotalFinaElf faces a criminal law suit by French lawyer Guy Debuissou, who claims that the company deliberately flouted security regulations at the Toulouse factory, where a recent explosion caused 29 deaths and more than 2000 injuries. According to Agence France Press, the lawsuit cites TotalFinaElf chairman Thierry Desmarest, the manager of the chemical plants in Toulouse, and the company itself. 'The incident happened because a number of safety provisions were not respected,

something that amounts to criminal negligence,' said Debuissou. TotalFinaElf has set up an investigation to determine the cause of the accident. The factory managers deny Debuissou's accusations.

THE FINAL FUN-TIER

Three companies are competing for a \$17 million tax credit to build a space port in western Oklahoma. The proposals, submitted to the Oklahoma Space Industry Development Authority (www.state.ok.us/~okspaceport/), include commercial space travel – including suborbital flights and using balloons to lift rockets 30km into space, from where they could be launched.

PAYING ON FEAR

Public Citizen is challenging San Diego-based SureBeam Corporation for falsely claiming that its food irradiation technology can kill anthrax bacteria. 'SureBeam has made these claims without any supporting scientific evidence that the company's "electron-beam" irradiation equipment is capable of killing the anthrax bacteria or its spores,' reads Public Citizen's news release. 'In fact, radiation is ineffective against anthrax spores, called "endospores", which are surrounded by numerous thick layers of material including protein and calcium.' According to San Diego's *Union-Tribune*, 'This is something SureBeam... have done before.'

CASPIAN PIPELINE OPENS

As the US entered its second week of bombing Afghanistan, oilmen gathered in Moscow to celebrate the loading of the first tanker of oil from a new Caspian pipeline. The 1,580km pipeline – which for security reasons runs underground – is expected to



MARK KAVANAGH

transport 28–67 million tonnes of oil per year from Kazakhstan to the Russian city of Novorossiisk on the Black Sea. Richard Matzke, vice chairman of ChevronTexaco Corp and overseer of the company's \$10 billion Tengiz oil project, said the company 'doesn't anticipate' any security threats from the unrest in Afghanistan. 'No investment plans are changing' because of the conflict, added Ian MacDonald, president of ChevronTexaco in Russia. TotalFinaElf says it is 'business as usual' at nearby Kashagan, which is estimated to be the biggest oil find since Alaska's in 1967.

CYANIDE LAYS WASTE TO RIVER LIFE

A spillage of thousands of cubic metres of mine wastewater contaminated with cyanide and heavy metals has hit western Ghana. The cyanide-containing waste contaminated the River Asuman when a tailings dam ruptured at a gold mine operation owned by South African company, Goldfields Ltd.

According to the Environment News Service, hundreds of dead fish, crabs and birds have been seen on the river's surface and banks. Virtually all lifeforms in the river and its tributaries have been destroyed. The river was the main drinking water source for two nearby villages. Whilst villagers say that the spill was caused by design flaws and heavy downpour, Goldfields says it was due to a dislodged pipe, insisting that the cyanide in the river was 'insignificant and could not have been injurious to aquatic life let alone human life.' Goldfields claimed that it was the chlorine used to neutralise the toxicity of the cyanide that caused the death of the fish.

NEPAL SUFFERS TRUE COST OF PHARMACEUTICAL PRODUCTS

A dozen activists from India, Germany and the UK, together with Nepalese agricultural technicians, recently completed the containment of a stockpile of highly toxic obsolete pesticides exported to Nepal by multinationals including Bayer, Sandoz, Shell, Rhone Poulenc, Du Pont, Union Carbide (Dow) and Monsanto. The most dangerous substances found at the site

originated from Bayer and included highly toxic chlorinated organomercury compounds, banned for use in the EU since 1988. The obsolete pesticides were inadequately stored and rotting away in a warehouse at the National Agricultural Research Council, threatening the health of residents and livestock in the area as well as local water supplies, irrigation systems and soil. For more information visit: www.CBGnetwork.org

ICE 'FROM' ESKIMOS?

Qikiqtaaluk Corporation, which organises development initiatives on behalf of native Inuit beneficiaries in the Qikiqtaaluk region under the Nunavut Land Claims Agreement, plans to sell icebergs to Japan. According to the Environmental News Service, the icebergs would be melted, bottled, and marketed to consumers who want clean drinking water and a taste of the 'exotic' Arctic. 'This water was frozen in some cases 10,000 years ago, when there wasn't any pollution. So what people see is a way of going back in time and getting water that doesn't come with any contamination,' says Mathew Spence, Qikiqtaaluk Corp's venture development manager.

RAIN KEEPS FALLING...

Researchers at John Hopkins University, studying the relationship between heavy rainfall and outbreaks of waterborne diseases, report that roughly 24 per cent of the reported outbreaks in the US between 1948 and 1994 resulted from surface water contamination and 36 per cent from groundwater contamination.

According to *Environmental Science & Technology*, sources of contamination include leaky septic tanks and agricultural runoff. Sewer systems and treatment plants, designed to discharge excess wastewater directly into surface water during periods of heavy rainfall or snowmelt aggravated contamination.

With projections of more heavy rainfall due to climatic disruptions, the scientists warn that it is plausible that increases in rainfall and runoff intensity will result in more contaminated water sources.

THE CASE FOR MORE SEWAGE?

Researchers and scientists from the University of Minnesota have had an ingenious idea. They placed male minnows in treated sewage water. Guess what happened? The minnows developed female characteristics – a sign of 'something' fooling the hormone systems. But what? Interestingly, male walleyes, a species of fish found in the Mississippi River were found to be sterile, apparently from estrogen-like compounds from a sewage plant.

ILLEGAL LOGGING IN BRAZIL

In late October, Greenpeace called on the UK Government to seize imports of Brazilian mahogany coming into ports and for retailers, including Harrods and the John Lewis partnership, to remove mahogany products from their stores.

The Brazilian government estimates that 80 per cent of logging in the Amazon is illegal and it has now called for an official investigation into the rampant illegalities in the industry with a suspension of all transport and export of the wood.

Partners in Mahogany Crime, a report by Greenpeace, reveals, amongst others, illegal mahogany logging on Indian land, the use of fraudulent documents and falsified inventories and the link between the mahogany business, political corruption, money laundering, death threats and murder.

ELECTRICI-TREES

Professor Bernhard Witholt, chairman of the Institute of Biotechnology at Zurich's ETH, says that future power shortages could be solved by trees and 'plants that produce electricity from sugars... or directly via photosynthesis, so that energy could be brought everywhere on earth via small dispersed systems that everyone can build by planting a few seeds.'

Depending on the number of such trees planted, electricity could be grown to run a fridge or even a household. According to Dr Stefan Marcionowski of BASF, electric trees would also come in handy at Christmas, and may even 'revolutionise the Christmas industry.' And you thought it was a religious celebration.

author of the 'dirty money' report.

'It is time for Mexico to reach out to Ottawa... and it is time for Canada to show some interest in us and get over its petty jealousies.'

Fernandez de Castro, a NAFTA specialist at Mexico's ITAM University.

'I can rule out the possibility of Chinese protesting – they appreciate that you only get to host this event once every 22 years.'

Xu Kuangdi, Shanghai's mayor, regarding the Apec meeting.

'Practices that destroy whole mountain ranges and entire landscapes have a real danger of destroying communities.'

Robert F Kennedy on mountain-top coal mining.

'Public-private partnerships involving governments, foundations, private companies, and non-governmental organisations have proven to be valuable allies in fighting the infectious diseases and epidemics that ravage the world's poorest and most vulnerable communities.' Joseph A Cook for the Pfizer Forum.

'The Pesticide Safety Directorate's (PSD) annual budget for 2000/01 was £11.2m, £6.3m of which was supplied by the agrichemical industry in the form of pesticide approval levies and fees. Theoretically, if the Advisory Committee on Pesticides (ACP) stopped approving pesticides or did so too slowly, the UK's pesticide surveillance system might run out of funds.'

Joanna Blythman, the *Guardian*.

According to WWF, government subsidies to the fishing industry amount to at least \$15 billion per year, or roughly 20 per cent of the total landed value of the world's commercial fish catch.

campaigns

- British nuclear fools • What the Exxon in Russia • British Christmas fear • Scottish schools in spin
- Indian stink • UK dam-nation • Papuan oil deaths

UK Where to dump nuclear waste?

This autumn, the Department for Environment, Food and Rural Affairs (DEFRA) published a consultation paper inviting discussion into how radioactive waste should be disposed of in the mid-21st century. The mid-21st century? What about today? And how are we going to deal with the predicted 500 per cent increase in nuclear waste in 10 years' time even if no new nuclear power stations are built?

Crich is a small village on the edge of the Peak District in Derbyshire and home to Hilts Quarry, a landfill site owned by Rolls-Royce Marine Power Operations Ltd (RRMPOL). Since the mid 1960s, RRMPOL has been burying enriched uranium, cobalt-60 and carbon-14 in Hilts Quarry. Most of the waste, a by-product of building the Royal Navy's nuclear submarine fleet's reactor cores, was 'free tipped' into holes dug 2 metres deep in foundry sand. But the quarry is like a sieve – it is unlined and it is formed from fissured limestone. Furthermore it is situated on top of a hill, just 50m from a primary school.

A year ago, RRMPOL submitted applications to the Environment Agency for re-authorisation of the licences for their two Licensed Nuclear Sites at Raynesway, Derby. A section of these applications deals with the disposal of radioactive waste.

In response, a public meeting was called, at which concerned local residents and politicians formed



DAVID LANE

the Crich & District Environmental Action Group.

Although RRMPOL's own test results appeared to show that cobalt-60 was escaping into the local streams, it did not tell the Environment Agency, as it had conveniently decided that the results were erroneous. Other tests have also shown sharply increasing levels of enriched uranium and thorium in the river silt. Neither Rolls-Royce nor the Environment Agency were able to give any assurance that the testing regime was robust, and the Action Group felt that the available evidence demonstrated that RRMPOL did as little as they could get away with. The Action Group, which represents the whole community, has

blockaded the entrance to the quarry since 10 July, preventing RRMPOL delivering waste on all but two occasions. Despite arrests, they have held a protest march and are continuing to lobby local, national and European politicians and the Environment Agency to take this problem seriously.

No community should have to live with the fear that radioactive waste brings. The government must face up to the growing problem of nuclear waste; it must be persuaded to re-think the case for and against the sort of activities that produce and accumulate nuclear waste; and it must introduce a disposal strategy for current waste that is safe now and in the future.



Write to your MP (find him/her at www.locata.co.uk/commons/); say that you don't want your community to suffer in similar ways; ask them to talk to Crich Village's local MP, Judy Mallaber, about the issue. Write to Michael Meacher; express your concern about the projected 500 per cent increase in waste. Ask him how he can guarantee your safety. Write to: DEFRA, Eland House, Bressenden Place, London SW1E 5DU. For more to support your argument, visit www.hiltsquarry.co.uk. Please copy your letters, faxes and emails to CDEAG, Poplar Cottage, The Dimple, Fritchley, Belper, Derbyshire, DE56 2HP, UK; email davidmtlane@hotmail.com; fax +44 (0) 1773 852247.

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RUSSIA Exxon vs the whales

In late October, ExxonMobil announced that it will go forward with the Sakhalin-1 oil drilling project off Russia's Sakhalin Island, located north of Japan. With an investment of \$12 billion of foreign capital, it is projected to be the largest foreign direct investment in Russia to date.

The Sakhalin-1 project is fraught with environmental perils. A pipeline will pass through streams containing sensitive salmon spawning grounds. The seas around Sakhalin are treacherous and frozen for a large part of the year; ExxonMobil plans to use icebreakers to allow for year-round tanker traffic, raising grave concerns about the potential for a serious oil spill. And the area is one of the most seismically active in the world, creating a series of hazards.

Especially worrisome are the threats to the critically

endangered Western Pacific gray whale, of which only 100 are left. The gray whales spend 5 months a year feeding in a narrow strip near the shore of Sakhalin where ExxonMobil plans to drill for oil. In recent years, scientists have observed a number of apparently underweight whales, leading some to believe that oil exploration and production in the region have already had a negative impact on the animals.

ExxonMobil carried out seismic testing for oil this summer, while the gray whales were feeding near Sakhalin. A telegram from the Russian Ministry of Natural Resources ordered a stop to the seismic testing, but it was ignored by pro-development local officials and by ExxonMobil in a direct snub to Russian law. ExxonMobil claims that, although it knew about the

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Write to: Lee F Raymond, Chairman, ExxonMobil, 5959 Las Colinas Blvd, Irving, TX 75039-2298, USA; fax: +1 972 444 1350. Tell him that it is imperative

that ExxonMobil abide by Russian law. Tell him that ExxonMobil should take action to protect this internationally recognised, critically endangered population of gray whales by halting its plans to build a pier in the grey whale habitat and by preventing human-caused impacts to the whales while they are feeding offshore of Sakhalin. Please send a copy of your letter to Pacific Environment at info@pacificenvironment.org or by fax at +1 510 2518838. For more information visit www.pacificenvironment.org.

telegram, it was never officially informed that it should stop its seismic testing. Scientists observing the gray whales this summer observed a significant displacement of the whales from their primary feeding ground after the start of seismic exploration.

Plans for the project also include a pier in the middle of the gray whale habitat to transport equipment to shore. The pier will attract significant ship traffic, further disrupting gray whale feeding.

ExxonMobil is not alone in its development of Sakhalin's oil resources. Shell Oil leads the Sakhalin-2 consortium, which has been producing commercial oil since 1999. Shell's project has come under fire from local environmentalists for harming the region's rich fisheries populations.

However, Shell is now planning to expand its operations. Together these oil companies are putting the rich marine environment of Russia's Sea of Okhotsk in grave danger.

UK Christmas is coming...

Every year 6 million turkeys are slaughtered in the UK, simply to meet Christmas demand. Most

turkeys are reared in windowless sheds with up to 25,000 other birds and have so little space that moving becomes an overly stressful challenge that can induce aggression. To prevent this aggression most turkeys spend their short lives in near-darkness. Some are also de-beaked, a process during which young birds have the end of their beak sliced off with a red-hot blade. This process, which can cause life-long pain, is carried out to prevent feather-pecking and cannibalism, behavioural traits which have become rife only under factory farm conditions.

Factory-farm turkeys have been selectively bred to have so much breast-meat that natural breeding has become physically impossible; all reproduction is by artificial insemination. Their bodies are often so heavy that many adult males (which can weigh as much as an 8 or 9 year-old child) suffer from painful

degenerative hip disorders. When ready for slaughter, the turkeys are unloaded from transport crates and hung upside-down from shackles. The law allows the birds to be left hanging like this for up to six minutes before slaughter. The moving shackle line then drags the turkeys through a bath of electrified water that is meant to render them unconscious before their throats are cut, but sometimes struggling birds' heads miss the bath entirely, leaving them fully conscious during throat-cutting. Some are even still alive when they enter the feather-loosening scalding tank. Moreover, it

is common for their wings to hang down below their heads resulting in painful electric shocks from the electrified water.

The life of an intensively farmed turkey is a world apart from that of its ancestors. Originally a native of America, the common turkey is a sociable and curious bird. In the wild, it will live for around 10 years and like chickens, turkeys roost in trees as soon as they are able to fly, and dust-bathe to clean their feathers. None of these natural behaviours are possible within the squalid and cramped conditions of the factory farm.



Write to Elliot Morley, Parliamentary Secretary, DEFRA, Nobel House, 17 Smith Square, London, SW1P 3JR. Explain the suffering of intensively farmed turkeys and ask him to introduce legislation to prevent routine mutilations, reduce stocking densities, and end selective breeding. If you are buying turkey this Christmas, choose free range/organic or consider a cruelty-free vegetarian alternative. Copy your letters to: Compassion in World Farming, Charles House, 5a Charles Street, Petersfield, Hampshire, GU32 3EH. Tel: +44 (0)1730 264 208 or visit www.ciwf.co.uk

make a
difference

5 online campaigns

1 www.sunshine-project.org/action/powell.ncik

On 6 December the world's leaders will meet to restart the dialogue for complying with the Biological and Toxin Weapons Convention. Send a message to Colin Powell to encourage sensible US policy on biological weapons control.

2 www.animalfeed.org.uk

Without the knowledge or consent of the British public, genetically modified material has been in our farm animal feed for the past four years. Up to three-quarters of the world's GM crop is fed to farm animals, including dairy and beef cattle, pigs, sheep, chickens, and even Scottish farmed salmon. Press for change!

3 www.smut.org.uk

London's famous Spitalfields Market is still under threat – save it for good!

4 www.saveorcahales.org

Take responsibility for the survival and recovery of the orca population.

5 www.stopwar.org.uk

Campaign to stop the bombing, find out about local and national events, and get the whole story.

Please send your campaign websites to Stephanie Roth at: The Ecologist, Unit 18, Chelsea Wharf, 15 Lots Road, London SW10 0QJ, UK.

Tel: +44 (0)20 7351 3578.

Fax: +44 (0)20 7351 3617.

Email: campaigns@theecologist.org

SCOTLAND Genetically modified textbooks

Anti-GM campaign group Scottish Genetix Action is demanding that a biotechnology industry-funded magazine on GM crops should not be distributed in Scottish schools. The magazine, *Your World*, is a US publication funded by the Biotechnology Institute, whose members include Monsanto and Novartis. Targeted for a launch in Scottish schools by Scottish Enterprise, it is a piece of blatant pro-biotechnology propaganda, with the biotech companies behind the magazine turning the provision of education into a marketing opportunity.

It is imperative that the topic of GM crops is recognised as highly controversial, not least since opinion polls throughout the UK and Europe suggest the majority of people are opposed to it. Experience tells us that these corporations can not be trusted to be impartial with the

education of children. These are the very same companies that have used stealth and deception to introduce GM food crops into the food chain and the environment. They have backed their actions with continual misinformation campaigns, of which *Your World* is just another part.

The silence on the issue has been deafening from the Scottish Education department. Nor are Scottish Enterprise, with their close industry links, and their pro-business agenda, best placed to initiate a balanced discussion on this issue. By linking with the Biotechnology Industry Organisation, they have taken a stance and declared themselves pro-GM. What's more, if *Your World* and the one-sided interests it represents begin dictating the education agenda it will set a dangerous precedent.

make a difference

Write to: Jack McConnell, Minister for Education, The Scottish Parliament, Edinburgh EH99 1SP; email Jack.McConnell.msp@scottish.parliament.uk. Peter Lennox, Network Head of Biotechnology Scottish Enterprise, 5 Atlantic Quay, 150 Broomielaw, Glasgow G2 8LU; email: peter.lennox@scotnet.co.uk. Ronnie Smith, General Secretary, Educational Institute of Scotland, 46 Moray Place, Edinburgh, EH3 6BH; email: rsmith@eis.org.uk. Please copy your letters to Scottish Genetix Action, PO box 2619, Baillieston, Glasgow, G69 7WA or email scottishgenetix@ziolip.com. Visit Norfolk Genetic Information Network on members.tripod.com/~ngin/11101b.htm for a perfect sample letter.

ANDAMAN ISLANDS/INDIA

Get off their land

The Jarawa of the Andaman Islands in the Bay of Bengal live on a reserve created in 1957 (see *Campaigns* vol 30/7). Unfortunately the islands' main road runs straight through the middle of the reserve. In recent years many thousands have come from the Indian mainland to settle on the islands, and thanks to the road, they are steadily encroaching upon the reserve. Furthermore, many of the settlers enter the reserve's dense forests to poach the game on which the Jarawa depend for food. Recently, these raids have intensified causing at least one Jarawa group to leave its home territory.

The Indian government originally planned to forcibly settle the Jarawa in 'villages'. Thankfully Survival's campaign against this has been, for the moment, successful: an Indian court has issued a temporary order to the local administration to halt these plans, stop intrusions into the Jarawa's territory and suspend a planned extension of the road through the reserve. But the order is only temporary and a special committee will still decide whether or not to resettle the Jarawa in the future. In the meantime incursions into the Jarawa's lands have increased dramatically. And now tourists, for the most part backpackers ironically seeking to get off the beaten track and discover this as yet relatively unspoiled paradise, are also illegally entering the reserve along the road.

The Jarawa are nomadic hunter-gatherers, who, despite the arrival of settlers on their islands, have resisted contact with outsiders. They number between 200 and 400 people and no one outside the tribe speaks their language. Until recently there were practically no peaceful contacts between the tribe and outsiders.

The other tribe on the islands, the Sentinelese, are similarly threatened. They have the advantage of living on an otherwise uninhabited island, and have maintained an even greater degree of isolation than the Jarawa, reacting with hostility to attempted boat landings. The government says it has abandoned plans to contact them



— yet both poachers and government employees have recently visited the island, their very presence threatening the Sentinelese with epidemics of disease.

The Jarawa and the Sentinelese are extremely vulnerable. Their right to own their own lands, enshrined in international law, is being ignored. The Indian government must take immediate and responsible action to protect their land from settlers, poachers and tourists, or many, if not all, of them are likely to die.

Please write a brief and polite letter or fax asking that:

- The government recognises the rights of the Jarawa and the Sentinelese to the communal ownership of their land and resources, and to make their own decisions about their future, without having another way of life forced on them.
- The authorities must act now to prevent all incursions into the Jarawa reserve and onto the island of the Sentinelese.
- The illegally built 'Andaman trunk road' through the Jarawa reserve must be closed and settlers removed from their territory.

Write to: Mr L K Advani, Home Secretary, Ministry of Home Affairs, Government of India, North Block, Central Secretariat, New Delhi – 110 001, India; fax: +91 11 301 5750 or 7763. Mr N N Jha, Lieutenant Governor of the Andaman and Nicobar Islands, Raj Niwas, Port Blair 744 101, Andaman Islands, India; fax: +91 3192 32656. Please copy your letters to: Survival International, 6 Charterhouse Buildings, London EC1M 7ET, UK; fax: +44 (0)20 7687 8701. For more information visit www.survival-international.org.

SOPHIE GRIGS/SURVIVAL

TURKEY/UK

Build dams, and damn everyone else

In late October, the *Sunday Times* published an article stating that Prime Minister Tony Blair was poised to approve export credit guarantees for the controversial £1.25 billion Ilisu Dam in Turkey (see *Dam-busting*, vol 30/6). According to the article, Whitehall sources claim Downing Street is putting pressure on Patricia Hewitt, Secretary for Trade and Industry, to 'find' economic and social reasons to grant the guarantees. The reason is simple – two years ago her predecessor, Stephen Byers, announced a 'fundamental' review of the Export Credits Guarantee Department (ECGD). In the review, the ECGD – which would guarantee the £200 million credit for Balfour Beatty's participation in the Ilisu dam project – acknowledged that the use of taxpayers' money to underwrite transactions means that it must be more transparent in all its dealings. It proudly introduced new 'ethical' criteria to be used when considering support, which include the environmental, social and human rights impacts.

Whatever the government might 'find', the evidence against the construction of the Ilisu dam on the grounds of its environmental, social and human rights impact is overwhelming. Furthermore, no less than both the

Foreign Office and the Department for International Development are firmly opposed to the project, and the official environmental report, released in early autumn, was so bad, indeed so embarrassingly incomplete, incoherent and, in many cases, wildly inaccurate that not even the dam's proponents can authoritatively draw on it. If he is to adhere to the ECGD's new guidelines the only way that Mr Blair can give the project the go ahead is if he can convincingly prove that the purported beneficial social and economic impacts outstrip the vast negative ones. To this end, Patricia Hewitt has been told to push figures that show only one in five Turks in this area have electricity and only 5 per cent have piped water.

But what about the 'true' social and economic impacts? In early November, Kurdish protesters again called on the UK government to not support the project, which would displace up to 100,000, mostly Kurdish, people. Hasankeyf, the largest settlement in the area, would be flooded, despite the fact that it has a history going back 10,000 years and is an important cultural centre for the Kurds. What's more, no resettlement plan has been agreed and there has been minimal

consultation with the people directly affected.

The *Sunday Times* article claimed the Prime Minister's support for the dam is said to have sharpened because of the need to secure Turkey's support for the war against the Taliban in Afghanistan (see *News*, page 14). Turkey's airbases are seen as vital if the war against terrorism is expanded to include Iraq, and Blair believes that any future UN peacekeeping force in Afghanistan would be greatly strengthened the presence of by Muslim Turkish troops.

make a difference

Please put pressure on Tony Blair by phoning or writing to your MP (find him/her www.locata.co.uk/commons/). Urge them to condemn this piece of squalid opportunism. Copy your letters to: Ilisu Dam Campaign, Box 210, 266 Banbury Road, Oxford, OX2 7DL, or email ilisu@gn.apc.org. Visit www.ilisu.org.uk for detailed argument ammunition.

WEST PAPUA/UK

Dying for our oil

Around one million tribal people live in the mountains and jungles of the Indonesian colony of West Papua. They span many diverse cultures and live in harmony with the land of which they see themselves to be an integral part. Unfortunately these peoples, their way of life and the very lands they live on have been under ceaseless attack from oil, logging and mining companies, all protected by the Indonesian military (see *Focus*, vol 31/7).

However, the Papuans have not just lain down and accepted being forced off their land by massive industrial developments. Rather they have set themselves up as the OPM (Free Papua Movement) to resist the Indonesian army and its Western arms. In the course of their struggle, over 200,000 Papuans have been killed – nearly one-fifth of the entire population.

They may have died in Papua, but the trail of their blood flows all the way to petrol pumps in the UK. Conoco – known in the UK as

Jet Petrol – is pushing ahead with oil drilling in the Lorentz National Park, south of West Papua. Lorentz National Park is so valuable it is classified as a UNESCO Biosphere reserve; encompassing more than 2 million hectares of wilderness, including snow-capped Mount Jaya. All seven of West Papua's major environments are represented in the park, from Alpine regions and glaciers, down through upper and lower mountain forests to grasslands and mangrove swamps. The reserve is home to more than 350 bird species (20 endemic) and at least 123 mammal species. It is also is home to Papuans from eight tribes.

Houston-based Conoco (www.conoco.com), formerly a unit of chemical giant DuPont, explores for oil and gas in 20 countries and owns or has stakes in nine



OPM SG (BRIGHTON)

refineries in the US, Europe, and Asia. The company operates more than 7,000 gas stations in the US, Europe, and Thailand. Its power division also markets and trades electricity and gas and develops and builds power plants.

For the last year Conoco/Jet Petrol has been drilling in the park. In resistance, tribes occupied the drilling equipment until the Indonesian military started killing local people. Since then villages have been raised, river systems polluted

and forests cleared. This is only the beginning. So far Conoco/Jet Petrol are 'only' carrying out exploratory work – the situation will become far worse when the actual extraction starts. Papuans believe that action and boycotts in the West in support of their grassroots struggle could force Conoco out of Lorentz. Otherwise they fear Lorentz will go the way of other parts of West Papua; devastated by the deadly partnership of oil exploration and military conquest.

make a difference

Write to Jet/Conoco telling them you are boycotting them and why:

Gregg Goff, Conoco Centre, Warwick Technology Park, Warwick, CV34 6DA or call +44 (0)1926 404 000. Copy your letters to Archie W Dunham, Chairman, President, CEO, & Director, Conoco, 600 N Dairy Ashford, Houston, TX 77079, USA. Please copy your letters to: OPM SG (BRIGHTON), 43 Gardner Street, Brighton, BN1 1UN; email: opmsgbrighton@yahoo.co.uk. For more information visit www.eco-action.org/opm/.

Can Lord Haskins' proposal revive

PHIL ROTHWELL AND MICHAEL HART DISCUSS THE PROPOSAL TO END PRODUCTION

Dear Michael

The British countryside is a unique landscape which has been formed through centuries of farming. What will it look like in the next hundred years?

The 1950s food production mantra looks bizarrely out of place in a 21st-century industry. Even more perverse is the fact that, despite vast quantities of money pouring into the agriculture sector, farm incomes continue to plummet and fewer and fewer people work on the land. No other industry in the last 100 years has received such generous treatment at the hands of the taxpayer, and successive governments have failed to grasp the nettle of reform.

'Ministers have been raiding the Treasury for years to support an industry which is failing to deliver for the environment, for consumers, and for farmers...'

MAFF (now DEFRA) ministers have been raiding the Treasury for years to support an industry which is nevertheless failing to deliver, for the environment, for consumers, and for farmers themselves.

Perhaps now the writing is on the wall. With ministers prophesying the end of production support, has the time at last come for a change? If the WTO gets its way will the global free market win out? If so, what will be the impact on our farming industry? Looking into the crystal ball one can see major changes to the UK agricultural picture. Few, if any, UK agriculture sectors can stand on their own feet given a global free trade scenario. Small farmers would largely go to the wall and big farmers will be forced to get bigger. A mixture of further intensification at one end of the spectrum and abandonment at the other. A few cooperatives might form but the history of cooperation amongst the UK farming sector is poor. Traditions die hard, and few farmers are willing to stop producing cheap raw materials for an increasingly dominant processing and retail sector. Innovative farmers who try to add value to their product remain thin on the ground.

Today, consumers, reeling after successive food scares, already pay three times over for their food. Once at the supermarket till, once through their tax bill and again, for instance, when they pay their water bill – for the water companies to remove agriculture's nitrates and pesticides from their drinking water. How much more are they willing to pay and for what in return? To date their compensation has been relatively cheap food across the counter, but the hidden costs are huge – at least equal to those already received by

the farming sector through subsidy. The consumer wants a countryside that is populated and beautiful and worth visiting. They want it to be full of wildlife and they almost certainly didn't want to pay for the massive declines in biodiversity that the CAP-driven subsidy system has caused. The foot and mouth disease crisis demonstrated that the closure of the countryside can have devastating effects on the visitor industry, highlighting how tourism dwarfs the local economic significance of agriculture whilst depending on it for the landscape that people come to see.

We cannot, therefore, afford to lose this management of the countryside, not because of sympathy for the poor small farmer, but because the economic and cultural demands from the people who ultimately pay the bills are such that abandonment is not an option. Neither is intensification and the countryside destruction that it brings. So what is the alternative? We currently pay £208 for every hectare of agricultural land in the UK. Let's redistribute this. Give less to the grain barons who can survive in the world market place and more to the farmer who wants to provide a better deal for the consumer in terms of landscape and wildlife. Let's give a per hectare payment to all farmers who can comply with a simple set of good management standards. Let's provide more money on top of that for those farmers who want to do even more for the countryside. Let's provide extra special top-ups for those whose land provides the raw materials of the tourist industry. And don't let's forget the farmed produce. Few farmers want to be labeled 'park keepers'. But managing the farmed landscape in a sustainable way, producing public goods as well as food, gets back to the real agricultural skills that are being eroded in these days of contract farming. Let's provide training for adding value to produce, incentives to cooperate, and regulation that pressurises the big retailers to provide outlets for local foods and small producers.

In short, we should decide what we want from the farming industry and then decide how to pay for it. I submit that the public do want cheap food, but not at the price of a degraded, wildlife-deficient landscape, with its hidden impact on our pockets. Don't scrap financial support for agriculture, but replace it with a funding structure that supports the countryside that people want. Farming and the countryside can remain economic, with baseline standards to minimise environmental impacts across the board, incentives for wise countryside management and encouragement for added-value produce.

In this way the public will stand some chance of getting the countryside it pays for and wants, the small scale farmers might survive and the tourist industry might have some confidence in its future.

Phil Rothwell



Phil Rothwell is the Head of Countryside Policy for the RSPB

small farms and the environment?

SUBSIDIES AND REDIRECT THE MONEY INTO ENVIRONMENTAL PAYMENTS.



Michael Hart is a small farmer and director of the Small and Family Farm Association

Dear Phil

There's no doubt that the EU and the UK Government are set on chopping back subsidies paid to farmers based on the number of livestock or area of corn they grow. Environmentalists see this as a 'good thing', particularly when it's claimed these production subsidies will be redirected into 'Green' payments for looking after wildlife and the countryside.

So all that money is just going to be transferred across – untouched by the empire builders in Brussels, hoarders at the Treasury or ministers seeking to finance urban voter-pleasing public projects? I don't think so.

But firstly, there's a few assumptions to be challenged. The public and the press, encouraged by the likes of Lord Haskins bad-mouthing farmers as 'mollycoddled', seem to believe that the majority of farmers have enjoyed daily deliveries of public cash. A few have – namely, the biggest, mostly arable, 20 per cent of farmers who've hoovered up 80 per cent of the subsidies – most haven't. And even these 'barley barons' are fairly modest players.

The people who've really worked the system to their advantage are the agrochemical companies, animal feed and pharmaceuticals manufacturers, and even more so the food traders, processors and big supermarkets. Originally intended to sustain an indigenous farming industry that provided the nation's staple foodstuffs at reasonable prices by building in stability to balance out the vagaries of our climate and market fluctuations, the system was soon subverted. The naively optimistic idea was that the food industry would pay a fair price on top of the subsidies, giving farmers a reasonable profit. Instead, subsidies were used as a justification to pay farmers the bare minimum. Demands for farm-gate prices reflecting the real costs of production, have been undermined by buying in cheaper produce off the world market – often grown without any costly environmental or animal welfare restraints. Contrary to its intentions, the system has been manipulated so that the gap between the price paid at the farm gate and what consumers pay at the till is ever-widening. Whereas farmers used to get 50–60p of every £1 of food sold 50 years ago, we now get less than 10p. Also at the trough, the agri-supply industry has profited from flogging chemicals and machinery to farmers desperate to cut their costs – so the whole treadmill has sped on.

What's driven the worst excesses of the past and present system is how others subvert its noble aims – not the principle of supporting food production *per se*. The sectors which get no support – horticulture, pigs and poultry – are probably the least environmentally friendly, and for the latter two, certainly represent the worst in animal welfare.

I fear the noble aims of the RSPB and other conservation bodies in seeing the proposed end to food production subsidies as an opportunity to 'Green' farming are also being subverted by those who don't give a stuff about how many skylarks soar above our fields.

The real force behind the proposed reforms, as you allude to, is the WTO and those who support its aims of a 'global free market'. Take a look at the terms of reference of the Government's Agricultural Policy Commission, charged absurdly with deciding on the future of farming by the New Year. These explicitly state that any advice given must be 'consistent with the Government's aims for CAP reform, enlargement of the EU and increased trade liberalisation'. In

'What's driven the worst excesses of the past and present system is how others subvert its noble aims – not the principle of supporting food production *per se*.'

plainer English, cut rather than redirect money spent on farming (with all those additional eastern European farmers fighting over the smaller pot) and then pit the farmers who are left against super-intensive US prairie farmers and 20,000 head beef feedlots – not forgetting labour exploiting, zero-welfare producers in developing countries.

I'm probably fulfilling your stereotype of a whingeing farmer, seeing only clouds on the horizon. But don't take my word for it, here's Lord Haskins before the spin-doctors got to him:

'Farms will get bigger and that's a good thing. A lot of agricultural reformers, like the Prince of Wales, want farmers to stand around being subsidised and making thatched roofs. Well, that's for the birds. Agriculture has got to strive to be more competitive and more productive.'

He doesn't care much about the value of small and family farms. Nor about birds either. To be blunt, you've got your binoculars on too narrow a field of vision. From where I stand, this looks like a decoy – with the promise of some Greenery designed to keep your powerful organisation onside and its eyes off the bigger game. Haskins and his chums in the WTO are set on a course that will see hundreds of thousands of farmers going out of farming in Europe and millions more in developing countries.

Perhaps you guess this is the reality behind the gloss too – or am I being too pessimistic about your closing phrase, '...the small scale farmer might survive'?

Michael Hart



Dear Michael

You are right, you are beginning to sound like the stereotypical whingeing farmer. In 800 words you couldn't find a positive new suggestion to uplift your depressed industry from its trough of despondency. Not a single new idea that might lead the farming community to believe that there might, just might, be a brighter, different future.

Did you really think that the supermarkets were going to pay you a bit more because you were a subsidised industry? Surely the exact opposite was entirely predictable. In addition, with CAP payments dependent on production, chemical and pharmaceutical companies were bound to cash in on the natural tendency to take as much from the land as possible. You complain that agrochemical companies, feed producers and processors have stolen all the profit. But farmers have compounded the problem! When the Milk Marketing Board was abolished, very few farmers took the opportunity to cooperate for a fairer price, instead they worked independently, chased the extra penny and the processors divided and ruled. Lord Haskins has compared the French and English farming systems for good reason. Most French small farmers are part-time and have other jobs; they cooperate with each other and consequently have a stronger bargaining position and retain more of the money.

The writing is on the wall for product subsidy, forced not just by the WTO but also taxpayers and governments who have poured cash down the throats of agribusiness for the last 50 years. They have little to show for their generosity but impoverished farmers, oversupply of products, and an industry stuck in a cycle of dependency on government handouts, and countryside wildlife subject to the most severe decline for centuries.

However, in order to influence the future the farming lobby must stop harking back to the past and trying to hang on to a subsidy-driven system that has little logic today. The farming community has to engage with the debate in a positive way and provide some solutions instead of the head-in-the-sand style responses, and demands for ever more money, that we get from your leaders today.

I do not share your pessimism that change will just be used as an excuse to pare down the agricultural support budget. There is no evidence of this to date. The UK government and many European ones are pushing hard for wholesale transfer of subsidy support to rural development and agri-environment packages. Half Europe's budget, 40 billion euros, goes to just 2 per cent of the population – farmers. Perversely, I think that the public would be happy with such expenditure if they had confidence in the future management of the countryside and the food it produces.

Let us return to my vision. Farmers will have to change. Some might stop altogether, many might have to go part time, big numbers need to be prepared to cooperate with each other and to add value to the products they produce. They will need to address the quality market, providing locally-produced goods for local consumers and high quality for further afield and export markets. Don't say it cannot be done, look at Scottish whisky.

We should be pressing for a subsidy system where farmers are paid per hectare at variable rates, increasing with environmental and social outputs. Not every farmer will survive but a damn sight more will than would under

a free trade system, or by continuing with the present system, which has so badly failed the farmer, the consumer and the taxpayer. Together we can make a difference, apart we will all be the poorer.

Phil Rothwell

Dear Phil

So I'm pessimistic for suspecting official proposals for farming are more about serving the overarching goal of 'free trade' than meeting environmental priorities? But when the Government's 'Rural Recovery' advisor is quoted along the lines of, '100,000 farmers will have to go', perhaps you'll understand a little scepticism!

Together with Lord Haskins you praise French farmers for their greater cooperation and marketing initiative, but you ignore some key facts: French farmers obtain a bigger share and variety of subsidies than we do – so rather than trying to get rid of its farmers, France has used the new entrants scheme to encourage over 12,000 young people into agriculture over the last 5–6 years. The figure for the UK? Just 72! French farmers also get low interest rates for borrowing. Crucially, laws are in place to ensure farm gate prices meet the costs of production, yet prices to consumers are lower, as retailers accept smaller profit margins than in the UK. Above all, the French public has a much more positive and realistic attitude to food production, recognising it as an essential national industry.

Your organisation has been admirably successful in making the case for birds and their habitats. Mainstream farmers' organisations have also been very successful in making their case, though unfortunately, in my view, in promoting the wrong type of farming, neither good for national food security nor the environment. Yet politicians, and even some environmental organisations, apparently, have been deluded into believing that our food is best provided by bigger, 'more efficient' farmers and the world market place. Hence, this resurrection of the notion of 'twin-track' farming – hell for leather in the east and park-keeping in the hills.

I believe the RSPB signed up to the set-aside policy, which instituted the dangerous myth that too much land and too many people were in agriculture, rather than that some land was being farmed too intensively. Instead of shifting agriculture into more mixed farming as practised by many small and family farmers, a system which inherently benefits the environment, set-aside rewarded big farmers who abandoned their poorest land and farmed the remainder harder. Worse, labour was set-aside and, before the practice was adjusted, many nesting birds also got the chop thanks to the mowing requirements. My point is that the real world is often very different to that drawn up in policy papers. Your proposal for flat area payments to farmers for good management with specific top-ups sounds plausible. But unless rates are adjusted to the size of the holding, it would again disproportionately reward the biggest farms – £200 for 1,000 acres makes a tidy income, across 100 acres it doesn't.

Size matters. You'd expect The Small and Family Farms Alliance to claim particular benefits for the scale and methods of our members' farming systems. A less likely acknowledgement comes from the US Department of Agriculture, whose Commission on Small Farms¹ concluded that the 60 per cent of US farms under 180 acres offered: 'significantly better management of natural resources',

'The farmers that
get their heads
out of the sand
fastest will be the
architects of the
future. Those who
remain in denial,
claiming that a
future without
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be among the
100,000 that go.'

Phil Rothwell

'The solution to the farming crisis is simple: make farming profitable, and promote the type of farming – small, family and mixed farming – that delivers most in terms of sustaining rural communities, as well as the environment.'

Michael Hart

'greater community responsibility', more direct links between producers and consumers and a knowledge source for future generations, as well as general benefits through their diversity of ownership, systems and biological organisation. No such study has been done for the UK.

This multifunctionality of family farms depends on them being going concerns, and that requires, above all, profitability from their main business – food production. One simple step towards achieving this would be to prevent UK supermarkets undercutting domestic production through cheap, unsustainably-produced imports. Yet the WTO Agreement on Agriculture expressly forbids discrimination on the grounds of process and production ie increased labour, or environmental and animal welfare grounds and so on. An example of this anomaly is Sweden, which banned battery cages, but now imports 80 per cent of its eggs from caged birds.

Most farmers who live and work on their farms as owners or tenants want to produce good food from a healthy and diverse environment. Agribusiness has little or no loyalty to place or people, producing or purchasing food at the best margins, where there are least restrictions on their operations. There's no fudging the key issue – as it's currently structured, international trade in agriculture is antithetical to achieving sustainable agriculture. On this issue, farmers and environmentalists should find common ground.

Now I'll have a sip of whisky, and mull over why people will pay a fortune for something nobody really needs, yet when it's something no-one can do without seem to want to pay as little as possible!

Michael Hart

Dear Michael

It's not that I think you are pessimistic for challenging Government intentions with regard to global free trade – I share your doubts that environmental gain is at the heart of that policy. However, I find the farming community to be devoid of pragmatic solutions in this inevitably changing world. Clinging to the status quo as your only life raft seems so ill-advised. At least, as you kindly admit, environmentalists are coming up with some solutions that might work.

Indeed, the French have a more sympathetic farmer support system than ours. Although subject to the same production subsidies, they are far more adept at combining subsidies, rural support and market management than us. The biggest point, as you admit, is that the French public attitude to food and farming is fundamentally different. The UK public has lost faith in its farmers.

Your thesis 'big farmers bad, small farmers good' is partly true. Small farms are generally more environmentally friendly because they have more field boundaries; better for wildlife than bigger farms with fewer boundaries. But new evidence from Savilles shows that bigger farms are more likely to consider agri-environment work. And small farms have changed over the last few years. Few are now truly mixed; many are just small monocultures. But if they were better for wildlife they would do much better with our system than their bigger brothers, being eligible for much bigger top-up payments. As for area payments favouring the big boys, that is easily fixed with a banded funding scale.

You say international trade will not deliver sustainable agriculture. Well for some it will. Take free range,

extensively-produced Aberdeen Angus: a good export bet before the foot and mouth crisis. The quality domestic market could grow with encouragement from your industry. Local, organic, free range, wildlife-friendly *anything* gives added value. But the industry has to produce it and win the trust of the consumer.

The 'we're all doomed' mindset may be a self-fulfilling prophesy. Throwing up obstacles to every solution is easy. It's much harder to accept change as inevitable, and come up with solutions that work across the board, not just for one interest; be it small farms, birds, or any other worthy cause. The farmers that get their heads out of the sand fastest will be the architects of the future. Those who remain in denial, claiming that a future without production subsidies is impossible, will be among the 100,000 that go. I'll join you in that whisky, if I may, and propose a toast to one group of British entrepreneurs who have got it right: marketing high value, extensively produced local goods across the world – without the aid of massive production subsidies.

Phil Rothwell

Dear Phil

Glad you agree that 'small farms are generally more environmentally friendly' and also that the Government's priority is not a 'Green' future for farming but rather its free trade agenda. Yet in accepting that globalisation is just part of 'this inevitably changing world', you avoid tackling the key factor making small and family farming uneconomical, with damaging environmental and social consequences.

In the context of unregulated agricultural trade, your proposals might reduce the worst impacts of unsustainably produced food imports on farming, by greening parts of the countryside. Many environmentalists may consider the accompanying attrition rate of farmers in the UK an acceptable trade off. Impacts on the developing world will be even more devastating. I recently visited Andhra Pradesh in India, where our Department For International Development (DfID) is supporting a massive agricultural intensification programme. This 'development' will throw 20 million small farmers off the land, with food production for domestic markets turned over to vast, intensive export-directed agribusiness – proving the lie that it's the poor in the South who benefit from opening up our markets.

You say farmers are 'devoid of pragmatic solutions'. The solution to the farming crisis is simple: make farming profitable, and promote the type of farming – small, family and mixed farming – that delivers most in terms of sustaining rural communities, as well as the environment. To achieve that, we must prioritise food production for our domestic market, protected against competing imports that don't meet our environmental, food safety and animal welfare standards. Currently that can't be done without subsidising production or farmers getting a fairer share of food prices.

Put yourself in the farmer's boots. Would you take a cut in salary comparable to that in farm incomes, making the loss up by growing some veg? If your income's still too low to provide for your family, then diversify further or get a job in one of Lord Haskins' famous BMW factories?

Michael Hart

References on page 82.

Against a backdrop of devastating logging, development, and collapsing salmon stocks, the hunting of **Grizzly bears** in Canada's British Columbia (BC) province, the heart of this species' dwindling range, is driving them towards the brink.

Thanks to the work of the **Environmental Investigation Agency (EIA)** Canada's BC grizzlies not only got their first ever break from hunting this spring, but the hunt remains closed in 23 more areas than in 2000.

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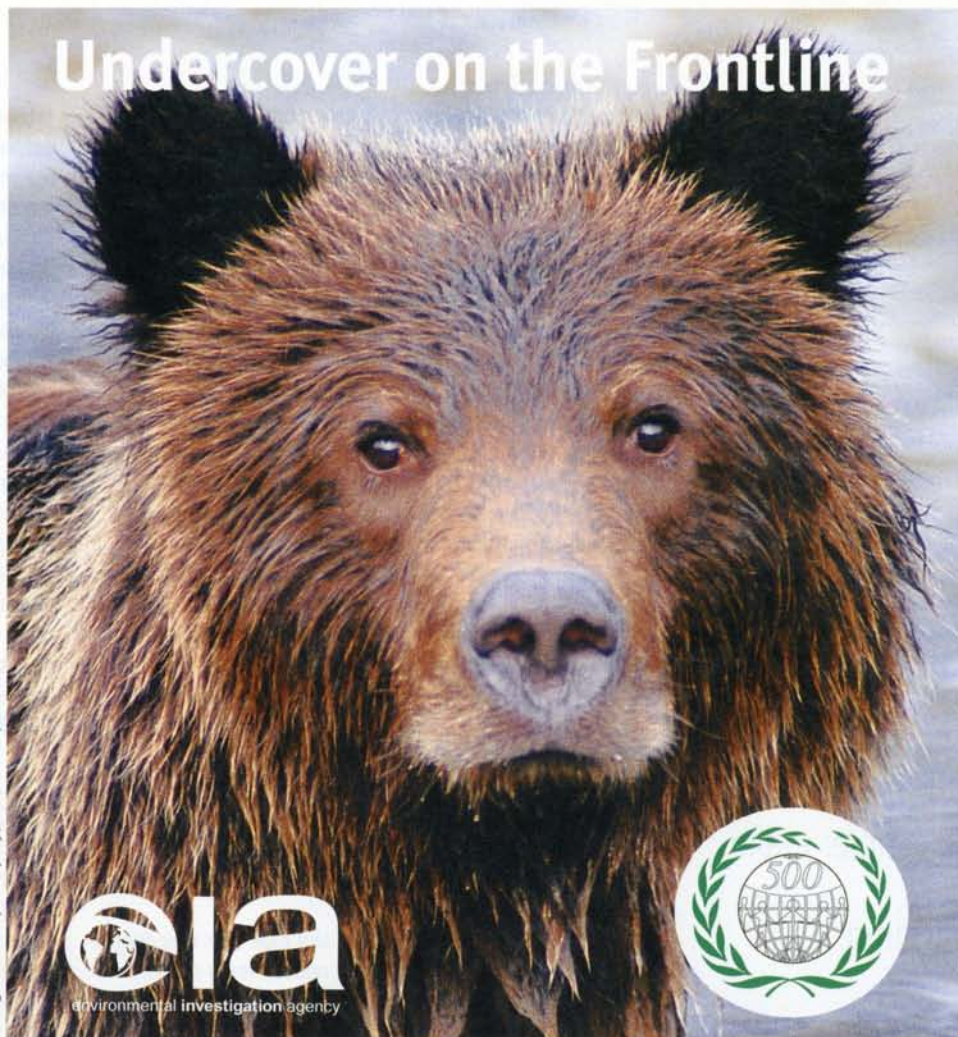
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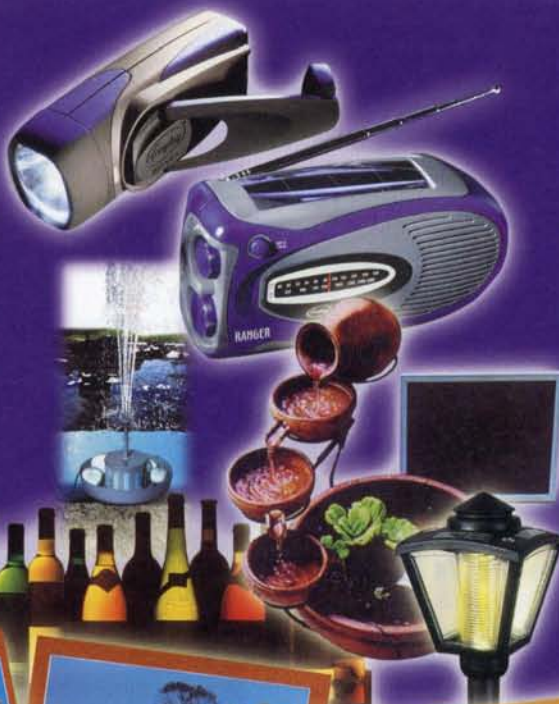
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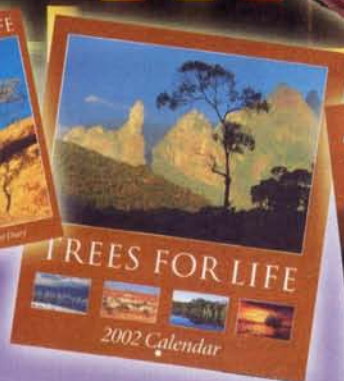
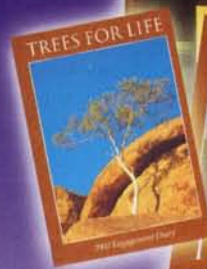
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profile

For the last 43 years Alice Stewart has been one of the world's foremost campaigners against the harmful effects of radiation.



ILLUSTRATION BY CHRIS BLYTHE

It's a familiar scene. The government, or a captain of industry, announces that, after conclusive studies, they have decided on the levels below which radiation poses no threat to health. 'It's OK,' they tell the crowd, 'we're thinking of you. We're going to put a warning on your mobile phone, take readings from the soil, the trains won't come within five miles of your home. You are safe now.'

All is calm. The hand of power has applied its caring balm to our worried brow. We can sleep safe in our beds tonight. The conference is over.

Or at least it will be when that old dear puts her hand down and stops shaking her head in dismay. What's she saying? There is no such thing as a safe level of radiation? Oh, don't worry about her, she's 95 years old, a bit funny in the head. Certainly well over her 'safe level'. Who is she? Oh just Alice Stewart. Ignore her. After all, that's what we've been doing for the last 43 years...

Back to 1958, the dawn of the nuclear era – cheap, clean energy and protection from all the evils to be found under the bed. The benevolent atom would save us all, and large investments were being made into the use of both diagnostic and therapeutic radiation.

It was also the time that Alice Stewart, who in 1946 had become the youngest woman ever elected a Fellow of the Royal College of Physicians, published her first significant work, showing that children x-rayed in the womb were twice as likely to die of leukaemia.¹

This discovery supported the 'linear hypothesis', which states that cancer risk is proportional to x-ray dose and that there is no threshold below which radiation exposure is harmless. Yet still we are told of 'no perceivable risk'.

In 1975, she was asked by epidemiologist Thomas Mancuso to assist in a study at Hanford Nuclear Power Plant, USA. Mancuso had been commissioned in the early 1960s by the Atomic Energy Commission (AEC) to study worker health at the plant, following a growing number of compensation claims. Stewart found that workers exposed to radiation levels less than half the federal safety limit of 5 rads per year suffered higher than expected levels of pancreatic cancer, lung cancer and multiple myeloma.

Within months, the AEC had cut off

funding of Mancuso's 13-year research grant and confiscated the data. Although Stewart and Mancuso still published an article demonstrating these early results,² a subsequent congress investigation into a possible cover-up by the Department of Energy found in the department's favour and Mancuso and Stewart were denied access to any government data.

Their findings contradicted all received wisdom on nuclear risk, based on data from survivors of Hiroshima and Nagasaki. So, when further findings endorsed her discoveries, Stewart turned her attention to the A-bomb Casualty Commission data itself. She has since shown that the tissue-destructive effects of the bombs had masked the carcinogenic effects of radiation, which implies that all radiation protection committees have been grossly underestimating the number of cancers caused by background and low-level radiation.

Only last year she published a paper,³ which further strengthened her argument. 'It shows that cancer was not the only effect of A-bomb radiation,' she explains. 'People die from immune-system damage as well. Our paper shows that the A-bomb survivors were not a normal, homogeneous population. They were the best athletes – the top 10 per cent – and did not include the young and the old. This means that we cannot base standards of radiation safety on such an elite cohort.'

However, she doubts these latest findings will have any immediate effect on policy. They were reported to the European parliament in 1998, but it decided not to make them public. At 95, she has grown accustomed to this attitude. It began when she first entered a lecture hall in Cambridge in 1925 and was met with 200 male students stamping their feet at her. And it continued through the second half of the last century as she stood in direct opposition to the growing might of the nuclear industry. But still she carries on. Why?

'Many times I've been asked why I didn't follow my friends into quiet retirement. If I was a coward and afraid for my job, I wouldn't say a thing. But I am retired, I have no department that anybody depends upon for work. I speak out because I think there are not a lot of other people in such a good position. I have nothing to lose. A lot of people do. This area of research can be shut down. I've watched it happen.'

References on page 82.

Save the planet (and prosper)



The principles of ecology are as real as those of aerodynamics. If an aircraft is to fly, it has to satisfy certain criteria of thrust and lift. Likewise, if an economy is to sustain progress, it must satisfy the basic principles of ecology. If it does not, it will decline and eventually collapse. There is no middle ground. An economy is either sustainable or it is not. This month, Lester Brown explains what the new economy would look like.



Today's global economy has been shaped by market forces, not by the principles of ecology. Unfortunately, by failing to reflect the full costs of goods and services, the market provides misleading information to economic decision makers at all levels. This has created a distorted economy that is out of sync with the earth's eco-system – an economy that is destroying its natural support systems.

The market does not recognise basic ecological concepts of sustainable yield nor does it respect the balances of nature. For example, it pays no attention to the growing imbalance between carbon emissions and nature's capacity to fix carbon, much less to the role of burning fossil fuels in creating the imbalance. For most economists, a rise in carbon dioxide levels is of little concern. For an ecologist, such a rise – driven by the use of fossil fuels – is a signal to shift to other energy sources in order to avoid rising temperatures, melting ice, and rising sea levels. An eco-economy is one that satisfies our needs without jeopardising the prospects of future generations to meet their needs, as the Brundtland Commission pointed out nearly 15 years ago.¹

No small order

Converting our economy into an eco-economy is a monumental undertaking. There is no precedent for transforming an economy shaped largely by market forces into one shaped by the principles of ecology. The scale of projected economic growth outlines the dimensions of the challenge. The growth in world output of goods and services from \$6 trillion in 1950 to \$43 trillion in 2000 has caused environmental devastation on a scale that we could not easily have imagined a half-century ago. If the world economy continued to expand at 3 per cent annually, the output of goods and services would increase four-fold over the next half-century, reaching \$172 trillion.²

Although the concept of environmentally sustainable development evolved a quarter-century ago, not one country has a strategy to build an eco-economy – to restore carbon balances, to stabilise population and water tables, and to conserve its forests, soils, and diversity of plant and animal life. Nevertheless, glimpses of the eco-economy are clearly visible in some countries. For example, 31 countries in Europe, plus Japan, have stabilised their population size, satisfying one of the

most basic conditions of an eco-economy. Europe has stabilised its population within its food-producing capacity, leaving it with an exportable surplus of grain to help fill the deficits in developing countries. Furthermore, China – the world's most populous country – now has lower fertility than the US and is moving toward population stability.³

Among countries, Denmark is the eco-economy leader. It has stabilised its population, banned the construction of coal-fired power plants, banned the use of non-refillable beverage containers, and is now getting 15 per cent of its electricity from wind. In addition, it has restructured its urban transport network; now 32 per cent of all trips in Copenhagen are on bicycle. Denmark is still not close to balancing carbon emissions and fixation, but it is moving in that direction.⁴

Other countries have also achieved specific goals. A reforestation program in South Korea, begun more than a generation ago, has blanketed the country's hills and mountains with trees. Costa Rica has a plan to shift entirely to renewable energy by 2025. Iceland, working with a consortium of corporations led by Shell and DaimlerChrysler, plans to be the world's first hydrogen-powered economy.⁵

So we can see pieces of the eco-economy emerging, but systemic change requires a fundamental shift in market signals, signals that respect the principles of ecological sustainability. Unless we are prepared to shift taxes from income to environmentally destructive activities, such as carbon emissions and the wasteful use of water, we will not succeed in building an eco-economy.

Such an eco-economy will affect every facet of our lives. It will alter how we light our homes, what we eat, where we live, how we use our leisure time, and how many children we have. It will give us a world where we are a part of nature, instead of estranged from it.

Restructuring the Economy

An economy that is in sync with the earth's ecosystem will contrast profoundly with the polluting, disruptive, and ultimately self-destructing economy of today – the fossil-fuel-based, automobile-centred, throwaway economy. Among the key economic sectors – energy, materials, and food – the most profound changes will be in energy and materials. It is difficult to imagine a more ■

fundamental sectoral restructuring than that in the energy sector as it shifts from oil, coal, and natural gas to wind, solar cells, and geothermal energy.

With materials, the change is not so much in the materials used as in the structure of the sector itself as it shifts from the linear economic model, where materials go from the mine or forest to the landfill, to the reuse/recycle model. In this closed loop system, which emulates nature, recycling industries will largely replace extraction industries.

In the food sector, the big changes are not in structure, but in the way the sector is managed. The challenge here is to better manage natural capital, to stabilise aquifers by increasing water productivity, and to conserve topsoil by altering agricultural practices. And above all else, it means sustaining the rise in land productivity in order to avoid clearing more forests for food production.

New industries, new jobs

Describing the eco-economy is obviously a somewhat speculative undertaking. In the end, however, it is not as open-

ended as it might seem because the eco-economy's broad outlines are defined by the principles of ecology. The purpose of describing the restructuring of the overall economy before turning to the key sectors is to give a sense of the dynamics at work. The specific trends and shifts described are not projections of what will happen, though the term 'will' is often used here for the sake of efficiency. No one knows if these shifts 'will' in fact occur, but we do know that something like this is needed if we are to build an eco-economy.

What is not so clear is how ecological principles will translate into economic design since, for example, each country has a unique combination of renewable energy sources that will power its economy. Some countries may draw broadly on all their renewable energy sources, while others may concentrate heavily on one that is particularly abundant, say wind or solar energy. A country with a wealth of geothermal energy may choose to structure its energy economy around this subterranean energy source.

Building a new economy involves

phasing out old industries, restructuring existing ones, and creating new ones. World coal use is already being phased out, dropping 7 per cent since peaking in 1996. It is being replaced by efficiency gains in some countries; by natural gas in others, such as the United Kingdom and China; and by wind power in others such as Denmark.⁶

The automobile industry faces a major restructuring as it changes power sources, shifting from the gasoline-powered internal combustion engine to the hydrogen-powered fuel cell engine. This shift from the explosive energy that derives from igniting gasoline vapour to a chemical reaction that generates electricity will require both a retooling of engine plants and the retraining of automotive engineers and automobile mechanics.

The new economy will also bring major new industries, ones that either do not yet exist or that are just beginning. Wind electricity generation is one such industry. Now in its embryonic stage, it promises to become the foundation of the new energy economy. Millions of turbines soon will be

Examples of Eco-Economy Industries

FISH FARMING Although growth will slow from the double-digit rate of the last decade, rapid expansion is likely to continue.

BICYCLE MANUFACTURING Because bicycles are non-polluting, quiet, require little parking space, and provide much-needed exercise in sedentary societies, they will become increasingly common.

WIND FARM CONSTRUCTION Wind electric generation, including off-shore wind farms, will grow rapidly over the next few decades, until wind is supplying most of the world's electricity.

WIND TURBINE MANUFACTURING Today the number of utility-scale wind turbines is measured in the thousands, but soon it will be measured in the millions, creating an enormous manufacturing opportunity.

HYDROGEN GENERATION As the transition from a carbon-based to a hydrogen-based energy economy progresses, hydrogen generation will become a huge industry as hydrogen replaces coal and oil.

FUEL CELL MANUFACTURING As fuel cells replace internal combustion engines in automobiles and begin generating power in buildings, a huge market will evolve.

SOLAR CELL MANUFACTURING For many of the 2 billion people living in rural Third World communities who lack electricity, solar cells will be the best bet.

LIGHT RAIL CONSTRUCTION As people tire of the traffic congestion and pollution associated with the automobile, cities in industrial and developing countries alike will be turning to light rail to provide mobility.

TREE PLANTING As efforts to reforest the earth gain momentum and as tree plantations expand, tree planting will emerge as a leading economic activity.



Examples of Eco-Economy Sunset Industries

COAL MINING The 7 per cent decline in world coal burning since it peaked in 1996 will continue in the years ahead.

OIL PUMPING Projections based on shrinking oil reserves indicate production will peak and start declining in the next 5–20 years. Concern about global warming could bring the decline closer.

NUCLEAR POWER GENERATION Although public concern focuses on safety, it is the high cost that is ensuring the industry's decline.

CLEARCUT LOGGING The rapid spread in eco-labeling of forest products will likely force logging firms to change to sustainable harvesting or be driven out of business.

MANUFACTURE OF THROWAWAY PRODUCTS As efforts to close the materials cycle intensify, many throwaway products will be either banned or taxed out of existence.

AUTOMOBILE MANUFACTURING As world population urbanises, the conflict between the automobile and the city will intensify, reducing dependence on automobiles.

converting wind into electricity, becoming part of the global landscape. In many countries, wind will supply both electricity and, through the electrolysis of water, hydrogen. Together, electricity and hydrogen can meet all the energy needs of a modern society.

In effect, there will be three new subsidiary industries associated with wind power: turbine manufacturing, installation, and maintenance.

Manufacturing facilities will be found in scores of countries, industrial and developing. Installation, which is basically a construction industry, will be more local in nature. Maintenance, since it is a day-to-day activity, will be a source of ongoing local employment.

The robustness of the wind turbine industry was evident in 2000 and 2001 when high-tech stocks were in a free fall worldwide. While high-tech firms as a group were performing poorly, sales of wind turbines were climbing, pushing the earnings of turbine manufacturers to the top of the charts. Continuing growth of this sector is expected for the next few decades.

As wind power emerges as a low-cost

source of electricity and a mainstream energy source, it will spawn another industry – hydrogen production. Once wind turbines are in wide use, there will be a large, unused capacity during the night when electricity use drops.

With this essentially free electricity, turbine owners can turn on the hydrogen generators, converting the wind power into hydrogen, ideal for fuel cell engines. Hydrogen generators will start to replace oil refineries. The wind turbine will replace both the coal mine and the oil well. Both wind turbines and hydrogen generators will be widely dispersed as countries take advantage of local wind resources.

Changes in the world food economy will also be substantial. Some of these, such as the shift to fish farming, are already under way. The fastest growing subsector of the world food economy during the 1990s was aquaculture, expanding at more than 11 per cent a year. Fish farming is likely to continue to expand simply because of its efficiency in converting grain into animal protein.⁷

Even allowing for slower future

growth in aquaculture, fish farm output will likely overtake beef production during this decade. Perhaps more surprising, fish farming could eventually exceed the oceanic fish catch. Indeed, for China – the world's leading consumer of seafood – fish farming already supplies two thirds of the seafood while the oceanic catch accounts for the other third.⁸

With this development comes the need for a mixed-feed industry, one analogous to that which provides the nutritionally balanced rations used by the poultry industry today. There will also be a need for aquatic ecologists, fish nutritionists, and marine veterinarians.

Another growth industry of the future is bicycle manufacturing and servicing. Because the bicycle is nonpolluting, frugal in its use of land, and provides the exercise much needed in sedentary societies, future reliance on it is expected to grow. As recently as 1965, the production of cars and bikes was essentially the same, but to-day more than twice as many bikes as cars are manufactured each year. Among industrial countries, the urban transport model being pioneered in the Netherlands and Denmark, where bikes are featured prominently, gives a sense of the bicycle's future role world-wide.⁹

As bicycle use expands, interest in electrically-assisted bikes is also growing. Similar to existing bicycles, except for a tiny battery-powered electric motor that can either power the bicycle entirely or assist elderly riders or those living in hilly terrain, its soaring sales are expected to continue climbing in the years ahead.

Yet another growth industry is raising water productivity. Just as the last half-century has been devoted to raising land productivity, the next half-century will be focused on raising water productivity. Virtually all societies will be turning to the management of water at the watershed level in order to manage available supply most efficiently. Irrigation technologies will become more efficient. Urban waste water recycling will become common. At present, water tends to flow into and out of cities, carrying waste with it. In the future, water will be used over and over, never discharged. Since water does not wear out, there is no limit to how long it can be used, as long as it is purified before reuse.

Another industry that will play a prominent role in the new economy, one that will reduce energy use, is teleconferencing. Increasingly for

Expanding Professions in an Eco-Economy

WIND METEOROLOGISTS Wind meteorologists will play a role in the new energy economy comparable to that of petroleum geologists in the old one.

FAMILY PLANNING MIDWIVES If world population is to stabilise soon, literally millions of family planning midwives will be needed.

FORESTERS Reforesting the earth will require professional guidance on what species to plant where and in what combination.

HYDROLOGISTS As water scarcity spreads, the demand for hydrologists to advise on watershed management, water sources, and water efficiency will increase.

RECYCLING ENGINEERS Designing consumer appliances so they can be easily disassembled and completely recycled will become an engineering specialty.

AQUACULTURAL VETERINARIANS Until now, veterinarians have typically specialised in either large animals or small animals, but with fish farming likely to overtake beef

production before the end of this decade, marine veterinarians will be in demand.

ECOLOGICAL ECONOMISTS As it becomes clear that the basic principles of ecology must be incorporated into economic planning and policymaking, the demand for economists able to think like ecologists will grow.

GEOTHERMAL GEOLOGISTS With the likelihood that large areas of the world will turn to geothermal energy both for electricity and for heating, the demands for geothermal geologists will climb.

ENVIRONMENTAL ARCHITECTS Architects are learning the principles of ecology so they can incorporate them into the buildings in which we live and work.

BICYCLE MECHANICS As the world turns to the bicycle for transportation and exercise, bicycle mechanics will be needed to keep the fleet running.

WIND TURBINE ENGINEERS With millions of wind turbines likely to be installed in the decades ahead, there will be strong worldwide demand for wind turbine engineers.



environmental reasons and to save time, individuals will be 'attending' conferences electronically with both audio and visual connections. This industry involves developing the electronic global infrastructure, as well as the services, to make this possible. One day there will likely be literally thousands of firms organising electronic conferences.

Restructuring the global economy will create not only new industries, but also new jobs – indeed, whole new professions and new specialties within professions. For example, as wind becomes an increasingly prominent energy source, there will be a need for thousands of wind meteorologists to analyse potential wind sites, monitor wind speeds, and select the best sites for wind farms. The better the data on wind resources, the more efficient the industry will become. Closely related to this new profession will be the wind

design products that can be recycled – from cars to computers. Once products are designed to be disassembled quickly and easily into component parts and materials, comprehensive re-cycling is relatively easy.

Technologies used in recycling are sometimes quite different from those used in producing from virgin raw materials. Within the US steel industry, for example, where nearly 60 per cent of all steel is produced from scrap, the technologies used differ depending on the feedstock. Steel manufactured in electric arc furnaces from scrap uses far less energy than traditional open-hearth furnaces using pig iron. It will be the responsibility of the recycling engineers to close the materials loop, converting the linear flow-through economy into a comprehensive recycling economy.¹⁰

In countries with a wealth of geothermal energy, it will be up to geothermal geologists to locate the best

wide demand. Washing waste away is even less acceptable today as marine ecosystems are overwhelmed by nutrient flows. Apart from the ecological disruption of a water-based disposal method, there are also much higher priorities in the use of water, such as drinking, bathing, and irrigation.

Yet another new specialty that is likely to expand rapidly in agriculture as productive farmland becomes scarce is agronomists who specialise in multiple cropping and intercropping. This requires an expertise both in the selection of crops that can fit together well in a tight rotation in various locales and in agricultural practices that facilitate multiple cropping.

History's greatest investment opportunity

Restructuring the global economy so that economic progress can be sustained represents the greatest investment



engineers who design the wind turbines. Again, the appropriate turbine size and design can vary widely according to site. It will be the job of wind engineers to tailor designs to specific wind regimes in order to maximise electricity generation.

Environmental architecture is another fast-growing profession. Among the signposts of an environmentally sustainable economy are buildings that are in harmony with the environment. Environmental architects design buildings that are energy- and materials-efficient and that maximise natural heating, cooling, and lighting.

In a future of water scarcity, watershed hydrologists will be in demand. It will be their responsibility to understand the hydrological cycle, including the movement of underground water, and to know the depth of aquifers and determine their sustainable yield. They will be at the centre of watershed management regimes.

As the world shifts from a throwaway economy, engineers will be needed to

sites either for power plants or for tapping directly to heat buildings. Retraining petroleum geologists to master geothermal technologies is one way of satisfying the likely surge in demand for geothermal geologists.

If the world is to stabilise population sooner rather than later, it will need far more family planning midwives in Third World communities. This growth sector will be concentrated largely in developing countries, where millions of women lack access to family planning. The same family planning counsellors who advise on reproductive health and contraceptive use can also play a central role in controlling the spread of HIV.

Another pressing need, particularly in developing countries, is for sanitary engineers who can design sewage systems not dependent on water, a trend that is already under way in some water-scarce countries. As it becomes clear that using water to wash waste away is a reckless use of a scarce resource, a new breed of sanitary engineers will be in

opportunity in history.

As noted in last month's article, the conceptual shift is comparable to that of the Copernican Revolution in the 16th century. In scale, the Environmental Revolution is comparable to the Agricultural and Industrial Revolutions that preceded it. The Agricultural Revolution involved restructuring the food economy, shifting from a nomadic life-style based on hunting and gathering to a settled life-style based on tilling the soil. Although agriculture started as a supplement to hunting and gathering, it eventually replaced it almost entirely. The Agricultural Revolution entailed clearing one tenth of the earth's land surface of either grass or trees so it could be ploughed. Unlike the hunter-gatherer culture that had little effect on the earth, this new farming culture literally transformed the surface of the earth.¹¹

The Industrial Revolution has been under way for two centuries, although in some countries it is still in its early

stages. At its foundation was a shift in sources of energy from wood to fossil fuels, a shift that set the stage for a massive expansion in economic activity. Indeed, its distinguishing feature is the harnessing of vast amounts of fossil energy for economic purposes. While the Agricultural Revolution transformed the earth's surface, the Industrial Revolution is transforming the earth's atmosphere. The additional productivity that the Industrial Revolution made possible unleashed enormous creative energies. It also gave birth to new lifestyles and to the most environmentally destructive era in human history, setting the world firmly on a course of eventual economic decline.

The Environmental Revolution resembles the Industrial Revolution in that each is dependent on the shift to a new energy source. And like both earlier revolutions, the Environmental

investments in fossil fuels and those in wind power, solar cells, and geothermal energy is that the latter will supply energy in perpetuity. These 'wells' will not run dry. If the money spent on oil in one year were invested in wind turbines, the electricity generated would be enough to meet one fifth of the world's needs.¹³

Investments in the infrastructure for the new energy economy, which would eventually have to be made as fossil fuels are depleted, will obviously be huge. These include the transmission lines that connect wind farms with electricity consumers, and the pipelines that link hydrogen supply sources with end-users. To a substantial degree, the infrastructure for the existing energy economy – the transmission lines for electricity and the pipelines for natural gas – can be used in the new energy economy as well. The local pipeline distribution network in various cities for

perhaps much more. If so, fish farming output – now 31 million tonnes a year – will roughly need to triple, as will investments in fish farming. Although aquaculture's growth is likely to slow from the 11 per cent a year of the last decade, it is nonetheless likely to be robust, presenting a promising opportunity for future investment.¹⁴

A similar situation exists for tree plantations. At present, tree plantations cover some 113 million hectares. An expansion of these by at least half, along with a continuing rise in productivity, is likely to be needed both to satisfy future demand and to eliminate one of the pressures that are shrinking forests. This, too, presents a huge opportunity for investment.¹⁵

No sector of the global economy will be untouched by the Environmental Revolution. In this new economy, some companies will be winners and some will be losers. Those who anticipate the



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Revolution will affect the entire world. There are differences in scale, timing, and origin among the three revolutions. Unlike the other two, the Environmental Revolution must be compressed into a matter of decades. The other revolutions were driven by new discoveries, by advances in technology, whereas this revolution is being driven more by our instinct for survival.

There has not been an investment situation like this before. The amount that the world spends now each year on oil, the leading source of energy, provides some insight into how much it could spend on energy in the eco-economy. In 2000, the world used nearly 28 billion barrels of oil, some 76 million barrels per day. At \$27 a barrel, this comes to \$756 billion per year. How many wind turbines will it take to produce this much energy? How many solar rooftops? How many geothermal wells?¹²

One big difference between the

natural gas can easily be converted to hydrogen.

For developing countries, the new energy sources promise to reduce dependence on imported oil, freeing up capital for investment in domestic energy sources. Although few countries have their own oil fields, all have wind and solar energy. In terms of economic expansion and job generation, these new energy technologies are a godsend.

Investments in energy efficiency are also likely to grow rapidly simply because they are so profitable. In virtually all countries, industrial and developing, saved energy is the cheapest source of new energy. Replacing inefficient incandescent light bulbs with highly efficient compact fluorescent lamps offers a rate of return that stock markets are unlikely to match.

There are also abundant investment opportunities in the food economy. It is likely that the world demand for seafood, for example, will increase at least by half over the next 50 years, and

emerging eco-economy and plan for it will be the winners. Those who cling to the past risk becoming part of it ■

References on page 82.

This article is an abridged excerpt from Lester Brown's forthcoming book *Eco-Economy*, published at the end of December in the UK, and in November in the US. UK readers can purchase it at a reduced price of £15.99 (rrp £17.99) by calling the publishers Earthscan on +44 (0)1903 828 503 and mentioning *The Ecologist* (free P&P in UK, for customers outside the UK please add £3.60 plus £1 for airmail). For readers in North America, it is available priced \$13 (rrp \$17) by calling the Earth Policy Institute on +1 202 496 9290 or by emailing epi@earth-policy.org. Next month, Lester Brown examines what the world must do to implement the necessary changes.

Do bears fish



in the woods?

Scientific detective work has discovered why a delicate Canadian ecosystem is changing. Robert Semeniuk unravels a complex tale of bear necessities.

Wearing night-vision goggles, Tom Reimchen manoeuvres the inflatable Zodiac boat around the rocks, deadfalls, and barnacles as we proceed in the dark up an estuary on Canada's Pacific Northwest. We leave brilliant bursts of bioluminescence in our wake, as schools of fleeing salmon agitate the unicellular algae called dinoflagellates. Why the 'dinos' produce light is open to interpretation. One recent hypothesis, Reimchen tells me, is that the light attracts fish which in turn eat the zooplankton that are predators of the dinoflagellates.

Reimchen is a new breed of holistic evolutionary geneticist, whose work focuses on relationships between species rather than on what drove them apart. A professor of biology at the University of Victoria, British Columbia, he specialises in predator-prey interactions. We are here to observe black bears catching spawning salmon (the bears get most of their catch in the dark). This is part of an investigation born eight years ago at Bag Harbour in the Queen Charlotte Islands. As Reimchen sat under giant trees, looking at half-eaten salmon carcasses strewn throughout the forest, he realised that the abundance of carcasses and the abundance of the giant trees adjacent to the salmon river was probably not a coincidence. He has since collected evidence that the autumn return of salmon from the open Pacific Ocean to their natal streams constitutes a major entry of marine nutrients into estuaries and coastal watersheds. He compares it to the great migrations of the wildebeest on the Serengeti plains: both are temporarily very abundant, spatially constrained, relatively easy to capture, and more or less predictable.

Reimchen estimates that 70 per cent of a bear's annual protein comes from salmon, and that during the 45 days of the spawn each black bear catches about 700 fish and leaves half of each carcass in the forest. At 2.2kg per fish, this amounts to 120kg of nitrogen fertiliser per hectare of land. British Columbia's 80,000 to 120,000 bears could be transferring 60 million kg of salmon tissue into the rainforest, accounting for half of the nitrogen fixed by some old-growth trees.

The Zodiac carries us out of the salty estuary and up the Klekane River into the conifer rainforest. After the boat has been safely tied up at the bank, Reimchen leads me and the other passengers – graduate student Deanna Mathewson, assistant Dan Klinka, and veteran filmmaker and naturalist Bristol Foster – following a creek, into the pitch-black woods. To avoid surprising any bears, Reimchen trudges steadily along uttering low guttural sounds. Then, at the edge of the creek we stop and wait quietly, listening to the ripples of water against rock, and salmon splashing. With my night-vision goggles, I scan the forest on the opposite bank; an infrared beam taped to the goggles accentuates the grainy image.

'There is a bear downstream walking towards us,' someone whispers softly. I see a shadowy movement. The bear is perhaps 75 metres away. The splash of the footsteps sounds closer than the animal appears through the goggles. The bear lunges forward, crashing through the water, but is unsuccessful at catching a fish. Moving upstream slowly, to within perhaps 15 metres of us, the bear takes another lunge. Again, no catch. On its fourth try, it succeeds. I hear the crunch of fish skull, and the bear disappears into the forest with a big chum salmon in its mouth.

Black bears favour the bigger chum salmon over smaller pink salmon; they eat pink in the stream, and usually carry chum salmon into the forest. At Bag Harbour, Reimchen predicted that bears would take larger and more valuable salmon further into the forest, where other bears and scavengers would be less likely to interfere. This led Reimchen deeper into the forest in search of carcasses. Occasionally, he found them 200m from streams. His prediction was correct and he speculates that parts of carcasses would be found

'British Columbia's 80,000–120,000 bears could be transferring 60 million kg of salmon tissue into the rainforest'

even further into the forest, if he looked. 'We need a new definition of riparian habitat,' he says, referring to the forest zone influenced by the stream. 'It is much wider than ever imagined.'

The bear returns in about 15 minutes and starts fishing again, by swatting and grabbing. Bears have various techniques. Some grizzly bears, observed catching pink salmon at Knight Inlet, stand still in deeper water and turn their submerged head from side to side. Some patiently wait and then just flop in on their bellies. Reimchen says that at Bag Harbour, during the day, black bears would just wade in and snorkel, or search overhangs and logs, and catch fish without any great motion. 'Salmon are more quiescent at night and can easily be approached in the water,' he says. 'At night I can pick up a big chum salmon; as long as I don't take them out of the water, or squeeze them too hard, they allow me to hold them'.

Some bears eat only parts of the fish ■

—they bite out the brain, or strip out just the eggs. Often I see nothing left of the fish except for a set of intact testicles draped over a rock or mossy log. Reimchen is not sure why. 'The bear is showing the male salmon respect,' he jokes, then goes on to explain that testes are composed mainly of nucleic acids (DNA) and that these are metabolically difficult to deal with because they may yield high levels of nitrogenous toxins when digested. In contrast, eggs are primarily yolk (oils). Often bears delicately skin and eat only the fattest parts of the fish, and leave the rest on the forest floor for numerous scavengers including eagles, martens, ravens, crows, gulls, beetles, and fly larvae. After the fly eggs hatch, nothing else will touch the carcass.

Reimchen has observed bears, night and day, for hundreds of hours, and inspected and weighed thousands of fish carcasses. We find scores of fish remains strewn on the forest floor, and something that surprises Reimchen — eight chum salmon, left in a group, only feet apart, with only their heads eaten. I'm leaning over a carcass photographing it when Reimchen arrives, and asks: 'Did you move these here to photograph them?' Reimchen has never seen this kind of 'caching' before. 'This might even be the work of wolves', he says of the discovery. Wolves have been filmed catching salmon, and even deer and squirrels have been observed feeding on dead carcasses. I watch him and Deanna Mathewson work. They examine, weigh and measure each fish — lower jaw length, body length, sex, weight of testes or number of eggs in body cavity and number of eggs on the ground, position of carcass and distance from stream, body condition, intactness of carcass, and presence or absence of brain.

'Black bears catch more males than female fish' Reimchen explains. 'Males are always darting around, fending off other males, and chasing females, while females are more likely to conceal themselves in the shadows, under a log. Male fish are also in the stream longer than females, and the distinguishing hump on their back may be an advantage to the bear.' In addition to watching bears at night, Reimchen and his colleagues collect tree cores and plant tissue samples during the day, in as many watersheds or 'systems' as possible. During his initial research in Bag Harbour, Reimchen reckoned that

he could look at historical trends in salmon abundance by examining the yearly growth rings of trees. Salmon numbers entering Bag Harbour have ranged from 500 to 35,000 over the last 50 years. Presumably tree rings would be thicker in the years salmon were more abundant. But Reimchen didn't know how he could rule out some independent external factor — for example, both tree growth and salmon abundance might be determined by rainfall. Then a colleague of Reimchen's, Joseph Rasmussen at McGill University in Montreal, suggested that Reimchen look at nitrogen isotopes, specifically the proportion of nitrogen 15 (N^{15}), a traceable marker that exists at higher levels in salmon than in the air. N^{15} is found in the ocean at progressively higher levels of concentration with each successive trophic level. Salmon, as a fourth level consumer, has a distinctly high N^{15} signature, which would show relative contribution of the

'Often I see nothing left of the fish except for a set of intact testicles draped over a rock or mossy log. Reimchen is not sure why. "The bear is showing the male salmon respect," he jokes...'

marine-derived nitrogen to plants and trees.

At the time, a mass spectrometer capable of measuring minute quantities of N^{15} in wood didn't exist. It took four years of tests and false starts before Reimchen found a laboratory in Davis, California, that could modify the combustion chamber in their equipment to allow trace amounts of N^{15} in wood to be measured. Reimchen got the technology he needed. Now, day after day, Reimchen and Dan Klinka use specialised drills to extract 15mm cylindrical cores from old-growth cedar, spruce, and hemlock trees. Each tree, and the distance it is from the stream is measured, and coordinates are established at each site with a global positioning system. Each core is placed in an individual plastic tube and

labeled.

First Nations elders as well as early European settlers speak of rivers which once had thousands of salmon but these disappeared or became rare in the last 100 years. Such stories are commonplace and are largely rejected by fishery biologists as exaggeration. In other cases, some rivers and streams today have no salmon and no one is around who remembers whether salmon existed there in the past. 'Now, for the first time, we have a method of evaluating relatively easily the presence or absence of salmon in such rivers and perhaps their relative abundance', Reimchen says.

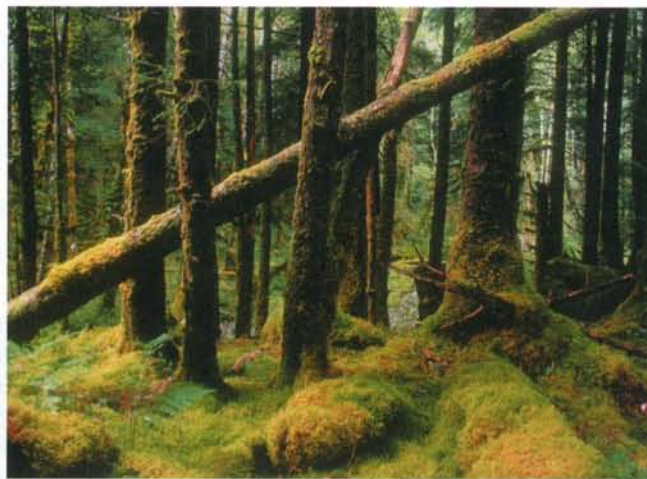
Meanwhile Mathewson collects live tissue from ten species of plants — black huckleberry, red huckleberry, salal, false azalea, false lily of the valley, hemlock needles, devil's club, and false buykave. 'I find more huckleberries in salmon streams than non-salmon streams', she says. Reimchen concurs that in streams where there are no salmon (Beiu creek,

for example, where a waterfall and steep banks guarantee that no fish could be taken into the forest), the cedar trees are small; salal, false azalea, and deer fern are sparse; and the soil is exceptionally poor. 'I want to understand what proportion of these differences are due to the presence or absence of salmon, and perhaps the relative numbers of salmon that swam up each stream, hundreds of years ago.'

This research is influencing other scientists such as Jonathan Moran, also at the University of Victoria, who studies soil nitrogen, and could lead to satellite imaging

of trees enriched with salmon nutrients, and maps showing vital arteries that link the natural world. Analysis of hair from grizzly bears that became extinct in Oregon's Columbia River Valley in 1931 have shown that 90 per cent of their diet came from salmon. Even grizzly bears 1,100–1,300km from the ocean had consumed salmon. The work may even provide new insights into the historical movement of salmon-dependent First Nation people.

The findings also feed into debates over conservation issues, with respect both to salmon and the forest. The goal of some policies has been to conserve the fisheries for human exploitation, regarding birds and animals as costly competitors. In the past, Alaska had a bounty on eagles because they ate salmon. In British



Dr Tom Reimchen (above) takes samples amongst the bears and salmon carcasses of the woods

Columbia, until the early 1970s, it was routine for 'Creek Guardians', hired by the Canadian Department of Fisheries and Oceans, to walk the streams, count fish, and shoot bears as part of their job. Last year some 4,400 hunters were permitted to kill 400 grizzly bears and 4,000 black bears in British Columbia. The actual number killed by poachers and others is as unknown as the ecological implications of the hunt.

'Bears have a minor affect on running salmon, contrary to what conservation officials believe,' says Reimchen. 'Few predators take more than 10 per cent of their prey population; people take between 40 and 75 per cent of the salmon run.' At Bag Harbour Reimchen found that about 70 per cent of females were spawned-out at the time of capture, and the average male had spawned about six times prior to capture.

'People act as if they harvest the surplus, and are the only harvesters. They think that all the dead fish in the stream are wasted,' says Reimchen. 'But in ecosystems there is no surplus.

Everything is used.' Not only do salmon replenish the forest but they also vitalise streams and estuaries with carbon, nitrogen, phosphorous, and micro-nutrients. Nearly 50 per cent of the nutrients that juvenile salmon consume comes from dead parents.

Reimchen points to commercial fisheries and habitat loss through poor forestry practices for substantially reducing the number of salmon over the last 100 years. British Columbia has 25 per cent of all the coastal temperate rainforest in the world, and 39 per cent of it has already been logged. And while the government has committed 12 per cent of forest to protected status,

there is a major flaw in the plan. According to organisations such as the Sierra Club, the David Suzuki Foundation, and others, the critically low elevation forests – the valleys, where the best timber is, and where the salmon and bears are – are absent from this 12 per cent.

'All the systems are either logged, un-logged, or slated to be logged, and they may or may not have fish in them,' Reimchen says, pointing to the big rocks in the mouth of Salmon River where, according to the Canadian Department of Fisheries and Oceans, there were once 40,000 fish spawning. 'Look at this mess, all this big broken rock left behind, sits here, in the mouth, and all the gravel that is good for spawning is now out in the bay, because of the clear-cut logging here forty years ago.

That is why there are no salmon here any more ■

Robert Semeniuk is one of Canada's leading photojournalists and writers. Over the course of his 25-year career he has worked in over 80 countries and has been nominated for or won over 40 awards for his photography and writing.

Globalisation and terror

To launch our special section on terrorism and fundamentalism, Helena Norberg-Hodge reports, based on her own experiences, on how a focus on localised economies and communities could help reduce the problem.

It did not take long for the horrifying images of 11 September to mutate into a spectacle of high-tech, stage-managed warfare, complete with cruise missiles, laser-guided bombs, and remote satellite imagery of further death and destruction. So little time was devoted to considering how we arrived at this pass that we are likely to revisit it again and again. The knee-jerk retaliation by the US and British governments will only lead to heightened rivalries and friction between local ethnic groups (already happening in Afghanistan and Israel), the undermining of regional governments (already happening in Pakistan), and further anger and resentment aimed at Westerners in general and Americans in particular (already happening in Indonesia and

elsewhere in the Islamic world). By bombing a war-torn, defenceless country we are pouring oil instead of water on the fire. How many Afghans who have watched innocent children killed will be willing to sacrifice their lives to avenge these deaths?

Long before 11 September, anger and violence were on the increase. According to the Initiative on Conflict Resolution and Ethnicity (INCORE), ethnic conflicts are underway in at least 43 countries around the world. Most of us have remained oblivious to this frightening trend. We are only dimly aware, if at all, of the ethnic conflicts that simmer and periodically boil over into acts of terror and warfare in Sri Lanka, Eritrea, Bhutan, Turkey, Guatemala, Kashmir and many other

regions, including Afghanistan. These conflicts are generally most 'newsworthy' when they are uncomfortably close to western industrial countries – Chechnya and Bosnia, for example, or when they make exciting TV – as was the case in Rwanda. But unbeknown to most Westerners, fanaticism, fundamentalism, and ethnic conflict have been growing for many decades – and not just in the Islamic world.

Failure to recognise this trend can lead to the belief that terrorism will end if we stamp out Osama Bin Laden and his network (for an explanation of the full extent of this network, and hence the futility of bombing, see Simon Reeve's article on page 41). Unfortunately the reality is far more complex, and we



urgently need to move beyond the symptoms, to address the underlying causes of terrorism. If we do so the prospects for a more peaceful and secure future may not be so elusive.

To really understand the rise in religious fundamentalism and ethnic conflict we need to look at the deep impacts of what might be described as the jihad of the global consumer culture against the diversity of living cultures on the planet. Doing so not only allows us to better understand the 11 September tragedy, but to see a way forward that lessens violence on all sides.

My perspective comes from experiences in numerous cultures in both the 'North' and 'South' over the past 35 years. I studied in Austria, in 1966, when the Tyrol conflict was raging; I was a resident in Spain in the 1980s and 1990s, when the Basque separatist group ETA was active, as they still are today; I am now a resident of England where I've seen the effects of the IRA's long-running battles with the UK government; I've also worked for a quarter-century on the Indian subcontinent, where I've seen terrorist acts in Nepal, as well as ethnic tensions

and open conflict in India and Bhutan.

Most important of all, since 1975, I have been witness to the emergence of tensions between the Buddhist majority and Muslim minority in Ladakh, or 'Little Tibet', in the western Himalayas. For more than 600 years these two groups lived side by side with no recorded instance of conflict. They helped each other at harvest time, attended one another's religious festivals, even intermarried. But within a decade of the imposition of western-style 'development', Buddhists and Muslims were engaged in pitched battles – including the bombing of each other's homes. Even mild-mannered grandmothers, who a decade earlier had been drinking tea and laughing with their Muslim neighbours, told me, 'We have to kill all the Muslims or they will finish us off.'

How did relations between these two ethnic groups change so quickly and completely? The transformation is unfathomable unless one understands the complex inter-related effects of globalisation on individuals and communities worldwide.

Creating scarcity and competition

Development in Ladakh, as elsewhere in the world, meant that external investments were used to build up an energy and transport infrastructure that shifted economic and political life from a multitude of villages into one urban center. Suddenly, villages that had previously provided food, energy, medicine and skills born of generations of local knowledge were threatened with extinction. They were no longer able to compete with the city, where subsidised imported food, petroleum, pharmaceuticals and designer clothes were available for the lucky few. The destruction of the local economy and culture by the global economy also created what can best be described as a cultural inferiority complex.

When I first arrived in Ladakh 25 years ago, there was no indication that people thought of themselves as poor or inferior. Instead they regularly described themselves as having enough and being content with their lives. Though natural resources were scarce and hard to obtain, the Ladakhis had, in fact, a remarkably high standard of living. Most of the region's farmers only really worked four months of the year, and poverty and unemployment were alien concepts.

In one of my first years in Ladakh, I was shown around a remote village by a young Ladakhi named Tsewang. Since

all the houses I saw seemed especially large and beautiful, I asked Tsewang to show me the houses where the poor lived. He looked perplexed for a moment, then replied: 'We don't have any poor people here.'

In part, the Ladakhis' confidence and sense of having enough emanated from a deep sense of community: people knew they could depend on each other. But in 1975 – the year Tsewang showed me his village – the region was fully opened up to the process of 'development', and life began to change rapidly. Within a few years Ladakhis were exposed to television, western movies, advertising and a seasonal flood of foreign tourists. Subsidised food and consumer goods – from Michael Jackson CDs and plastic toys to Rambo videos and pornography – poured in on the new roads that development brought. Ladakh's local economy was being swallowed up by the global economy, and its traditional culture displaced by the consumer monoculture.

A new form of competition began to separate the Ladakhis from one another. As the 'cheap' subsidised goods from outside destroyed the local economy, Ladakhis were forced to fight for the scarce jobs of the new money economy.

Competition also increased for political power. In the past, most Ladakhis wielded real influence and power within their own economy. Now Ladakhis were absorbed into a national economy of 800 million, and a global economy of six billion. Their influence and power were reduced almost to zero. The little political power that remained was funnelled through highly centralised institutions and bureaucracies, dominated by the Muslims in Kashmir.

Competitive pressures increased further as development replaced plentiful local materials with the scarce materials of the global monoculture: thus stone gave way to concrete and steel; wool to imported cotton and polyester; and local wheat and milk to imported wheat and milk. The result was artificial scarcity: people who had managed well for centuries on local materials were now, in effect, in fierce competition with everyone else on the planet.

Psychological Pressures

In Ladakh and elsewhere in the South, these economic pressures are reinforced by the media and advertising, whose images consistently portray the rich and the beautiful living an exciting and glamorous version of the American



✦ **Dream.** Satellite television now brings shows like *Baywatch* to the most remote parts of the world, making village life seem primitive, inefficient and boring by contrast. Young people in particular are made to feel ashamed of their own culture. The psychological impact on Ladakh was sudden and stark: eight years after telling me his village had no poor people, I overheard Tsewang saying to some tourists: 'If you could only help us Ladakhis, we're so poor.' This undermining of self-esteem is actually a stated goal of advertisers, who promote their own brands by imparting a sense of shame about local products. A US advertising executive in Beijing admitted that the message being drummed into Third World populations today is: 'Imported equals good, local equals crap.'

But it is not just local products that are denigrated by advertising and media images: it is local people as well. In Ladakh and around the world, the one-dimensional media stereotypes are invariably based on an urban, Western consumer model: blonde, blue-eyed and clean. If you are a farmer or are dark-skinned, you are made to feel primitive, backward, inferior. Thus, advertisements in Thailand and South America urge people to 'correct' their dark eye color with blue contact lenses: 'Have the color of eyes you wish you were born with!' For the same reason, women in the South use dangerous chemicals to lighten their skin and hair, and some Asian women even have operations to make their eyes look 'Western'. These are profound statements of self-rejection – of shame at being who you are.

Few in the South have been able to withstand this assault on their cultural and individual self-esteem. A few years ago I visited the most remote part of Kenya's Masailand, where I was told that people had withstood the pressures of the consumer monoculture, and still retained an untarnished dignity and pride. So I was horrified when a beautiful young Masai leader introduced me to his father saying, 'Helena is working in the Himalayas with people who are even more primitive than we are.' The old man replied: 'That is not possible: no one could be more primitive than us.'

The rise of fundamentalism

In the past, Ladakhis would rarely identify themselves as Buddhists or Muslims, instead referring to their household or village. But with the heightened competition brought by



'development', that began to change. Political power, formerly dispersed throughout the villages, became concentrated in bureaucracies controlled by the Muslim-dominated state of Kashmir, of which Ladakh was part. In most countries the group in power tends to favour its own kind, while the rest often suffer discrimination. Ladakh was no exception. Political representation and government jobs – virtually the only jobs available to formally-schooled Ladakhis – disproportionately went to Muslims. Thus ethnic and religious differences – once largely ignored – began to take on a political dimension, causing bitterness and enmity on a scale previously unknown.

Young Ladakhis, for whom religion had been just another part of daily life, took exaggerated steps to demonstrate their religious affiliation and devotion. Muslims began requiring their wives and daughters to cover their heads with scarves. Buddhists in the capital began broadcasting their prayers over loudspeakers, so as to compete with the Muslim prayer call. Religious ceremonies that were once celebrated by the whole community – Buddhist and Muslim alike – became instead occasions to flaunt one's wealth and strength. Within a few years, tensions between the two groups exploded into violence. This in a place where there had been no group conflict in living memory.

It was clear to me that the young men who were ready to kill people in the name of Islam or Buddhism had not had much exposure to the traditional teachings of their respective religions. Instead, they tended to be those who had studiously modelled themselves on Rambo and James Bond, and who were the most psychologically

insecure. On the other hand, those who had managed to maintain their deeper connections to the community and their spiritual roots were psychologically strong enough to remain gentle and tolerant.

The Ladakhis most prone to violence were generally those with exposure to western-style schooling. This feature of 'development' – usually seen as an unequivocal good – pulled the young away from the skills and values that prepared them for life on the Tibetan Plateau, substituting instead an education suited to a consumer life-style that will lie forever beyond the reach of the majority. Betrayed by the implicit promise of Western-style schooling and battered by the impossible dreams foisted on them by media and advertising, many ended up unwanted, frustrated and angry.

Same story, North and South

As in Ladakh, the rise of divisions, violence and civil disorder around the world are a predictable effect of the attempt to force diverse cultures and peoples into a consumer monoculture. The problem is particularly acute in the South, where people from many differing ethnic backgrounds are pulled into cities where they are cut off from their communities and cultural moorings, and face ruthless competition for jobs and the basic necessities of life. In the intensely demoralising and competitive situation they face, differences of any kind become increasingly significant, and tension between differing ethnic or religious groups can easily flare into violence.

Since the North's own rural communities and local economies are being ripped apart by many of the same destructive forces at work in the South, it should be no surprise that the effects are similar even here. Christian fundamentalism, for example, has taken root in the rural heartland of the US, as have increasing levels of hostility towards immigrants, African-Americans, Jews and other ethnic minorities. And the domestic terrorist attack on Oklahoma City in 1996 ultimately sprang from the same source as the attack on New York and Washington.

Despite the clear connection between the spread of the global monoculture and ethnic conflict, many in the west place responsibility at the feet of tradition rather than modernity, blaming 'ancient hatreds' that have smouldered beneath the surface for centuries. Certainly ethnic friction is a

phenomenon that predates colonialism and modernisation. But after a quarter-century of firsthand experience on the Indian subcontinent, I am convinced that 'development' and its modern incarnation 'globalisation' not only exacerbate existing tensions but in many cases actually create them. They break down human-scale structures, destroy bonds of reciprocity and mutual dependence, and pressure the young to substitute their own culture and values with the artificial values of advertising and the media. In effect this means rejecting one's own identity, rejecting one's self. In the case of Ladakh it is clear that 'ancient hatreds' never existed, and cannot account for the sudden appearance of violence.

Stopping the violence

If we wish to prevent the spread of ethnic and religious violence, fanaticism and terror, the first place to start is by reversing the policies that now promote growth-at-any-cost development. Today 'free trade' treaties, in the name of globalisation, are pressuring governments to invest in ever larger-scale infrastructures and to subsidise giant mobile corporations to the detriment of millions of smaller local and national enterprises.

The attempt to create a global monoculture in the image of the west has proven disastrous on many counts, none more important than the violence it does to cultures that must be pulled apart to accommodate the process. When that violence spins out of control, finally reaching us in the West as it did on 11 September, it should remind us of the heavy cost of levelling the world's diverse multitude of social and economic systems, many of them much better at sustainably meeting people's needs than the system that aims to replace it.

Until relatively recently, those diverse cultures were a product of a dialogue between humans and a particular place, growing and evolving from the 'bottom up' in response to local conditions. Though cultures have always absorbed and responded to outside influences like trade, what has happened since the end of World War II is something new. Today, speculative investment and transnational corporations are transforming every aspect of life – people's language, their music, their buildings, their agriculture, the way they see the world. That 'top down' form of cultural change works against diversity, against the very fabric of life.

In any case, the Western model that is

being pushed on the world is not replicable. The one-eyed economists who look at electronic signals to tell them whether economies are 'healthy' or 'growing fast enough' never do the arithmetic needed to see if the earth has enough resources for their abstract models to work. It is little more than a cruel hoax to promise the poor of the world that 'development' and 'free trade' will enable them to live like Americans or Europeans, who consume ten times their fair share of resources. The American Dream is a physical impossibility. No wonder then that increased poverty and breakdown leads to rising resentment of Westerners – particularly Americans, who are seen as the main proponents and beneficiaries of the global economy.

It is vital that we in the West shift to a decentralised, less resource-intensive economic model immediately. But equally urgent and easier to implement is a shift in 'development' policies for the less industrialised, less oil-dependent 'South'. This means looking critically even at those well-meaning proposals for further 'aid' to the South to alleviate poverty (a presumed cause of terrorism). The elimination of poverty is certainly a worthy goal, but our current 'aid' actually creates more real poverty while tying people more tightly to a global economy over which they have no control. It undermines the ability of communities and whole nations to produce for their own needs, maintain their own culture, and determine their own future. It cannot prevent either poverty or terrorism. Like further trade deregulation or globalisation – also claimed by some to be the solution to terrorism – most development aid primarily enables global corporations to exploit labour, resources and markets world wide.

Would a shift in policy – away from the costly effort to create a global consumer monoculture, towards support for diversity through stronger local and regional economies – help reduce fundamentalism, ethnic conflict, and terrorism? Our experiences in Ladakh show that ethnic tensions can diminish when people are able to maintain respect for their own culture and economy. This has been among the goals of many years work in Ladakh by ISEC and its predecessor, the Ladakh Project. Those efforts have aimed at deglamourising the consumer culture by painting a fuller picture of modern urban life. This includes information about the serious problems of crime,

unemployment, loneliness and alienation in the west. It also describes the various movements that seek to strengthen community, regenerate healthier agriculture and foster a deeper connection to the living world. All of this in turn has helped to reinsert respect for Ladakh's culture.

Paradoxically, these efforts have involved a closer connection between Ladakhis and Westerners: we have sponsored Ladakhis to come on Reality Tours to the west, while enabling westerners to experience traditional village life through our Farm Project in Ladakh. The interest and involvement of these Westerners in farming, in turn, is helping to restore Ladakhi self-respect.

Maintaining cultural diversity means decentralising development to adapt it to local conditions. In Ladakh the introduction of simple technologies that make use of locally-available renewable energy – solar, wind, and water power – limit the need to sacrifice local independence for an improved material standard of living. And giving voice to women – the keepers of tradition – through the formation of an indigenous Women's Alliance, which has now become the most powerful movement in Ladakh, has strengthened Ladakh's spiritual and ecological roots.

Reclaiming the future

These efforts have contributed to a growing sense that Ladakh's future should be in the hands of the Ladakhis themselves, helping to revitalise both cultural and individual self-esteem. This change is apparent even among young Ladakhis, the most vulnerable to the psychological impact of 'development'. Today, tensions between Buddhists and Muslims have subsided and religious fundamentalism has ebbed. The likelihood of civil war or 'ethnic cleansing' in Ladakh appears remote, and the future looks peaceful.

Our political leaders need to recognise that smart bombs and cruise missiles can only breed further desperation and fanaticism among people who already feel betrayed and disenfranchised. Instead, if we shift our economic policies to support local and national economies rather than subsidising global trade and speculation, maybe the 'next' wave of terrorism can be avoided ■

*Helena Norberg-Hodge's book, **Ancient Futures**, is available from Rider publications, ISBN: 0712606564/£9.99.*

At war with the spirit of Islam

Bin Laden is not just attacking America, but the true spirituality of Islamic faith, writes Sayyid Rida al-Sadiq.



West who likewise see him as an 'Islamic' leader, the embodiment of an inherently militant religious tradition, irrevocably opposed to the West.

In such a situation, a difficult task confronts those Muslims who occupy the uncomfortable and increasingly marginalised middle ground – those who reject unconditionally any correspondence between Bin Laden's jihadism and Islam; yet also have serious criticisms to make of Western policies, policies which have contributed to the climate in which jihadism thrives.

That there is something rotten in the state of today's Muslim world is clear; but the response must not be to throw the baby out with the bathwater. We must rather understand the eclipse of the spiritual values that have traditionally infused Muslim culture. Religious formalism, masquerading as piety, lies at the root of the process by which Islam is being reduced to being the pretext for worldly, pseudo-religious, political ideology.

Bin Laden's brand of Islam is Wahhabism, a militant, anti-intellectual, puritanical creed that has been waging war, with varying degrees of intensity, on all that it deems to be decadent and deviant: not just Shi'ism, the second principal branch of Islam, which complements majoritarian Sunnism, and Sufism, the mystical tradition within Islam, but also three of the four schools of Sunni Law – all are out of bounds for the Wahhabis. This creed is a rigid religious formalism that suffocates the spirit of the tradition in the name of a return to an ostensibly pristine version of Islam. Now, no Muslim doubts the necessity of upholding the forms that give outward expression to the faith – its ritual and legal structure; what is unacceptable, though, is when these forms are elevated, implicitly, to the status of idols – entities worshipped in place of God. The spiritual values of Islam have traditionally ensured that such idolatry is, if not always eliminated, at least counterbalanced by a sense of proportion. Sufi tradition is the main repository of these values, infusing the the law and society with the spiritual graces radiating from a heartfelt affinity with the essence of outward forms.

Wahhabism, by contrast, reduces the essence to form, and in so doing, inevitably impoverishes all forms; for, deprived of the vivifying sap of their spiritual roots, forms wither away – or else collapse in violent self-destruction.

Which brings us back to the suicide-bombers. It is a paradox that those who are most fanatical about the forms of the religion end up violating those very forms themselves: suicide and mass murder are alike illegal in any school of Islamic law. A slippery slope thus leads from religious formalism to sacrilegious fanaticism. It is highly symbolic that, two days prior to the attack on New York and Washington, a two-man suicide mission was despatched to kill, not thousands of 'infidels', but a single man, Ahmed Shah Massoud. It is symbolic not because Massoud was the most prestigious guerrilla leader opposed to the Taliban and Bin Laden; this fact simply points to the mastermind behind the cunning operation: provocation of the enemy was preceded by the elimination of the key figure that might have provided some legitimacy for the retaliation that was foreseen and intended by the provocation. Rather, it is symbolic for another reason, one that goes beyond Realpolitik: Massoud was a living representative of the Sufi tradition. The values with which he was associated – nobility, magnanimity, chivalry, gentleness – are the hallmarks of the true Muslim warrior, steeped in the spirituality of Islam, of which Sufism is a central, though not exclusive, expression. One need only glance back to the most heroic examples of Muslim resistance to imperialism in the recent past to see the equation between Sufism and chivalrous warfare: the Emir Abd al-Qadir in Algeria, Shamyl of the Caucasus, Omar Mukhtar in Libya – all were practising Sufis.

The suicide attack on Massoud, therefore, is an eloquent if murderous symbol of this deviant form of Islam: an 'Islam' that can but self-destruct in the very moment that it kills the spirit that, alone, gives life to the outward forms of religion. The 'Muslim' terrorist's enemy is not just the West; it is also, and above all, the spirituality of the Islamic faith ■

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REUTERS

One of the most painful spectacles for any principled Muslim to behold these days is that of enraged Muslim sentiment being paraded as Islamic 'jihad'. The mass murder perpetrated on 11 September, together with its rationale, as spelled out in Bin Laden's 'jihad fatwa' of 1998 – establishing all American citizens as legitimate targets – flouts the most basic tenet of traditional warfare within the Islamic legal tradition: the inviolability of non-combatants. Legitimate Jihad is fashioned according to Islamic principles; Bin Laden's Islam, on the contrary, is determined by the sentiment of 'jihadism'. This sentiment has now developed into an ideology of rage, feeding on and intensifying Muslim grievances against Western policies in general, and American support for the state of Israel in particular.

Bin Laden has not claimed responsibility for the attacks on New York and Washington; but the fact that he publicly supported those who carried out the attacks is sufficient, for any Muslim worthy of the name, to place him beyond the pale; this approval of the act of mass murder totally undermines his legitimacy as a mujahid, a true warrior of Islam. For a Muslim who fights – out of necessity – in a just war, it is inconceivable to kill innocent civilians. The elevation of Bin Laden as a hero of oppressed Muslims, thanks largely to the American assault on Afghanistan, has obscured his illegitimacy in the eyes of many Muslims. Indeed, there is a curious convergence of perception between, on the one hand, those in the Muslim world who see Bin Laden as the leader of the anti-western jihad, and on the other, those in the

The worldwide net

With up to 60,000 armed and committed militants scattered across the world, writes Simon Reeve, bombing is not only futile, but counterproductive.

'Ali', the polite militant sitting opposite me in a quiet coffee shop, talks slowly and deliberately about his love for Osama bin Laden and the ongoing struggle against America. We are in a city in Western Europe, but we could be in Kabul, Brooklyn, or one of dozens of countries where similar young men have swapped their hopes and dreams for the poison of extremism. Ali was drawn to militancy when he lost his job after a row with his boss, and began attending a mosque where physical training has become a tenet of faith. To the horror of his liberal family, resident in the West for a generation, he even went abroad for a 'few weeks' to learn military basics. A month became three, and he returned a changed man. Now he talks of travelling, training, preparing to fight. He nearly cries with excitement when he talks of 'gentle Osama' who will vanquish his enemies. Listening to Ali and experts from Asian and Western intelligence agencies it is clear that identifying the most dangerous supporters of al Qaeda, finding them and stopping them, is a virtually impossible quest.

'Al Qaeda is not a single structure with a command centre we can target,' notes a senior American intelligence official. 'It is a loose amalgam of extremist groups, an umbrella organisation built around the cult of Osama. He provides the inspiration but the cells can operate with or without him. Removing bin Laden will not end the problem. Going

after bin Laden to stop terror is like going after the Colonel to attack KFC.'

The first challenge facing Western investigators is finding the al Qaeda sleepers. But bin Laden has been training militants from around the world since the early 1990s. Even when al Qaeda was based in Sudan, when the organisation offered free vegetable oil to employees and had a cleric specialising in interpreting dreams, recruits were dispersed to training camps throughout the country. When al Qaeda moved to Afghanistan in 1996 more camps were established. In the last decade senior Asian and Western intelligence sources believe at least 70,000 men from more than 50 countries have been taught to use explosives and weapons in an assortment of training camps in the Afghan region, many supported by al Qaeda. The sources estimate between 500-1,500 of those men have become al Qaeda 'sleepers' living quietly in North America and Western Europe. Some sleepers are more committed to al Qaeda than others. But most share bin Laden's anger at American support for Israel and 'corrupt' Arab governments, ongoing international sanctions against Iraq, and the presence of Western troops in the Arabian peninsula.

The great fear now is that al Qaeda followers may have access to nuclear, chemical and biological weapons, and could use them in a future attack on the West. A double-

agent working among militants in the Balkans has already told US intelligence agents that bin Laden supporters in the region have boasted of obtaining samples of anthrax, and possibly other biological weapons, from laboratories in the former Soviet Union. Intelligence sources contacted in the aftermath of 11 September believe an al Qaeda cell operating in the former Yugoslavia has experimented with chemical weapons in a makeshift laboratory near the Bosnian village of Zenica. A more permanent biological and chemical weapons laboratory was established by members of al Qaeda in eastern Afghanistan. A senior Pakistani intelligence source claims chemists developed a gas-bomb that could be thrown or launched against a target, probably for assassination attacks.

Apart from the threat from chemical and biological weapons, al Qaeda could also launch an attack using radioactive material. In 1993 one of bin Laden's agents bought a 2-3ft cylinder supposed to contain weapons-grade uranium for \$1.5m. Uranium is now so readily available in Pakistan, Afghanistan and the former Soviet states it is difficult to believe al Qaeda has not obtained further supplies. Even if future al Qaeda attacks can be stopped and bin Laden's lieutenants and their sleepers can be identified dangerous new groups are emerging from the chaos around

✦ Afghanistan. Experts warn that United Harakat-ul-Jihad-i-Islami, an organisation with thousands of fighters and supporters training in Afghanistan and campaigning in Kashmir and Chechnya, could soon 'go international'. Intelligence officials are also wary of the charismatic Juma Namangani, the 33-year-old military leader of the Islamic Movement of Uzbekistan (IMU), who is waging his own private war with 3,000-4,000 armed guerrillas and threatening to destabilise the former Soviet states in central Asia.

There could be some 40-60,000 armed and committed militants across the world who are allied to al Qaeda or follow bin Laden. In Pakistan the Sipah-e-Sahaba militant group alone is thought to have at least 10,000 armed fighters. Many of Pakistan's 10,000 small madrassas (religious schools) have spent years churning-out young men imbued with hatred for the West and respect for bin Laden. The alumni of madrassas often retain military connections with their schools; Benazir Bhutto, the former Prime Minister of Pakistan, has been told the madrassas have 325,000 men under arms. As US intelligence experts try to unravel al Qaeda in Afghanistan there are other groups outside the region which could soon be launching attacks on the West. In Algeria the fearsome Salafist Group for Preaching and Combat (GSPC), originally established at bin Laden's behest, now boasts up to 4,000 fighting supporters. GSPC militants have trained in Afghanistan and infiltrated Europe. In the Philippines the Abu Sayyaf terror group has supplied scores of Filipino fighters for al Qaeda's 'Foreign Legion' and battles in its name. In Bangladesh, where militants are close to taking political power, investigators have uncovered armed support for bin Laden and thousands of leaflets have appeared on the streets proclaiming 'The banner of the Taliban will soon be flying in Bangladesh!'

The situation in Somalia, which is wracked by tribal conflict and already rivals Afghanistan for lawless chaos, is causing particular concern for Western intelligence agencies. Osama bin Laden began supporting radical groups in Somalia in the early 1990s, particularly al-Itihaad al-Islamiya (Unity of Islam), an extremist Islamic organisation founded in Burao, a town in the north-west of Somalia. By the summer of 2001 at least eight senior al Qaeda operatives were believed to be in the country training militants, thought to number

between 4-6,000 spread across the country and at bases in the north near Las Anod, in the western Gedo region and at el-Wak.

Even as intelligence agencies try to control the existing militants, new ones emerge every week. Thousands of small madrassas, or religious schools, spread across Asia, the Middle East and parts of Africa, provide a basic religious education for young boys, but in recent years have also been providing military training and encouraging passage to more advanced camps. Pakistani madrassas and numerous independent 'universities' are causing particular concern to Western intelligence sources, because they are so numerous (by summer 2001 there were thought to be more than 10,000), and many are hotbeds of extremism. Alumni often join militant organisations and travel to countries such as Afghanistan for training in the dozens of terrorist camps dotted along the border. More are located in Chechnya, Somalia and Yemen and smaller numbers of militants have received training in ad hoc camps established in the US and Britain.

'The university views the Taliban movement as an extension of it since its officials are students of religion like ourselves and most of the Taliban members are its graduates. We both have the same and common idea,' according to Sami-ul-Haq, president of the Al-Haqaniyah University, a madrasa near the Pakistani city of Peshawar. 'We are willing to support the movement with our students if it becomes necessary or if the movement asked for this support through a general call up or the declaration of a state of emergency. The university diligently sends delegations of students to war fronts in Afghanistan during official holidays and more than 500 of its students have been martyred in Afghanistan fighting within the ranks of the Taliban movement. In spite of all of this, we do not interfere in the Taliban movement's military affairs and we do not give our students military training. But we do educate them and provide them with religious training, including jihad education, because we support the movement on the basis of the religion.'

Other militant training centres deny any link to terrorism, although intelligence experts believe they have close links to leading militants. The Dar al-Hadith school in the Arabian desert north of the Yemeni capital Sana'a teaches hundreds of Muslim students and soldiers from Yemen, Britain,

America, Libya, Egypt, Afghanistan and Chechnya. Associates of Sheik Muqbel bin Hadie al-Wadie, who runs the school and four similar centres, claim they are established solely for intense study of the Koran.

But students wander around carrying Kalashnikovs and listening to aggressive speeches extolling the virtues of Jihad. 'There are dozens, scores, of these schools and more overt military training camps scattered across Yemen,' according to one senior Western diplomat in the Yemeni capital. 'The government has been very reluctant to take action against them although there are clear indications they are turning young men into terrorists. Many have left these schools and gone to Afghanistan to fight with the Taliban.'

Groups of militant bin Laden supporters are not confined to outside the West. A recent report by Bulgarian intelligence agents has warned that al Qaeda units in Croatia, Kosovo and Romania, are all recruiting and expanding their operations. Between 300-1,000 armed Albanian Islamic militants are affiliated to al Qaeda.

Even before 11 September there was a growing acceptance within the US administration that preventing future terrorist attacks requires more than military or covert action. 'People turn to terrorism for various reasons,' noted Ambassador L Paul Bremer III and Maurice Sonnenberg, the chair and vice-chair of the congressionally mandated National Commission on Terrorism, in a foreword to their report *Countering the Changing Threat of International Terrorism*, published in June 2000. 'Many terrorists act from political, ideological, or religious convictions. Some are simply criminals for hire. Others become terrorists because of perceived oppression or economic deprivation. An astute American foreign policy must take into account the reasons people turn to terror and, where appropriate and feasible, address them. No cause, however, justifies terrorism.'

Back at the coffee shop, Ali is still talking. 'They can arrest some people here [and] there, but they cannot stop us,' says Ali, a faint smile crossing his face. 'We are gathering strength, becoming an unstoppable force. We are a whirlwind against America.' ■

Simon Reeve is the author of The New Jackals: Ramzi Yousef, Osama bin Laden and the future of terrorism published by André Deutsch and available in paperback at £7.99.

Profits of doom

Edward Hammond asks who is set to earn most from the propagation of biological warfare.

When Bill Clinton accelerated US biological weapons defence research in the late 1990s, he wasn't responding to the pleas of the Pentagon so much as heeding the advice of his good friend the gene-sequencing magnate Craig Venter, head of Celera Genomics. Venter is a tragically familiar name to biotechnology activists, having won their enduring scorn for his early and successful advocacy for corporate patenting of the human genome. Venter, and other biotech leaders, are men (usually) with formidable connections.

Venter and Clinton's relationship went back a long way, and they met regularly at exclusive retreats on the South Carolina coast, where industry's rich and powerful lobby the US government to do their bidding. In the late 1990s what Venter and others in the biotech industry sought was lax regulation, government money, and new rationales to continue subsidies and international political support for biotechnology. In the provision of defence from biological warfare, the biotech industry saw virtually unlimited potential for money and power. The end of human genome sequencing effort was in sight, and so Venter's brand of genomics companies set out on a plan to train their equipment on biological weapons agents even before the last stretches of human DNA were mapped.

If Venter pushed Clinton to ease US bioweapons research into first gear; when George W Bush took the wheel in early 2001, the accelerator was pressed to the floor. First Bush backed out of a new UN agreement to enforce the Biological and Toxin Weapons

Convention, and then brushed aside the fact that some of Clinton's projects – such as building an anthrax production facility in Nevada – violated the treaty. 'A la carte multilateralism' is Bush terminology for abandoning treaties and even outright violation of international law. And Donald Rumsfeld, veteran biotech promoter and former CEO of Searle Pharmaceuticals (now part of the Monsanto-Pharmacia complex), is his Secretary of Defence.

Bush's support for bioweapons research was clear before 11 September; but since the anthrax incidents in Washington, New York, and elsewhere, the US has allocated billions of dollars for new biotech biodefence contracts. A biotechnology gold rush is on that may ultimately surpass that for the human genome.

Prompted by timely PR, in September and October, US newspapers and magazines dumbfounded already dazed Americans by suddenly bursting at the



seams with 'good news' about biotech firms being 'weeks away from a cure' for anthrax, or on the verge of discoveries such as Texas A&M University's 'single enzyme that will neutralize all toxic agents'. In Seattle, Corixa Corporation publicly complained that it isn't getting enough government money for its anthrax programme. Immediately afterward its stock went up 50 per cent.

Texas A&M's researchers have their own company, Lynntech, to market their research. On 11 September, they got a call from the General at Fort Detrick, the US equivalent of Porton Down, the UK defence research establishment. Based in bucolic and rabidly Republican College Station, Texas, these biotech cowboys rub elbows at the George Bush Presidential Library with biotech pioneers such as the men behind the 'Missyplicity Project', an endeavour to sell dog cloning to rich Americans who can't bear the mortality of their mutts.

Biotech biodefence is a business based on peddling false hopes. There are prudent defensive measures against biological attack, such as investment in public health, aggressive monitoring of unusual outbreaks of disease, and training of medical care providers; but the industry-promoted idea that biotechnology will solve the threat of biological weapons is disingenuous.

To understand why, consider the nature of biological warfare: the deliberate use of disease to achieve political or military ends. It includes human, plant, and animal diseases that extend far beyond the recent headline-grabber, anthrax. But how many biological weapons are there? An exact answer is impossible. Thus, to propose eliminating – or even significantly reducing – biological warfare threats through biotechnology is to declare war not on terrorism, but on nature itself. The only victory is to vanquish disease, practically in its entirety. As the biotech companies demandingly outstretch their hands for public dollars, pounds and euros, it is critical to bear this in



Bayer-faced cheek: Bayer's anti-anthrax drug

mind. Even in the unlikely and expensive scenario that a solution for the biotechnology industry's new poster children – anthrax, smallpox, botulinum toxin and a handful of others – is found, it only points to the next biological warfare threat (and a new contract) to fight ebola, West Nile virus, tularemia, Q fever, or encephalitis.

The list goes on and on, and so could a frightening and destabilising downward spiral of biotech biodefence investment. The treatments that do result are not for the poor. A planned US government-built (but biotech company-operated) facility to produce eight biological warfare vaccines will cost more than \$3 billion; but it will not produce enough to protect anyone other than US troops and, by agreement, some from Canada and the UK.

The approach is as fundamentally unsound, frightening, and self-perpetuating as the Cold War nuclear nightmare of mutually-assured destruction. In his famous farewell address, Dwight Eisenhower coined the term and warned of the far-reaching power of the military-industrial complex. He was correct, and the last half of the 20th century was dominated by its insanity. Now, the military-industrial complex is hybridising in search of post-Cold War vigour. In the events of 11 September and their aftermath, we are witnessing the birth of its 21st-century offspring, the military-bioindustrial complex, in which

military biotechnology becomes a co-equal of the military nuclear industry that dominated the last 50 years.

Since 11 September, US Congress has appropriated tens of billions of dollars for defence from terrorism. A large – as yet imprecisely determined – portion of this will be poured into biotech. Some early contracts have already been announced: \$800,000 for Commonwealth

Biotechnologies, a firm in Virginia, to sequence biological weapon genomes; \$200,000 for 'emergency' anthrax work by the Institute for Genomic Research, a Venter-founded group. Companies are selling seriously flawed and rushed-to-market handheld biodetectors for US \$150,000 or more each. DynCorp, a US defence contractor best known for blasting Colombia with wide-spectrum herbicides in the 'Drug War', is setting up a bioweapons vaccine business. Dyncorp's partner is Porton International, a company that sprang forth from Porton Down.

The Sanger Institute, a UK not-for-profit organisation funded by the Wellcome Trust, leapt into the fray on 4 October with a gleeful press release titled *Black Death Unveiled*. It announced that, with the help of Porton Down, it had sequenced the genome of *Yersina pestis*, the bacteria that causes the bubonic plague. The trust says this might enable new treatments and defences from its use as a biological weapon.

The trust's media play was out of a stale book, the same deceptive public relations strategy that, for the past half decade, genomics companies have used to drum up support for sequencing efforts. One has to wonder, though, if UK and US defence establishments were very pleased with its announcement. In the realm of biological weapons, genomics can be viciously abused.

Bioweapons genomics is the perfect starting point for the creation of extraordinarily deadly GM weapons.

The trust had, in effect, advertised that an errant email from the Sanger Institute would be a great help to an offensive bioweapons effort, setting it well ahead in a quest to more effectively kill. Genomic information for other bioweapons agents already freely circulates on the internet, a dangerous result of the mindless proliferation of biotechnology that governments haven't even begun to address.

Patent problem

There is another perverse aspect to the genomics industry's sequencing efforts: patents. Biotech, of course, always seeks intellectual property monopoly on DNA that may be profitable. The toxin and virulence genes of bioweapons agents are unlikely to be an exception. Economics drives the industry; patenting these genes will give biotech firms control over the treatments and, ironically, grounds to sue bioweapons developers. Will there be bioterrorist attacks using biotech's patented genes? Or prosecution of bioweapons users for violating intellectual property rights?

As bizarre as it seems, it is legally logical in the present life patenting system, and viewed from a historical perspective, not surprising. Research can come to bite back in unexpected and dangerous ways. Iraq's weapons of mass destruction producers learned much of their trade from US patents, for example, a 1950s patent on an efficient recipe for production of the nerve agent VX. Apparently unperturbed by the fact that a key scientific resource for the world's producers of weapons of mass destruction is its publications, the US Patent Office recently irresponsibly released patent 6227118 (8 May 2001), which explains in detail how to build an aerosolisation device for lethal nerve gas bombs. How long will it be before the biotech industry's patents become the intellectual raw material for biological weapons anywhere in the world?

As this issue of *The Ecologist* goes to the newsstands, more than 140 governments are meeting in Geneva to review the Biological and Toxin Weapons Convention (BTWC). The meeting, called a Review Conference, only occurs once every five years. It began on 19 November and runs until 6 December. Finalised in 1972, the BTWC was a remarkable achievement that prohibits the development, stockpiling, and acquisition of all kinds of biological weapons. Although the treaty is a 'gentleman's agreement' that lacks enforcement mechanisms (scuttled by

the US), it actually prohibits an entire type of warfare – all biological weapons. No small feat; but it is under threat.

The end of the Cold War brought about new kinds of missions for NATO militaries and different kinds of prevalent conflicts – the Drug War, peacekeeping, Yugoslavia. Sadly, poor decision-making in addressing these challenges is threatening the BTWC's general prohibition on all forms of biological warfare. Biological weapons are coming back into vogue, not just for terrorists; but for states, including the US and the UK. Trading the BTWC for another vain hope of Drug War victory, the US and UK have funded former Soviet bioweaponers in Central Asia to create ecologically unsound anti-crop biological weapons to destroy the Taliban opium poppy harvest, and another programme for Colombia targeting coca, the source of cocaine.

After the US military disaster in Somalia, when angry civilians killed a number of troops, the US embarked on an offensive research programme to develop new riot control agents to manipulate, in the Pentagon's words, 'potentially hostile civilians'. These include a frightening array of psychopharmacological drugs, some of which are biological weapons (the rest are chemical weapons). Overpowering hallucinations and the like are better than killing civilians with an assault rifle, the Pentagon reasons. According to Colonel Gary W Anderson of the Marine Corps Warfighting Laboratory: 'In an urban environment, cluttered with non-combatants, it is better to make them temporarily uncomfortable, even if lingering effects are inflicted on a small percentage, than to kill a large percentage.'

The US Navy has a programme to develop GM microbes that destroy equipment, such as plastics, fuel, and metals. The stated intent is defence; but the offensive potential is frightening, as is the biosafety concern. The Navy has called in 'terminator' technology in an effort to prevent the GMOs from getting out of hand. According to the Naval Research Lab, 'These [GMO microbes] will be further modified to be self-limiting, either by the incorporation of timed 'suicide' genes, or other alterations that prevent their persistence in the environment beyond pre-determined limits.' Feel safer now?

Many biological weapons control experts are working to prevent the BTWC from being undermined by such research. The US government and the

biotech industry's public relations machine have artfully hoodwinked many news outlets into believing that a very destructive US position is actually in favour of strengthening the treaty. The EU, at time of writing, is unwilling to defy the US, cowed by the severity of the terrorist attack on the United States and an apparent lack of determination and will to promote fresh ideas.

If not now, when?

It is time for citizens and non-profit organisations to assume a more aggressive posture, to demand that biological weapons remain prohibited in their entirety and that countries submit to biotechnology facility inspections to insure they obey the rules. There are positive signs, particularly from those that harbour no illusions about the bid for power of biotech firms such as Monsanto and Celera, and the effects it will have on control of biological weapons. Earlier this year, African countries endorsed a continent-wide model law to incarcerate people who use genetic engineering for hostile purposes. If a company is responsible, its CEO can be imprisoned. Officials in the Philippines quashed an attempt to develop an anti-cannabis biological weapon there.

The growing involvement in biological weapons control of people with experience analysing and exposing the dangers of biotechnology is reason for hope. The litmus test for the Geneva meeting will be upholding, without any qualifications, the prohibition on all forms of biological warfare, including America's CNN-friendly riot control agents and the Anglo-American attempt to use biological weapons in the Drug War. Moving forward from there, the trickery and false hope of the military-bioindustrial complex should be exposed at every turn. There is no biotech solution to the threat of biological weapons. Quite the reverse. Accelerating the proliferation of biotechnology and subsidising the expansion of its military role will simply line industry's pockets with public money and lead to greater instability and fear, a self-fulfilling prophecy that suits industry just fine, but harms citizens, the environment, and hopes for a more peaceful world ■

Edward Hammond is co-director of the Sunshine Project (www.sunshine-project.org), an international not-for-profit organisation dedicated to biological weapons control.

A world out of touch with itself

Rabbi Michael Lerner asks whether love or hate will be the defining force of the next century.

It's understandable why many of us, after grieving and consoling the mourners, feel anger. Unfortunately, demagogues in the White House and Congress have manipulated our legitimate outrage and channeled it into a new militarism and a revival of the view that the world is mostly a dangerous place and our lives must be based around protecting ourselves from the threatening others. In this case, terrorism provides a perfect base for this worldview – it can come from anywhere, we don't really know who is the enemy, and so everyone can be suspect and everyone can be a target of our fear-induced rage. With this as a foundation, the Bush team has been able to turn this terrible and outrageous attack into a justification for massive military spending, a new war and the inevitable trappings: repression of civil liberties, denigration of 'evil others', and a new climate of fear and intimidation against anyone who doesn't join this misuse of patriotism toward distorted ends.

Of course, the people who did this attack are evil and they are a real threat to the human race. The perpetrators deserve to be punished, and I personally would be happy if all the people involved in this act were to be imprisoned for the rest of their lives. But that is quite different from talk about 'eliminating countries' which we heard from Colin Powell in the days after the attack. Punishing the perpetrators is different from making war against whole populations.

The narrow focus on the perpetrators allows us to avoid dealing with the underlying issues. When violence becomes so prevalent throughout the planet, it's too easy to simply talk of 'deranged minds'. We need to ask ourselves, 'What is it in the way that we are living, organising our societies, and treating each other that makes violence seem plausible to so many people?' And why is it that our immediate response to violence is to use violence ourselves – thus reinforcing the cycle of violence in the world?

We may tell ourselves that the current violence has 'nothing to do' with the way that we've learned to

close our ears when told that one out of every three people on this planet does not have enough food, and that one billion are literally starving. We may reassure ourselves that the hoarding of the world's resources by the richest society in world history, and our frantic attempts to accelerate globalisation with its attendant inequalities of wealth, has nothing to do with the resentment that others feel toward us. We may tell ourselves that the suffering of refugees and the oppressed have nothing to do with us – that that's a different story that is going on somewhere else.

I see this in Israel, where Israelis have taken to dismissing the entire Palestinian people as 'terrorists' but never ask themselves: 'What have we done to make this seem to Palestinians to be a reasonable path of action today?' Of course there were always some hateful people and some religious fundamentalists who want to act in hurtful ways against Israel, no matter what the circumstances. Yet, in the situation of 1993-96 when Israel under Yitzhak Rabin was pursuing a path of negotiations and peace, the fundamentalists had little following and there were few acts of violence. On the other hand, when Israel failed to withdraw from the West Bank, and instead expanded the number of its settlers, the fundamentalists and haters had a far easier time convincing many decent Palestinians that there might be no other alternative.

Narrow focus

We have narrowed our own attention to 'getting through' or 'doing well' in our own personal lives, and who has time to focus on all the rest of this? Most of us are leading perfectly reasonable lives within the options that we have available to us – so why should others be angry at us, much less strike out against us? And the truth is, our anger is also understandable: the striking out by others in acts of terror against us is just as irrational as the world-system that it seeks to confront. Yet our acts of counter-terror will also be counter-productive. We should have learned from the current phase of the

Israel/Palestinian struggle, responding to terror with more violence, rather than asking ourselves what we could do to change the conditions that generated it in the first place, will only ensure more violence against us in the future.

If we could encourage people to allow this part of themselves to come out, without having to wait for a disaster, we could empower a part of every human being which our social order marginalises. Americans have a deep goodness – and that needs to be affirmed. Indeed, the goodness that poured forth from so many Americans should not be allowed to be overshadowed by the subsequent shift toward militarism and anger. That same caring energy could have been given a more positive outlet – if we didn't live in a society which normally teaches us that our 'natural' instinct is toward aggression and that the best we can hope for is a world which gives us protection. The central struggle going on in the world today is this one: between hope and fear, love or paranoia, generosity or trying to shore up one's own portion. Our only hope is to revert to a consciousness of generosity and love. That's not to go to a la-la-land where there are no forces like those who destroyed the World Trade Centre. But it is to refuse to allow that to become the shaping paradigm of the 21st century. Much better to make the shaping paradigm the story of the police and firemen who risked (and in many cases lost) their lives in order to save other human beings who they didn't even know. Let the paradigm be the generosity and kindness of people when they are given a social sanction to be caring instead of self-protective. We cannot let war, hatred and fear become the power in this new century that it was in the last century. And it's up to us ■

Rabbi Michael Lerner is the editor of TIKKUN magazine, 'a Jewish critique of politics, culture and society', in which a different version of this article first appeared. The magazine's website is www.tikkun.org.

So what are you going to do?

When will we realise that you cannot bomb a world to freedom, asks David Edwards.

It is the defining image of our age – a £750,000 missile, packed with high technology, roars up into the darkness and away towards its target: an utterly impoverished, utterly smashed country, there to blast rubble into gravel. Just this one image, this one event in the

modern world, tells us so much about

ourselves.

How often have we seen this before? How many times have the camera teams gathered to show those eager, angry flames tearing at the night? How often have the politicians hailed our 'Just Cause', our 'Desert Storm', our 'Enduring Freedom'? How many times have we seen the expanding spheres of light on the horizon as our bombs bubble and boil? Over and over again, constantly, always, we are bombing someone, and yet we call ourselves civilised and peaceful and humane. Has it ever worked? Have we blasted hatred away? Have we incinerated antipathy, burned it and buried it deep so that it can no longer hurt us? Is that what we've done? It all reminds me of the story told by the ancient Indian sage, Aryadeva:

'A butcher was grinding bones when a splinter got into his eye. He went to a physician who, instead of removing the splinter, gave him medicine to relieve the pain. The splinter continued to cause trouble, necessitating numerous visits to the physician who charged for each consultation. Eventually the physician left town. The butcher's son managed to remove the splinter, which finally brought lasting relief. Likewise, kings take money from the people but do not do their work.'

Our bombs give us a sense of temporary relief, but the splinter of greed, of injustice, of inequality, of oppression, of horror and, so, of hatred, remains. Our 'kings' do not do their true work, the work of the butcher's son – which is to protect us by protecting everybody – they do the physician's work of protecting some and letting the rest go to hell. And the

price is always high. And then they leave town. The Buddha said:

'Don't try to build your happiness on the unhappiness of others. You will be enmeshed in a net of hatred.'

We live in a society that is so fantastically greedy, so fantastically irresponsible, that we cannot but be enmeshed in a net of hatred. Our selfishness, our indifference to the suffering of others, is simply staggering. Just consider...

First there are the business executives who subvert global warming treaties. Not only do they do it but, like John Grasser of the mining industry and the Global Climate Coalition, they admit to it and justify doing it on the grounds that they are 'buying time for our industries'. Imagine that – they are obstructing action to stop a catastrophe that will claim countless thousands, perhaps millions, of lives, for short-term profit. Is it possible to conceive of such callousness, of such selfishness raised to the level of ultimate self-destruction, of such pragmatism raised to the level of ultimate naivety?

And then there are the political and media executives who almost visibly yawned when senior UN diplomats like Denis Halliday and Hans von Sponeck resigned in 1998 and 2000 describing how Western sanctions were really, truly responsible for genocide in Iraq, for the deaths of 500,000 children under five.

I wrote an article based on my own interview with Halliday. In it he demolished completely, incontrovertibly, the specious denials of Washington and London. Determined to publish such obviously vital material, I rang round every liberal newspaper in England, Ireland and Scotland. I was offering the arguments of an entirely credible high-level diplomat accusing my government of genocide. The article was dismissed out of hand, or because 'Halliday is old hat', or because 'the question and answer format is not right for us', or because 'what is needed is for the Government position to change first', or because 'we have already covered that subject' in an article before, once. The indifference and cynicism were

brehtaking – they gave me a snapshot of a society utterly lost to self-interest and servility to power.

And now thousands of people lie crushed to death beneath giant buildings, and B52s are pounding a country packed with starving people. And my government, my media – this establishment, whose irresponsibility and cynicism I have personally witnessed – are telling me that 'we' are at war with evil. But they themselves are so befuddled by arrogance and compromise that they can't see the joke – that you can't wage war on evil with missiles and bombs. You can't hate someone else's hatred away.

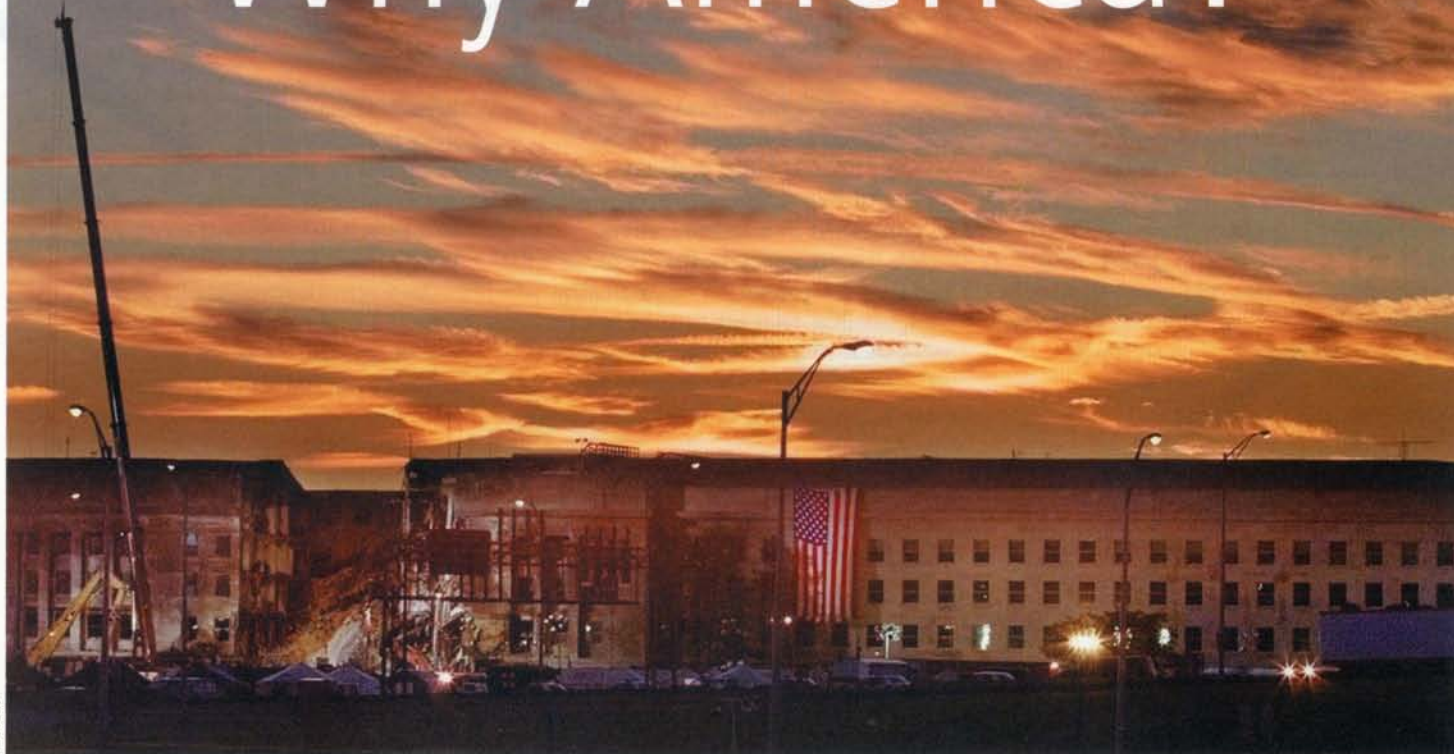
You can wage war on evil with compassion for the suffering that causes evil, on the greed that creates the conditions on which evil thrives. You can wage war on evil by demolishing your own fatal arrogance, which, alas and alack!, makes you honestly, truly and sincerely believe that you – in your skin, in your clothes, in your car, in your job – are really more important, more special, dammit more human, than that person over there in his skin, clothes and job.

There is only one evil – it is the evil of me just caring for me and mine, and not caring a damn for him and his. To wage war on evil we have to wage war on this terrible delusion: that only we matter, that we can best protect ourselves by caring only for ourselves. Bring the madmen to justice, but then turn things around for the rest of them: care for him and his, because I tell you we have not up to now, not for a moment. But how do you do that when your whole political system, your entire economic system, your entire cultural system, is designed to take from him and to give to an opulent few?

The answer is simple: there are no systems, not really; there are only human hearts. So what are you going to do? ■

David Edwards is co-editor of www.medialens.org.

Why America?



REUTERS

'I think the American people need to know that we live in a world where by virtue of America's leadership to some degree, by virtue of a degree of fanaticism by some people, we will be targeted,' declared National Security Adviser Sandy Berger after the bombings of two US African embassies on 7 August, 1998.¹

When asked, 'what is it that these terrorists want from the United States?', Richard Haass, head of the foreign policy department at the Brookings Institution, replied: 'Well, the answer is it's not anything we're simply doing. It is who we are. It's the fact that we're the most powerful country in the world. It's the fact that we're a secular country... It is simply who we are and it is our existence that really bothers them.'²

Terrorists, wrote Thomas Friedman of the *New York Times*, 'have no specific ideological programme or demands. Rather, they are driven by a generalised hatred of the US, Israel and other supposed enemies of Islam.'³ 'Americans', said Clinton, 'are targets of terrorism, in part, because we act to advance peace and democracy and because we stand united against terrorism.'⁴

These and other comments from the US leadership have long served to reinforce, as Gore Vidal points out, 'the

image of America the beautiful on its hill, envied by all and subject to attacks by terrorists who cannot bear so much sheer goodness to triumph in a world that belongs to their master, the son of morning himself, Satan.'⁵

But to pretend terrorists are merely motivated by jealousy or innate hatred is to ignore the US' often violent interventions throughout the world. For example:

The shooting down of two Libyan planes in 1981; the bombardment of Beirut in 1983 and 1984; the furnishing of military aid and intelligence to both sides of the Iran/Iraq War of 1980-88; the bombing of Libya in 1986; the shooting down of an Iranian passenger plane in 1988; the shooting down of two more Libyan planes in 1989; the continuing bombings and sanctions against Iraq following the Gulf war; the bombing of a Sudanese pharmaceutical plant in 1998; the indiscriminate support of Israel; the large military presence in Islam's holy land, Saudi Arabia. These and other cases have no doubt played their part in transforming certain people into decriers of 'America, the Great Satan'.

Double standards

On 13 March, 1996, the US assembled 27 world leaders in Egypt at an 'anti-

terror' conference after a wave of suicide bombers had killed dozens of people in Israel. President Clinton asserted: 'We must be clear in our condemnation of those who resort to terror. Violence has no place in the future we all seek in the Middle East.'⁶ Two weeks after the Egyptian conference, the attending countries met in Washington for a follow-up on counter-terrorism. Among the topics discussed were the flow of funds to terrorist groups.⁷

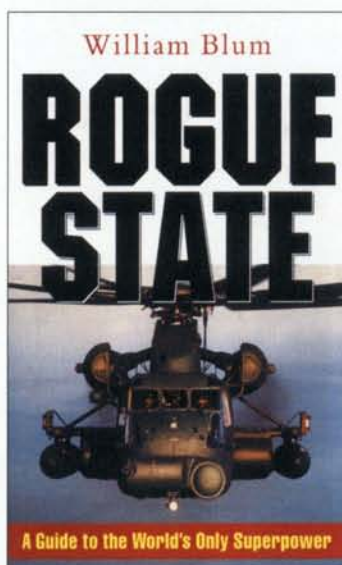
The following month, President Clinton, with much fanfare, signed the Anti-terrorism Act, which bars financial transactions between US corporations and countries accused of supporting terrorism. Four months later, the administration quietly exempted Sudan, to allow a US oil company to negotiate an oil deal. At the same time, Syria was granted an exemption, to encourage participation by Damascus in the Middle East peace process.⁸

In February 2000, there arose a new proposal for a major international conference to combat terrorism. On this occasion the US was quick to throw cold water on the very idea, saying it would have no 'practical benefits'. The proposed conference was backed by the 119-member Non-Aligned Movement of Third World Nations. One of the issues the conference hoped to address was

how to distinguish between a 'terrorist' and a 'freedom fighter', citing the examples of the Hizbollah and Hamas groups fighting Israel. The question of 'state terrorism' also loomed as a possible conference issue – for example, should military attacks by armed forces of any state be deemed acts of terrorism when civilians are killed? The 1999 NATO bombing of Yugoslavia had been discussed as a case in point.⁹

The FBI defines international terrorism as 'the unlawful use of force or violence committed by a group or individual, who has some connection to a foreign power or whose activities transcend national boundaries, against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of political or social objectives.'¹⁰ The FBI definition, although meant to describe acts directed against the US, would seem to cover countless acts of the US government itself ■

References on page 82.



The above is an excerpt from *Rogue State – a guide to the world's only superpower*, by William Blum, which was published in the UK at the end of October by Zed Books (ISBN: 1842770152/£12.99). To receive a copy at the discounted price of £12 (inc P+P anywhere in the world) call Mohammed at Zed books on +44 (0)207 837 4014 and mention *The Ecologist*. William Blum is also the author of *Killing Hope: US Military and CIA Interventions Since World War II*.

Extracts of both books can be read at: members.aol.com/superogue/homepage.htm.

At the United Nations, with noteworthy regularity, the US has found itself – often alone, sometimes joined by one or two other countries – standing in opposition to General Assembly resolutions aimed at furthering peace and preventing an escalation of militarism, as this arbitrary selection from 1978–1987 shows.

Date	Resolution	Issue	Yes/No Vote
15/12/78	33/75	Urges the Security Council, especially its permanent members, to take all necessary measures for ensuring UN decisions on the maintenance of international peace and security.	119-2(US, Israel)
11/12/79	34/83J	Negotiations on disarmament and cessation of nuclear arms race.	120-3 (US, UK, France)
12/12/80	35/145A	Cessation of all nuclear test explosions.	111-2 (US, UK)
12/12/80	35/154	Declaration of non-use of nuclear weapons against non-nuclear states.	110-2 (US, Albania)
9/12/81	36/84	Cessation of all test explosions of nuclear weapons.	118-2 (US, UK)
9/12/81	36/87B	Establishment of a nuclear-free zone in the Middle East.	107-2 (US, Israel)
9/12/81	36/96B	Urges negotiations on prohibition of chemical and biological weapons.	109-1 (US)
9/12/82	37/73	Need for a comprehensive nuclear test ban treaty.	111-1(US)
9/12/82	37/83	Prevention of arms race in outer space.	138-1(US)
13/12/82	37/98A	Necessity of a convention on the prohibition of chemical and bacteriological weapons.	95-1(US)
15/12/83	38/70	Outer space should be used for peaceful purposes; prevention of an arms race in outer space.	147-1(US)
20/12/83	38/182	Prohibition of the development and manufacture of new types and systems of weapons of mass destruction.	116-1(US)
20/12/83	38/188G	Requests a study on the naval arms race.	113-1(US)
20/12/83	38/202	Independent commission on disarmament and security issues.	132-1(US)
12/12/84	39/62	Prohibition of development and manufacture of new types of weapons of mass destruction.	125-1(US)
12/12/84	39/65B	Prohibition of chemical and bacteriological weapons.	84-1 (US)
17/12/84	39/148N	Nuclear test ban, cessation of nuclear arms race, nuclear disarmament.	123-1 (US)
17/12/84	39/151F	Request to continue UN study on military research and development.	141-1 (US)
4/12/86	41/92	Establishment of a comprehensive system of international peace and security.	102-2 (US, France)
7/12/87	42/159	Measures to prevent international terrorism, study the underlying political and economic causes of terrorism, convene a conference to define terrorism and to differentiate from the struggle of people for national liberation.	153-2 (US, Israel)

Return to Jordan

Nearly four decades ago, a team of experts was invited to Jordan to survey its ecological situation and suggest a strategy for conservation. Last year, Jill Burberry went to find out how things have been going since.

Pure of spirit and mystical of nature, the unicorn once roamed the plains of Arabia with trust in his soul and love for all. Trust, however, can be many a creature's downfall. Sharp-witted hunters soon realised that as the docile beast loved nothing more than to rest his head peacefully in a maiden's lap, all they had to do was provide the maiden, wait awhile, then massacre the innocent unicorn and lop off its horn to sell for big wads of cash.

So the story goes. Yet the unicorn, supposedly made extinct in this way, still lives on. The Arabian oryx is believed by many to be source of the legend of this fabulous beast – from the side its two horns appear as one – and the oryx is still with us today.

But only just. By 1972, the animal was virtually extinct in the wild, and it was only thanks to a complex breeding programme involving a number of zoos around the world that the Arabian oryx was able to pull back from the edge of extinction.

Much of the work behind this conservation programme was originated by Jordan's Royal Society for the Conservation of Nature (RSCN), an institution set up by King Hussein in 1966. The RSCN, in its turn, was the result of recommendations made by an intensive field study three years previously.

By the early 1960s, Jordan was in a state of natural decline. Birds and animals were being over-hunted, goats, grazing voraciously, were destroying the vegetation. In an attempt to find out just how badly his country was suffering, King Hussein invited renowned conservationist Guy Mountfort to lead a team – which included biologist Sir Julian Huxley and photographer Eric Hosking – to advise his government on conservation. The RSCN, with its remit of safeguarding and promoting Jordan's natural resources, grew out of the results of the study, as did six major nature reserves – Azraq, Dana, Jumib, Wadi Rum,

Shaumari and Ajlun.

Nearly 40 years later, I joined a small group of Field Studies Council (FSC) members in a visit to these nature reserves. I was interested, too, in learning what had been achieved since Mountfort and his team first worked with King Hussein to conserve the wildlife and ecosystems of Jordan.

Shaumari is the great success story, for it is here that the oryx, since their captive breeding programme, have arrived and thrived reasonably well. The reserve now boasts a herd of of 200 and has become a source to which other countries turn.

Our visit to Shaumari was made difficult because of rain – so much rain. During our night there it rained more than was normal in a year. The rainwater poured down the *wadi* (river valley), carrying the road away. Bad for travellers – but good for the nearby Azraq reserve, an oasis in a basalt and limestone desert. Ten years previously there was a large blue lake in Azraq,



after which it was named. Water is pumped off to Amman and neighbouring towns, and the quantity now permitted to Azraq's remaining pools and marshes is allocated by the government or is dependent on the weather. The Azraq marshes are a godsend to birds migrating between Asia and Africa, and although there is a fear that the flood water may become adulterated by saline water, currently cordoned off by an ancient Roman wall, and pollute the Azraq basin, so far this has not happened.

Later, at Aqaba, our expert ornithologist guide, Ahmed Al Zu'bi, took us to the sewage farm, another superb stopping place for millions of migrating birds because of its reservoirs – human waste-products serving wildlife! The sewage plant across the bay from Eilat is closely guarded, and a permit is required to enter. As a result, an unplanned bonus is that the birds are protected from hunters. Hunters are not allowed in nature reserves either, but migrants attracted by floods outside the reserves are at their mercy.

Ibex, roe and Persian fallow deer are being bred for eventual release into the wild. We saw ibex with their young perched on the crags at Mujib reserve, which was established in 1987, the lowest altitude reserve on earth. It rises from 400m below sea-level to 900m above and incorporates the Wadi Mujib, which runs into the Dead Sea. A survey in 1966 recorded over 400 plants, 250 animal species and 186 varieties of birds. Mujib is currently under threat

from proposed water extraction, mining and oil excavation, but there is optimism that the threat will pass. Goats still over-graze and destroy plants and hunters are a problem. But, as at Azraq and Dana, the RSCN are working with the local community to develop grazing schemes and introduce profitable employment.

Dana Ecoreserve, meanwhile, is a pioneering example of the RSCN's efforts to involve the community in their work. This is vital, as plants and animals have traditionally been seen as free food, firewood and sport. Dana village was built by the Turks, farmed by Jordanians after the Turks were expelled, and fell into ruins when the farmers deserted it to be nearer the main road for easier sale of crops. The RSCN invited people to return, rebuild the village and make it the centre of an 'econature' reserve with its own guest house, hotel, conference facilities and craft workshops. The village is perched on a jutting outcrop of hillside on the edge of Wadi Dana and overlooks extensive hills and valleys. It is being rebuilt in traditional style, and the reserve incorporates two stunningly-sited camps.

Jordan's first nature shop is at Dana. It sells organic food and gifts made by villagers from natural products. Another ecotourism centre has been set up at Wadi Rum to protect the red sandstone mountain-encircled desert (made famous by T E Lawrence) from desecration by unregulated motor vehicles. Here, the police patrol on

camels. The Mahmiyyat Zubiya Reserve at Ajlun was opened in the 1980s to reintroduce roe deer and Persian fallow deer. We explored its stony hillsides covered with wild flowers, pistachio, carob, pine and wild strawberry trees. In the afternoon we relaxed – below sea-level – in Dibbin forest. It is one of 17 sites that have been declared 'Important Bird-watching Areas' – where protection from hunters is being introduced. Pink, white and yellow cistus carpeted the earth beneath evergreen and deciduous oak, Aleppo pine, and the red branching *Arbutus andrachne*. This tree is important to forests where fires are likely. Its seeds only germinate after fire, when the seedlings spring to life and help re-establish the forest and its habitats.

The work being done to cherish Jordan's countryside has become a model for Middle-Eastern countries. Guy Mountfort is now 95 years old, and should be proud. For good advice to be given and so well taken is rare – such success stories should not go unrecorded if today's creatures are to avoid the mythical fate of the unicorn ■

Jill Burberry is a retired freelance gardener, who worked at Kensington Gardens. The RSCN initiates TV and other media campaigns and has set up over 1,000 Nature Conservation Clubs in schools. They have opened a training unit in environmental management and published Jordan's first wildlife magazine in Arabic and English, Alreem.

Additional reporting by Malcolm Tait.





The pig issue

EU legislation will outlaw the use of sow stalls by 2013. But with over half of European sows still being reared in inhumane conditions, and fattening piglets cruelly confined for their short life, **Ed Metcalfe** says it's not yet enough.

A couple of years ago, two pigs escaped from an abattoir, ran through a field, swam across a river and disappeared into a forest. The tabloids sent their reporters to save the pigs and a wave of sentimentality and compassion swept the nation. What was upsetting readers were the graphic details in the press of the grisly end the pigs would face unless they were saved. What the press did not report, and what most readers remain unaware of to this day, is the grim conditions that most of Europe's pigs are reared in and confined to during the course of their lives. For most pigs hell does not begin when they arrive at the abattoir. It starts the moment they are born.

The pig industry consists of two different herds. Breeding sows are kept not for their meat but so that they can produce as many piglets as possible. These piglets, or 'fattening pigs' as they are called, are then reared to be eaten.

Intensive farming practices consider it financially most efficient to provide sows with the least amount of space possible, allowing more pigs, more profit and less labour cost per square metre of space. To this end, factory farmers have developed two 'cost-efficient' systems of housing pregnant sows: the 'sow stall', and the 'tether' method.

Pig prisons

Sow stalls are rows of narrow four-sided metal-barred cages. The stall is typically 0.6–0.7m wide and 2–2.1m long (1.2–1.5m² per sow). Since the stall is barely bigger than the sow's body, she is unable to walk or turn around. All she can do is stand up or lie down. The floor of the sow stall is usually solid concrete at the front, where food and water troughs are located, with a slatted section at the rear where excreta falls through to a slurry tank or drainage

channel beneath. The solid concrete is typically without a bedding surface and the sow will frequently be lying in her own excrement, as slats are not an efficient means of drainage.¹ The sow stall is basically a 'veal crate' for pigs.

The tether method is a variation on the sow stall. Here each stall is open at the back and, to prevent the sow from escaping, she is restrained with a short metal chain attached to a collar around her neck, with the other end fixed to the front wall or floor of the stall. Again, there is no bedding.

Breeding sows are usually 'served' (impregnated) for the first time at 6–8 months of age. They are then moved to the sow or tethered stalls for the entirety of their 16-week pregnancy. A few days before giving birth, the sow will be transferred to a farrowing crate. This crate has the same dimensions as the sow stall, with an additional area protected by bars through which the



WWW.FARMSANCTUARY.COM/BBCWILD piglets can suckle. Its purpose is to prevent the sow from crushing her litter in the tiny space into which she is confined. She will be kept in the crate for about one month, after which the piglets are weaned and removed to fattening units. The sow will be 'served' again 7–10 days after weaning – then it is back to the sow stall for another 16 weeks. A sow will typically produce 4–6 litters of 10–12 piglets before being slaughtered at around 3 years of age because of health or reproductive failure. The vast majority of an intensively kept breeding sow's life is thus spent in close confinement.

In recent years, legislation has shifted considerably on the question of sow stalls and tethers. In the UK, sow stalls and tethers have been banned since 1 January 1999. In Sweden they have both been banned since the late 1980s. In Finland tethers have been banned since 1996 and sow stalls will be illegal from 2006. Denmark has passed legislation to end the use of sow stalls by 2014. The Netherlands passed pig welfare regulations that will end the use of tethers by 2002 and sow stalls by 2008. Under EU law all existing tethers must be phased out by 31 December 2005. Although this was important legislation, it left a huge lacuna on the matter of sow stalls, which still

remained legal at the EU level. Animal rights activists feared that farmers across Europe would simply switch from tethers to stalls. The legislative breakthrough came in June 2001 with an EU Amended Pigs Directive – to be implemented by 2013 – that requires that pregnant sows be kept in stalls for no more than the first four weeks of their pregnancy, after which they must be kept in groups. At present well over half of Europe's breeding sows are confined to sow stalls almost permanently (see box below) and will remain so until the phase out is complete in 2013.² Only in Sweden and the UK are there now no sow stalls or tethers at all.

Sow sufferings

In 1997, the European Scientific Veterinary Committee (SVC) reported on the welfare of intensively kept pigs.

The committee was chaired by Donald Broom, Professor of Animal Welfare at Cambridge University. It concluded that sows should not be kept in stalls since 'overall welfare appears to be better when sows are not confined throughout gestation.'³ The SVC reported on a wide range of health problems suffered by sows resulting from confinement in stalls, and many of the committee's findings were based on Professor Broom's research.

Meanwhile, Professor John Webster, Head of the Veterinary School at Bristol University, has found that sows in close confinement have a higher incidence of injuries to feet, inflammatory swellings of joints and abrasions to their skin than do outdoor sows. Such lameness is primarily the result of the concrete or slatted floors that the sows are forced to lie on. Webster found that the damaged

Number of breeding sows confined in Europe

Country	Number of breeding sows	Per cent confined
Spain	2.2 million	72
Germany	2.6 million	75
Netherlands	1.4 million	95
Denmark	1.2 million	80
Belgium	754,000	96
Ireland	174,000	91



✎ joints were a cause of 'chronic pain' for the animals.⁴

It is also common for confined sows to suffer from urinary tract infections. Enforced inactivity is considered a causal factor, as well as the fact that the sow is forced to lie in her own faeces.⁵

Quite apart from physical illness, there is abundant evidence that sows suffer psychologically from close confinement. Pigs are highly intelligent social animals directly descended from the forest dwelling European wild boar. As with its wild ancestor, exploring the environment and foraging for food is an important behavioural characteristic of the domestic pig. Even well fed domestic pigs kept in semi-natural enclosures are found to spend 6–8 hours a day searching for food by rooting ('nosing'), grazing and browsing.⁶ Pigs have highly sensitive snouts, which in France are utilised for unearthing truffles. Locked into the concrete-floored stall the sow's instinct to root and forage is entirely frustrated. The SVC found that 'sow welfare will be worse in conditions where the exploration of a complex environment, rooting in a soft substratum and manipulation of materials such as straw are not possible.' The committee went on to conclude that all sows should have 'access to soil for rooting, or manipulable material such as straw.'⁷

Not only does the sow stall frustrate the sow's foraging behaviour but it denies all social contact too. In natural

conditions, pigs enjoy close contact with each other and sleep in tight huddles to share body warmth. The sow stall also prevents the sow's natural instinct to eat, sleep and dung in separate areas.

Deprived of the ability to engage in their natural habits, confined sows develop a range of abnormal behaviours that indicate they find their barren captivity highly stressful. Apathy is common, with sows sitting motionless for hours on end with heads hung low or pressed against the crate, ears drooping, eyes clamped shut. So-called 'stereotypic behaviour' indicates an even higher level of stress.

Stereotypic behaviour is highly repetitive behaviour carried out for no particular reason. It includes bar-biting, chain-biting, sham-chewing (chewing air), pressing the drinker, nosing in the feed trough, tongue-rolling, head-weaving and attempts to root on the concrete floor.⁸ Broom has observed that, by their fourth pregnancy, stall-housed sows spend up to 50 per cent of their time engaged in stereotypic activities.⁹ Sows that are allowed to walk freely and are provided with straw to manipulate rarely exhibit stereotypic behaviours.

Alternatives and the law

The 2001 Amended Pigs Directive thus secures a huge advance in sow welfare preservation. By phasing out sow stalls by 2013, the Directive forces farmers across

Europe to adopt one of the two alternative systems: free-range or group-housing. From an animal welfare point of view the free-range system is obviously the preferred option. This system involves outdoor fenced paddocks holding groups of 5–20 sows. At around 15–25 sows per hectare, the stocking density is equivalent to a minimum of 400m² per sow, an enormous increase on the 1.5m² per sow in a stall.

Accommodation for the pregnant sows is typically made from corrugated-iron 'arcs', each housing 5–6 sows. In this system, the sows are free to forage and root in the grassy enclosure at will.

The other alternative is group-housing. This traditionally consists of a yard with kennels for shelter or an uninsulated general purpose building where groups of up to 30 sows can roam freely. The Pigs Directive, however, goes further than merely requiring the shift away from stalls, it also prescribes that all group-housed sows should have 'permanent access to manipulable material.' This is a massive victory for animal welfare campaigners since it is by no means the norm at present in Europe to provide straw bedding in group-housing.

In the past, farmers have claimed that bedding is not necessary for thermal insulation in group-housing because the sows are protected from the elements by the building. This, however, ignores the other vital function of bedding: to allow the pigs to engage in their natural



behaviour of foraging and rooting. It is this natural instinct that is protected by the Directive, rather than the need for thermal insulation.

Farmers have also defended sow stalls on the basis that they prevent the fighting between sows and the consequent injuries that can happen in a group-housing system. Farmers fear that fights can break out at feeding time and the dominant sows will eat most of the food starving the weaker ones. This is a genuine concern and a potential problem with group-housing. The SVC considered this problem, however, and was clear that farmers 'can successfully manage sows in group-housing systems' provided they introduce 'feeding systems [that] minimise competition situations'.

The Directive also prescribes a minimum space allowance of 2.25m² per group-housed sow. Reducing stocking density has been found to lower the levels of aggression and confrontation between sows.

Where the legislation falls short

Firstly, the Directive makes no provision to ban farrowing crates. Therefore, for the first four weeks after giving birth, all sows will still be legally confined in crates barely bigger than themselves that do not allow them room to turn around. This is contrary to the recommendations of the SVC, which unequivocally stated that, 'no individual pen should be used that does not allow the sow to turn around easily.'¹⁰

Secondly, the Directive expressly allows sow stalls to be used for the first four weeks after service or insemination. This provision was secured by farmers to supposedly help with the avoidance of miscarriage. Animal welfare campaigners such as Compassion in World Farming maintain that this is sloppy – and cruel – farming practice that 'good husbandry makes simply unnecessary'.¹¹ It may be, however, that this provision will prove redundant in practice, as it will not be economically viable for farmers to switch to group-housing or free-range – as they will have to by 2013 – and maintain a separate sow stall system for just one month of the year.

It is worth noting that farmers need incur no extra costs in complying with the Directive and switching from sow stalls to group-housing or free-range. The vast majority of costs in pig farming are expended on feed and labour – these should not increase with the switch over. The generous 12-year

Going the whole hog

Iain Elliott points out that, due to the nature of the free market, improvements in European pig welfare may have little effect, given the increasing US-dominated globalisation of intensive pig farming.

In 1996, UK pig prices collapsed and, due to global overproduction, they have not recovered. Small family farms have been hit the worst, with one in three of the UK's 4,000 pig farms going out of business since 1994. One-fifth of farms in the UK now control 72 per cent of agricultural output, having 'rationalised' and adopted industrial modes of production. However, a Lloyd's bank analysis has suggested that even with full scale 'rationalisation' the UK will never be able to compete on the world market against the giant US farms, many of which are one hundred times the size of the largest UK operations. Furthermore, Asda, which is owned by the huge US corporation Wal-Mart, wants to avoid UK suppliers completely by switching to four or five giant US-style pig farms in Poland, which would be able to produce most of the 1 million tonnes of pig meat that the UK consumes every year.

- US farms have grown rapidly from 31 pigs sold per farm in 1950 to 1,100 by 1999. In the same period the number of farms has declined by nearly 80 per cent.
- A key role in the 'rationalisation' process has been played by the huge meatpacking corporations, which provide meat for fast food giants such as McDonald's. Animal feed companies have pressurised farmers into signing contracts with the meatpackers in order to finance investment for mechanisation and expansion. This has more often benefited the meatpackers than the farmers, many of whom have gone into debt under so-called 'ledger' contracts. These require the farmer to pay back to the meatpacker the 'negative balance' which accrues when the market price for pork dips below the contract price agreed between the farmer and meatpacker. By January 1999, 64 per cent of the pigs slaughtered in the US were sold under some form of contract in this way.
- Many meatpackers have further increased their control over farming by gaining ownership of pigs at birth rather than at slaughter. This enables them to raise the pigs to their own standards, and to slaughter them at any rate that they require.
- The largest pig producer in the US is the Virginia-based Smithfield Foods. In the year 2000, they owned from birth over 60 per cent of the pigs they slaughtered. Not content with dominating the US market, Smithfield Foods is expanding abroad. It now has 51 per cent of the voting control of Animex, Poland's largest meat and poultry processing company, against staunch opposition from Poland's family farmers and food workers.
- In 1998, *Time* magazine reported that the death toll for pigs at seaboard farms in Oklahoma was 48 deaths an hour or 420,000 per year.
- Up to 20 per cent of breeding sows die prematurely from exhaustion and stress due to the restricted confinement and accelerated breeding schedules they suffer.
- Medical scientists have estimated that 40–45 per cent of the antibiotics produced in the US are given to farm animals. Eighty per cent of these are used sub-therapeutically, which means that the doses suppress but do not cure the diseases flourishing in the overcrowded and stressful conditions of the factory farm. Sub-therapeutic doses have allowed the growth and development of antibiotic-resistant bacteria, which, once they have passed through the pig, enter the environment.
- In 1998, an expert panel convened by the WHO identified liquid manure spreading as an easy route for salmonella bacteria to spread into the natural environment. Water supplies have been contaminated when manure has seeped through pit walls into groundwater tables. Liquid manure pits have also been responsible for very high methane emissions and for the release of over 400 dangerous compounds into the atmosphere. Scientists believe agricultural pollution is now as great a threat to air quality as emissions from power plants and factories.

Iain Elliott is a freelance journalist.



Florida test case

On 19 June 2001, the EU passed legislation to phase out sow stalls throughout Europe. In the US, a coalition of animal protection groups, including the Animal Rights Foundation of Florida, the Humane Society of the United States, and Farm Sanctuary, are co-ordinating a campaign to ban this same cruel crate system.

The campaign is starting in Florida, which needs 700,000 registered Florida voters to sign a petition saying they do not support sow stalls, or gestation crates as they are called in the US. This time the votes in Florida might actually count.

For more information on gestation crates, the petition or the campaigns, contact:

Floridians for Humane Farms
1859 South Dixie Highway
Pompano Beach, FL 33060, USA.
Phone: +1 (954) 946 1691, fax: +1 (954) 946 1694, email: info@BanCruelFarms.org, web: www.bancruelfarms.org.

Compassion in World Farming
Charles House
5A Charles Street
Petersfield, Hampshire GU32 3EH, UK.
Phone: +44 (0)1730 2642208, fax: +44 (0)1730 260791, email: leah@ciwf.co.uk, web: www.ciwf.co.uk.

phase-out period means most buildings with sow stalls will have come to the end of their useful lifetime by 2013 and would need to be replaced anyway.

Thirdly, the most glaring omission is the failure to legislate for the conditions in which fattening pigs are kept. These piglets are weaned from their mothers at four weeks of age and are usually placed in old, damp, poorly ventilated, poorly insulated buildings where they remain for five months before slaughter. Straw bedding is seldom provided and is not required by law. As with sows, the piglets need to forage and root but are unable to on the barren concrete or slatted floors. Overcrowding is atrocious: less than 0.5m² of space per piglet is normal. Injury and illness are common. Just as sows prevented from rooting develop stereotypic behaviour, the piglets too develop abnormal characteristics such as chewing and biting off each other's tails.

To prevent tail-biting farmers dock each piglet's tail with pliers or a hot docking iron (no anaesthetic is used) causing the animal extreme pain – something the SVC were very clear about: 'Tail docking is likely to be painful when it is carried out and it has been demonstrated that in a proportion of animals it leads to neuroma formation and hence to prolonged pain.'

Routine tail-docking is actually prohibited by a 1991 EU Pigs Directive but the law provides an exception where there is evidence that tail-biting has occurred as a result of a failure to dock. As a result of this very broad exception the prohibition is widely

ignored with up to 80 per cent of piglets in the UK being tail-docked.

As the SVC has said: 'The problems of injury following tail-biting should be solved by improved management not by tail-docking.' This means that the conditions in which the piglets are kept should be improved: stocking density should be reduced, straw or some other manipulable material provided for bedding and an adequate supply of food and water maintained. These measures have been found to drastically reduce the incidence of tail-biting.

Tail docking is not the only mutilation that fattening pigs suffer. Though the practice no longer occurs in the UK, across Europe piglets are routinely castrated to avoid 'boar taint' affecting the quality of the meat. On many farms it is also common to clip the piglets teeth to prevent them from lacerating the sow's udder. The SVC considered both these practices painful and unnecessary.

We are what we eat

Mahatma Gandhi reputedly said that the state of a nation's evolution can be determined by examining how that nation treats its animals. From 2013, Europe's sows will be afforded a greater degree of welfare protection than at any time hitherto. There will, however, still be glaring cruelty in the way that fattening pigs are kept during their short lives and sows confined after service and during farrowing. As long as pigs continue to be treated in this way our own evolution will be stunted ■

Ed Metcalfe is a freelance journalist. References on page 82.



RECLAIMING DEMOCRATIC LANGUAGE

Jeff Milchen believes that grassroots activists should tackle the terminology of the trade tyrants, and not be wrong-footed by corporate propaganda.

Many students experience a breakthrough on the way to mastering a foreign language. An epiphany of sorts occurs as they suddenly start thinking in the language they are learning. After achieving that breakthrough, their success accelerates dramatically. A similar transformation is needed if we are to assert genuine democratic interests against the growing anti-democratic power of corporations. We must be bolder in speaking, writing and thinking in the language of democracy, not accepting uncritically the language of our opponents.

The promoters of global corporatism have made the expressions 'globalisation' and 'free trade' tools in their campaigns to consolidate power, authority, and wealth, to frame and control public debate, and to divide and conquer opponents.

Globalisation is presented, by corporations and their political allies, as an inevitable process of increasing interconnectedness across the world. To be 'anti-globalisation' is therefore widely perceived as to be 'anti-progress'. Yet most activists still obstinately proclaim themselves 'anti-globalisation', playing straight into opposition hands.

Similarly, when we argue for 'fair trade' instead of 'free trade', corporate interests present us as anti-freedom. A more powerful strategy would be to use accurate phrases like 'corporate rule' to describe agreements that serve the interests of mega-corporations whilst undermining democracy and local communities. We should refuse to use a term such as 'free trade agreement', unless we are calling attention to its fraudulence. Under present conditions, with individual corporations able to buy up both governments and judiciaries, the free-market system is a fantasy.

Today's trade agreements involve the exercise of raw power, so that the monopoly interests of big business can override labour rights and environmental protection. The WTO

and other institutions of corporate governance stand in opposition to democratic attempts to safeguard workers' interests, public health and the environment. Since it is hard to justify undermining democracy, they claim to be 'against protectionism'.

Rather than argue against the free market, we should expose the term's misuse by corporate and government propaganda machines. The treaties to enforce corporate commerce agreements are full of barriers that benefit transnationals by preventing market competition. Many proposed global commercial treaties would outlaw crucial safeguards for clean air and water and safe workplaces. At the same time, they would often strengthen some of the most expensive, economically wasteful, and (in the case of life-saving pharmaceuticals) 'deadly forms of protectionism', according to economist Mark Weisbrot of the progressive US group, Center for Economic and Policy Research. He is referring to the patents, copyrights, and other monopolies commonly grouped under 'intellectual property rights'.

Progressives can exploit blatant deceptions such as the contradiction between professed free-market ideology and corporate protectionism and debunk the idea that actual free trade is the goal of the WTO, IMF or other institutions espousing such rhetoric.

We can enlarge a coalition for democracy by employing language that welcomes others. For example, we must draw an appropriate distinction between giant corporations and small businesses, co-operatives and community-based enterprises. Small businesses suffer from pro-corporate policies and so we should be welcoming them on board. However, supporters of democracy and ecology often lump together millions of independent business owners with the transnationals by the catch-all word 'business', thus alienating small businesses and perpetuating the illusion

that they have something in common with corporations.

Our challenge is to distinguish the global corporation forced on the world by the WTO and G8 from the positive cross-cultural connections made by grassroots organisations. Grassroots globalisation can create real self-governance, promote co-operative ownership of resources, strengthen local economies, and ensure community control of energy, water, education, health care and food. People in different communities should be able to preserve their own cultures, but also trade with each other under voluntary, mutually beneficial agreements. Protection of human needs, individual freedom and the welfare of the planet would be the primary goals. No party should have the power to dictate the rules to other communities and nations.

Democracy movements defying the growth of corporate power are growing, but our struggles will not be won by using the language of oppressors. Our words and actions must reflect our ability to think of ourselves as citizens in command of our institutions.

We as democratic activists must seize the offensive to realise our goals. To halt and then reverse the corporate consolidation of power requires more than defending ourselves against the latest assaults on democracy, or threats to ecological balance. It requires us to stop merely reacting to the corporate agenda and language and define the issues on our own terms. This emphatically does not mean adopting revolutionary language or forcing our supporters to be 'politically correct'. Instead, it means reclaiming the language of democracy and freedom as we grow from an anti-globalisation movement into a democracy movement that defines itself by what it champions.

Jeff Milchen is the founder of ReclaimDemocracy.org and the American Independent Business Alliance.



AN INNER-CITY DUCK STORY

Access to nature is a fundamental right from which many are being excluded, says **Judy Ling Wong**, and it's time for the Green movement to take action.

If we are serious about community environmental participation, let's consider this key performance indicator: by what age should all children in Britain have seen a duck?

Recently, I was visiting the project officer of a nature study centre in an inner-city park. The sun was shining and birdsong was in the air. When my meeting came to an end, I went out of the office into the midst of a group of wildly excited nine-year-olds on a school visit, many of them from ethnic minority groups. I talked to the class teacher and discovered that the reason for the excitement was the presence of two ducks on the pond. Most of the children had never seen a live duck. In fact, many of them had never been to the park before, although they lived within easy walking distance. Fears about child abuse have meant that parents or carers do not let them roam freely. A trip to the park is a special treat.

This is the story of many inner-city children, who live in some of the worst environments, and whose lives have no respite from deprivation. Deprivation does not always stem from lack of amenities and programmes of activities but from lack of access to them. I define deprivation in aesthetic as well as material terms. It is a lack of access to the variety and beauty of life, which others might take for granted.

The excitement these children show on encountering a real duck shows the surge of emotion that can run through us all when we have the opportunity to have real contact with nature.

For environmental education to acquire meaning it has to be more than mere 'book learning' and pious declarations about saving the planet. It has to be about practical engagement with the natural world. Its purpose should be to remove the artificial barriers between humanity and the rest of nature, so that contact with nature can become routine for all.

And surely we should regard contact

with nature as our birthright. For disadvantaged social groups especially, environmental and social justice issues are as one. Environmental participation should be seen as part of the democratic process, not a mere optional extra. Citizenship is about creating opportunities for individuals from all backgrounds to participate in a cycle of experience, so that they may reach their full potential as human beings. In this sense, the 'right' to contact with nature is at least as important as the 'right' to go to school and pass exams.

In Britain, and the West in general, the word 'environment' is associated with a peacetime vision of bucolic pastures and the protection of wildlife amid a world of plenty. This vision is heavily coloured by the myth of 'nature' untouched by – and hence separate from – human beings. Wildlife and nature preservation and conservation are of paramount importance. However, the context for environmental participation is much wider. Environmental participation requires political (and economic) decentralisation, so the needs of local communities and their environments can be addressed too. This has cultural implications; multiculturalism should encompass biodiversity as much as human cultural diversity.

My encounter with the nine-year-olds illustrates the depth and complexity of the task before us, if we are to extend to disadvantaged communities the basic right to:

- contact with nature,
- the enjoyment and use of the environment,
- information and understanding of the environment,
- the acquisition of skills that make a practical contribution to the environment.

Society cannot be truly inclusive until it is ecologically sustainable. Tackling social exclusion, therefore, involves addressing the problems of aesthetic deprivation and lack of access to the natural world,

along with economic deprivation, educational disadvantage and the emotional dislocation caused by family and community breakdown. A denatured environment is also a dehumanised environment, in which full citizenship and full human rights are denied. Environmental deprivation is a form of captivity, which has a distorting effect on human behaviour. It exacerbates the problems already experienced by the disadvantaged, making human relationships dysfunctional and contributing to the spread of anti-social behaviour, mental illness and a wider sense of alienation, from both nature and society. Crime, drugs and child abuse fill an ecological, as well as emotional and moral void.

One of the main purposes of environmental campaigning should therefore be to 'give nature back' to disadvantaged communities, including – but not exclusively – the ethnic minorities. The issue of environmental exclusion has been overlooked for too long by too many environmental activists, and by too many environmental agencies and organisations. Environmental groups would do well to examine their internal cultures, asking themselves whether they are sending out a positive enough message to disadvantaged urban populations. For too many, 'Green' still means 'white' and environmental issues are associated with suburban privilege. A more inclusive environmental movement, in which all individuals are valued, would ultimately have more political clout. It would be a more truly ecological movement too, and would gain much in wisdom and insight.

The plight of the children in the park should concern all environmental campaigners. There should not even be five-year-olds who have never seen a duck.

Judy Ling Wong, OBE, is director of the UK Black Environment Network.



WAKE UP TO REALITY

GM corporations have crawled so far up the channels of power that they're on the brink of destroying our national food security, says **Stephi Roth**.

So, it turns out that having spent \$64 million of European taxpayers' money, and rattled through 81 research projects, the EU Commission has suddenly decided that not a single study on the use of genetically-modified organisms (GMOs) in agriculture has found 'any risks to human health and the environment'. If anything, it concludes, 'the use of more precise technology and the greater regulatory scrutiny probably make them even safer than conventional plants and foods'. Mother Earth's products, much enjoyed over the last few thousand years, are no longer to our taste, we are told.

What better time could there be for David Byrne, EU 'consumer health commissioner', to travel to Washington, capital of the world's largest GM producer, with the avowed intention of lifting the three-year moratorium on the marketing of new GM products? In fact, if timing is of the essence, why bother even to wait for the EU's much heralded 'farm to fork' labeling guidelines (see *News*, 31/9) to be implemented? Why, indeed.

'We agreed that the secret to moving ahead with all this is to get the authorisations moving again,' he told reporters. However, what Byrne had not banked on in these times of global co-operation and unity was... dissent. No sooner had he returned from his little bit of whistle-stop diplomacy, than a majority of EU governments reacted by rejecting the idea of lifting the three-year ban on importing and planting new GMOs. 'This is problematic, and I don't know how to solve it,' Margot Wallstroem, EU environment commissioner complained to ministers, 'we are in an illegal situation.'

What the commission is worried about, of course, is the prospect of yet another complaint, this time from GMO exporters such as the US, being brought before the WTO. The WTO, so the commission wants us to believe,

could then force it to overrule national governments and approve GMOs for use anywhere in the EU. If that happened, as, according to the rules of the WTO, it should, it would make a complete mockery of any of the EU's claims of democratic accountability. The simple truth is that Wallstroem and the EU Commission want to lift the moratorium asap.

On the one hand you have the French Environment Minister, Yves Cochet, insisting that: 'It isn't possible to start discussing a possible end to the moratorium as long as there is no operational system on traceability and labelling.' On the other, there are a few EU countries who seem more than willing to accept the Commission's strategy. And guess who tops the list?

Afraid so – although Tony Blair, supported by Sir John Krebs's Food Standards Agency (that great consumer watchdog), doesn't just want to accept the guidelines, he actually wants current EU labelling proposals watered down! Indeed, it looks as though Blair and Krebs are standing shoulder to shoulder with the country set to profit most from the lifting of the current moratorium, rather than listening to the voices of their own voters/consumers (delete as applicable).

To make sure we don't miss the seriousness of this message, the US has slapped a \$4 billion price tag on the losses it would incur each year if it can't flood Europe with GM products nobody wants or needs.

Meanwhile, the 'people's government' (whose advisors include boffins so brainy they can't even tell sheep from cows) have once again shown their disdain for the views of their own populace. In September, the Agriculture and Environment Biotechnology Commission (AEBC) warned ministers that, where GM crop trials were concerned, they needed to start heeding the broad range of concerns held by the public. In other

words, it was time to pay attention to such issues as socio-economic impacts, ethical issues and democratic processes such as local accountability and consultation.

All very well, but pitched against such 'local' concerns, of course, is massive corporate might. For years companies like Monsanto and Novartis have been impatiently pressing the EU to lift the moratorium so that they can sell novel strains of modified maize, soya and cotton. For years these companies have been flooding the US market with their unlabelled products. For years these companies have been lobbying the US government to keep pushing their products beyond national boundaries. And because the US has already surrendered to GMOs, agencies like the US Food and Drug Administration feel that they have no choice but to aggressively support the export of GM crops and products. As the \$4 billion a year price tag reveals, the cost of serious resistance for the US grain market alone would be too heavy to bear.

Europe, however, still has a choice, as to how and whether it wishes to succumb to corporate pressure. Now more than ever, food security is too important a subject to be left to technocrats aligned to commercial interests. If the EU Commission gets its way or if the WTO is allowed to rule on this issue, then Europe will forfeit the mechanisms required for self-sufficiency and will set a precedent for a future that is beyond democratic control. And, whatever the US may claim, the aggressive force driving the GM bandwagon forward is not even 'free trade' but vulgar 'mercantilism'. It's time to stand up to the corporate bullies and pull back on the reins once and for all.

Visit www.greenpeace.org and sharpen those pencils.

Stephi Roth is news and campaigns editor of The Ecologist.



BOMBERS AND BURQAS

Aidan Rankin lifts the veil of liberal fundamentalism.



She was a Home Counties girl, now she's bombing Afghanistan,' crowed a Sunday broadsheet, soon after the anti-Taliban campaign was unleashed. Similar headlines extolled the 'exploits' of a young British-born American woman named Ashley, one of the handful of female 'Top Gun' pilots in the US Navy. Hers, we are told, is a 'Girl's Own Story' and already she is being lionised by publishers and filmmakers, ever on the lookout for a politically correct theme. The only woman in the Black Lions squadron, Ashley has been dropping bombs on Afghanistan 'every day' and, in her own words, is credible, experiencing great personal fulfilment. 'I was smiling: I dropped my bombs. They hit,' she told *Sunday Telegraph* reporters proudly. Of the Taliban fighters, she observed: 'they didn't wake up until I dropped one right on top of them. It was really exciting... We [female pilots] are very few and far between but we just do our job like everything else. I really love it.' For such human insight, one prominent publishing house is offering 'a very healthy advance'. The lieutenant, its spokeswoman claims, is a 'role model' who can 'take off where Andy McNab and the rest [i.e. male warriors] left off'.

The lieutenant's choice of words betrays more than the callousness of youth. It reflects a contempt for human life characteristic of Western – and particularly American – culture in its present 'liberal' phase. All experiences, from shopping to bombing, are interpreted in terms of short-term satisfaction, regardless of ethical considerations and with a soulless indifference to human or ecological consequences. Liberal fundamentalism reduces the bombing raid to a career option to be 'open to women' and so the taking of life – including women's and children's lives – is celebrated as an exercise in 'equal opportunities'. Indeed, for ideological reasons, the US (and sections of the British) Armed Forces place the provision of 'interesting careers'

for women above operational effectiveness and the welfare of the young, mainly working class, men, who bear the brunt of the fighting without the sexy photo-ops or 'healthy advances'.

Ashley's 'love' for bombing Afghans is far from heroic. It is tragically remote from the traditional ethos of fighting men, who grit their teeth as they carry out hateful tasks and think of their comrades and countries, not their careers. Contrast Ashley's self-advertisement with the words of Lt Colonel David Capewell of 40 Commando, Royal Marines, a force as yet uninfected by the 'PC' virus: 'I have no personal animosity towards the Afghan people... We never underestimate anybody, and we will take considerable time working out the Taliban's strengths and weaknesses.' Of the men serving under him, Capewell declares: 'There is no sense of triumphalism or retribution. These are people who are simply here to do a difficult job – and do it well.'

However some readers might view military ethics, they at least contain some core values, from which the ecology movement might usefully learn and adapt to our own non-violent aims, our 'truth-struggle' to use Mahatma Gandhi's words. These include loyalty, responsibility towards others and the sense of historical continuity that gives a regiment, or any band of fighting men, its *esprit de corps*. Such values are far removed from those of consumer society, or the rights-based culture of demand that modern 'liberalism' promotes. The warrior does not 'love' war or regard it as a career. Instead, he is likely to do his 'duty' with gritted teeth.

The military ethic calls upon men to show courage and integrity. Ashley's career bombing, by contrast, is catwalk combat chic translated to the theatre of war, with liberal lashings of callous nihilism. Were a terrorist to boast of 'smiling', he or she would be viewed with revulsion and held up as proof that terrorists are 'evil'. Ashley's words call to

mind those of Bernadine Dohrn, co-founder of the 'Weather Underground', a cell of urban terrorists that splintered from the student New Left. When she heard of the killing of Sharon Tate and her friends by the drug-crazed disciples of Charles Manson, Dohrn merely laughed and said: 'Wow! I dig it. It blew my mind.' The psychopathology of 1960s Marxism-Hedonism has penetrated everyday American life from mall to mess room. It is a system of organised amorality that American liberals and, increasingly, their European counterparts, regard as a model of human rights, to be imposed on the rest of the world, by clusters of Starbucks where possible and cluster bombs where necessary.

I cite this example of equal opportunity bombing because it has wider implications for the cultural conflict at the root of the 'war on terrorism'. For it is not a war on terrorism at all, or a conflict of Christian and Islamic values, or 'civilisation' versus 'barbarism'. After all, there were more executions in Texas last year than in the Taliban-controlled areas of Afghanistan. Nor are the partisans of the 'war' defending Western ideals. Rather, the bombing of the Afghans should be seen as an episode in a struggle, on behalf of liberal fundamentalism. This ideology is concentrated in the US but has increasing influence in Europe, especially in the transnational agencies of the EU and is spreading over the 'developing' world through economic hegemony and a secular missionary impulse.

Islamic terrorists, including Osama Bin Laden, are the creatures of liberal fundamentalism. This is true in the literal sense, because Bin Laden and his cohorts were armed and trained by the CIA when the 'enemy' was Communist, instead of Muslim. It is true in a more profound sense, however, for it is the encounter with modernist Western ideology that fuels support for fundamentalism and a more generalised antipathy to the West, not just amongst Muslims, but amongst

Hindus and in traditional African societies that have embraced 'Western' Christianity and take it seriously. Many Muslims cite the behaviour of American troops in Saudi Arabia during and after the Gulf War as the start of their disillusionment with the West. A good number of these young people – men and women – not only failed to observe local customs, but also openly and proudly flouted them, in a manner unprecedented on territory held to be sacred. Their indiscipline was a symptom of the corrosive effects of political correctness, undermining any sense of honour and making them less equipped for battle, let alone drawn-out conflict. The refusal to respect another culture was also motivated by ideology. Liberal fundamentalists do not regard cultural differences as valid. They have but one interpretation of 'rights', based on dominance, which they believe to be valid for all human societies – and which, in turn, they claim a 'right' to impose.

Western politicians, anxious to hold the fragile 'coalition' together and reassure their Muslim minorities, tell us endlessly that this is not a war against 'Islam'. Yet the attack on Afghanistan and the so-called 'war against terrorism' are proxies for a liberal fundamentalist Kulturkampf, conducted within the US and other Western societies as well as the benighted 'Third World'. For some years before the 11 September atrocities, the Taliban regime has been a convenient liberal hate symbol – and hell hath no fury like a liberal fundamentalist scorned. The Taliban, who (in ironic parallel to the American 'New Left') emerged from the student movement, are fundamentalists who impose a grotesquely distorted version of Shar'ia law, a form of Islamic political correctness that eschews the scholarship of traditional Islam and has arisen largely in response to misguided 'modernisation' policies, of Soviet and then Western inspiration. Liberal fundamentalists have singled out the Taliban's treatment of women for ritual denunciation. This is because images of Taliban extremism provide a useful foil for the denunciation of all of 'Islam' and beyond that all religions, cultures and traditions that assign different roles to the sexes, even those that give high status to women. Indeed any person, male or female, who

rejects the dominant liberal fundamentalist interpretation of feminism can be accused of being 'like the Taliban', or placed in the same box as 'religious extremists', the word 'religious' pronounced with special hatred and scorn. Like other bigots, liberal fundamentalists find it easier to attack than discuss.

The burqa is now notorious as the Dalek-like, all enveloping robe that women under Taliban rule are forced to wear outdoors. Liberal fundamentalists hate and love the burqa. They hate it because it appears so antithetical to their ideology, which makes a virtue of coarse, loveless forms of sexuality and seeks to abolish differences between women and men. They love it because it provides a propagandist stick with which to beat non-Western cultures. Only Western 'democracy' can give 'equality' to women, the argument runs. The burqa dehumanises women, deprives them of their dignity and symbolises their subjection to 'patriarchy'. Furthermore, it is the logical conclusion of 'male dominance' or any attempt to distinguish male from female roles.

For liberal fundamentalists, therefore, Bomber Ashley is a success story, for she fulfils their imperative of 'challenging gender stereotypes'. But this is where the logic of liberal fundamentalism breaks down and their secular moral absolutism is laid bare. Western liberals accuse traditionalists, in their own societies as much as anywhere else, of limiting 'opportunities' for women. Their version of feminism, however, extols the virtues only of women in 'men's' jobs or 'breaking down male bastions'. Liberal fundamentalists use political and economic means to force women to have careers, placing 'equality' before freedom and ignoring many women's needs and desires. Bomber Ashley is a hero (it is old-fashioned to say heroine), but a mother who protests against cluster bombs is a potential 'terrorist sympathiser'. In Britain recently, the government-sponsored Equal Opportunities Commission lamented the fact that girls still choose 'women's jobs', including such trivial tasks as nursing, social care and teaching, or frivolities like drama and hairdressing. Rather than raising the status of these 'female' professions, the liberal fundamentalists

of the EOC enjoin women to take up 'male' occupations like engineering. They want 'more women' in the boardrooms of multinationals, not fewer multinationals and stronger local economies. Indeed the rhetoric of modern liberalism abolishes 'sex' as a descriptive term altogether, putting in its place a vague, quasi-sociological concept of 'gender'. Simone de Beauvoir expresses with refreshing Gallic honesty the true liberal fundamentalist view of women: 'No woman should be authorised to stay at home and raise her children. Society should be totally different. Women should not have that choice, precisely because if there is such a choice, too many women will make that one.'

Liberal fundamentalists claim to be the exclusive champions of equality, but really they value only traditionally 'male' spheres of influence, whether political, military or crudely materialistic. Their philosophy is quite different from the eco-feminism of Vandana Shiva, for example, which aims for a creative balance between male and female principles – a more equitable society and a more equitable relationship between humanity and their nature. Liberal fundamentalism exalts male stereotypes – for women – but attacks masculinity with puritanical fervour. It is the aim of American feminists, especially, to deprive boys of male mentors and if possible abolish fatherhood altogether. New York polemicist Gloria Steinem summed up succinctly their agenda when she said that 'We need to raise boys like they were girls', in other words force them to deny their true natures as boys. The sexual politics so central to *bien pensant* liberalism is, in a subtle way, as oppressive as any clerical dogma.

Liberal fundamentalism is founded on moral confusion and double standards. When loyalty and sense of community are undermined, when men and women are pitted against each other in 'gender war' and when tradition or custom count for nothing, then only commercial values can prevail. The bomber and the burqa are not opposites, but two sides of the same dehumanising coin – like globalisation and political correctness. Ecologists of the world, beware!

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HIGH RELIEF

A LANDMARK RULING ON NIGHT FLIGHTS SUGGESTS THAT THE EUROPEAN COURT IS WAKING UP TO THE WIDER IMPLICATIONS OF THE 'POLLUTER PAYS' PRINCIPLE, SAYS **RICHARD BUXTON**.

Laws protecting the environment, both for the benefit of humans and for its own sake, have been in existence since mediaeval times. The problem is one of getting them enforced – and, when someone has the temerity to try, to overcome the resistance of the courts, affected businesses, and authorities reluctant to impede business, or simply shy away from doing anything.

The battle against night flights started in 1993, when the Government introduced a new scheme of restrictions for London's airports, against the background of a policy of not increasing night-time noise levels, and ideally improve them. In fact, the scheme was plainly going to make things worse, by increasing the number of flights allowed. In residents' experience, it is the number of flights, not the noise they individually make, that matters. But the Government faced commercial pressure to increase the number of flights, and to try and capitalise on quieter aircraft. One of the sleights of hand used to counter the claim that the number of flights would increase was to reduce the length of the regulated 'night'.

The Government scheme failed three judicial reviews. In the first in 1993, the judge likened the scheme to one from *Alice in Wonderland*; in the second in 1994, the court recognised that the scheme was directly contrary to policy, and in the third in 1995, one judge described it as 'devious and deeply unattractive' and a 'farrago of equivocation'. But there was a lot of airline pressure, the government clung to the policy, and the courts finally upheld the scheme in 1996. The Court of Appeal helpfully commented that residents had a right, under the European Convention on Human Rights, to enjoy quiet nights. The government had, however, properly exercised its discretion in impinging on those rights. The House of Lords refused leave to appeal and so, having exhausted domestic remedies, it was time to go to Strasbourg.

The court there has an enormous constituency – around 800 million people. It gets thousands of complaints about infringements of human rights, so is very difficult for a case to be 'admitted'. However, in May 2000, residents passed through the eye of that particular needle and gained a hearing. The airline industry, which had previously lain dormant, rushed to make an unusual but unconvincing intervention about the economic importance of night flights. The Government's lacklustre performance on the night flights issue at the inquiry into a proposed fifth terminal at Heathrow bolstered residents' claims.

Article 8 of the Convention guarantees people a right to respect for home and private life. This can be interfered with, for, among other reasons, the economic interests of the country. In its judgment, the court identified at least two factors (the prevention of sleep, and the economic importance to the country) that the government simply had not grappled with in coming to its decision, and concluded there was a violation of Article 8.



IMAGES SAWS FRONTIERS

By Article 13, the Convention also guarantees effective remedies before the national courts. In judicial review proceedings about the new scheme, the English courts simply would not listen to claims that the government had not properly balanced the various factors. So it was held in violation of that Article too.

The Court has not (contrary to impressions one might gain from the press) banned night flights, or otherwise intruded into what is rightly in the discretion of the national government. Nevertheless it has said that if a government is going to infringe on human rights, it must do so carefully – and the national courts must be capable of reviewing its conduct. The principles were already there in Convention jurisprudence, but they had not before been applied to a case involving such big commercial interests and so many affected people.

The decision is a useful and important legal advance. Article 8 does not only apply to aircraft noise – or just at Heathrow. Aircraft noise is a particular problem owing to specific laws preventing taking action in nuisance, but there are many other activities where the ordinary law of nuisance may not in practice give a sufficient remedy either. It is useful to saddle the authorities with some positive responsibilities to take care, for example, in reaching planning decisions – otherwise they themselves may face financial consequences. The same may well be true in relation to protection of property: permitting something that may impinge on the value of someone's house may infringe Article 1 of the First Protocol to the Convention.

The Convention has not yet been directly applied to non-human concerns, but it takes little imagination to see it developed to protect the environment for nature's sake.

The recent judgment is technically an 'interim' one: the government may try and appeal it. However, although it is an important and logical development of the law, one hopes and, indeed, expects that the UK government will recognise that the Court's criticisms are valid. It should get on and review its scheme of night-flying controls honestly and openly. As the President of the Court, Judge Costa, said in thoughtful supplementary comments, one way forward would be for the beneficiaries of the flights to compensate those affected, and if that is not possible, the whole question of night flights should be reviewed in its entirety. Such an approach would soon show whether the flights are as important as all that to those who carry them out. We see the concept of 'polluter pays' entering the mind of the Court. And if you can't pay, stop. Most encouraging.

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HUNG OUT TO DRY

**RICHARD MILTON EXPOSES ANOTHER
DISASTROUS WORLD BANK INTERVENTION, ALL
DONE IN THE NAME OF AID.**

One object lesson from the Arab world that the WTO would have done well to study carefully is the case of Yemen. In 30 short years, with World Bank cash and Western 'know-how', Yemen has been transformed from a mediaeval society to a modern developed country complete with Westminster-style elected parliament with women MPs and cabinet ministers. At the same time, though, it has gone from being a country that produced more than 1 million tonnes of grain annually in the 1970s to one producing barely 150,000 tonnes today, and a country where a crisis in the supply of drinking water is so acute that people in the second city, Taiz, wait up to 40 days for their taps to run.

The decline was documented in a film, *The Hanging Gardens of Babylon*, by English agricultural engineer, Tony Milroy, director of The Arid Lands Initiative, a charity formed to study Yemen's successful traditional methods of water management and to campaign for their re-introduction both in Yemen and elsewhere. Milroy was first struck by the skill of Yemen's farmers as world experts in the management of arid lands in the early 1980s, when drought hit Ethiopia and Sudan. As the people in those countries died, only 60 miles away across the Red Sea, under similar climate and conditions, Yemen came through unscathed.

The reason, he discovered, was their traditional method of farming in a unique closely co-operative partnership, sharing available rainwater in a remarkably efficient system of terracing and irrigation. Yet when he returned at the end of the decade, Milroy found the same systems were in crisis. What had happened in the interim was the oil boom – and a rush to 'modernise' Yemen's agriculture by Western aid agencies.

Tens of millions of pounds were poured in to promote modern, western-style, irrigated agriculture, but, says Milroy, 90 per cent of the aid went to a small number of farmers who had access to diesel pumps and irrigation equipment – those

who were willing to abandon traditional methods and accept Western ideas. 'The effect of this intervention was disastrous,' he says. 'The traditional Yemeni method of agriculture is based on managing flood irrigation. Huge volumes of spate floods coming down from the mountains are distributed by a system of embankments, so water sinks into the soil and is stored in the top couple of metres. The grain they sow chases the water down and is deep rooted. There is enough water for the whole crop and any salt in the water is flushed away to the water table.'

By contrast, modern pumped irrigation methods dribble small amounts of water in the top six inches of soil with the result that crops are rooted only inches deep and hence prone to collapse when water is short. More seriously, salt is not flushed down into the water table but stays in the topsoil, gradually building up. This quickly makes the soil unusable for further cultivation. 'Worldwide,' says Milroy, '50 per cent of the land brought under cultivation by modern methods of irrigation becomes unusable within five years because of the salt content. So traditional methods lasted hundreds of years. Modern "scientific" methods lasted five.' Rather than the successful traditional conservation methods, the approach favoured by aid agencies is to drill and keep on drilling, looking for new water sources. But the overall effect of this is to plunder the existing aquifers, depleting the water table further.

Dam fools

Another part of the intervention in Yemen was the investment of over \$50 million in major engineering to trap the spate floodwaters from the mountains. Teams of Western consulting engineers and contractors set to work. But instead of following traditional methods and building a diversion structure that would spread the floodwater over large areas, they built the huge Swiss-financed Amera dam outside Taiz City, which today merely contains stagnant, sewage-polluted water, and which attracts malarial mosquitoes giving rise to periodic outbreaks of the disease.

'It was at this time that our film came out and the UN and the World Bank started to get a bit embarrassed,' says Milroy, 'because by then there had been such an enormous subsidy for pump-irrigation that the water tables, which had been efficiently managed for hundreds of years by traditional methods, were drying up. Most of the land that was being brought under cultivation was either running out of water or getting terrible salt problems.'

Yemen's farmers paid in other ways for the aid they



received. Alongside the aid agencies, the World Food Programme started bringing in grain. As elsewhere in the world, US wheat was made available at subsidised prices meaning local growers were no longer able to compete on price. This not only impoverished the farmers but, more importantly, devastated the irrigation systems, since the money was no longer available to maintain traditional systems.

Ironically, it was the Gulf War that reversed the decline. Around a million Yemenis were ejected from other Gulf states such as Saudi and Kuwait and returned home. This had a rejuvenating effect on Yemen's terraces and traditional systems because those returning had to go back to the land and so they renovated the derelict traditional systems.

But, although the decline of traditional agriculture has been arrested, the root cause of the problem – misconceived and misdirected Western aid – remains, and its effects are still felt. And so far, the World Bank and aid agencies show few signs of learning from their mistakes. 'In the past two years we've watched a £12 million World Bank pilot scheme for ground water management in Yemen fail – and we've documented it on video,' says Milroy. 'They know it's failed, but they're going to go ahead with a £100 million expansion of the scheme.'

The pilot scheme tried to tackle the crisis in drinking water running out because of the plundering of the ground water resources for irrigation. The £12 million went on drilling contracts, looking for water and not finding it, and distributing the inevitable bribes to landowners.

'They're now going to do the same again on a larger scale in a number of other cities,' says Milroy. 'We've talked to the farmers, we've talked to the engineers and we've talked to the scientists and they're all well-meaning people but they simply don't have any way to stop the steamroller. They have a mechanism where they come in and do post-project evaluations but it's a charade. They don't have any mechanisms to say: "This was a disastrous mistake. Let's learn from it".'

The World Bank's money could solve the problem it has caused. But the World Bank doesn't have the mechanisms and skills and know-how to work alongside the traditional networks of farmers. The philosophy of the Western aid agencies is – if there is a new problem, it has to have some kind of new, modern solution. For them there is nothing in the last 4,000 years of human history that has any relevance to this new problem.

'The main difficulty is you can't make money out of this indigenous know-how. You can make money when you come in with pipes and diesel pumps and concrete dams, but with know-how there's no 10 per cent fee on offer,' comments Milroy. 'Meanwhile most people in the Third World are tip-toeing along the edge of starvation. They have a very acute sense of what their problems are, in which order they could solve them, what resources they need to solve them. My experience of the last 30 years is that people are very clear about what their constraints are. And the aid organisations then have to explore new ways in which the large sums of money which these people deal in, find new mechanisms to help indigenous organisations to come together, to federate, so that they can manage these large sums of money more effectively.'

*Richard Milton is a writer and journalist. His latest book, **Bad Company**, is reviewed on page 77.*

TO WHALE OR NOT TO WHALE?

ACCORDING TO RECENT POLLS, 75 PER CENT OF ICELANDIC PEOPLE BACK WHALING. JOURNALIST **SIGRÚN DAVIDSDÓTTIR** UNCOVERS THE ATTITUDES UNDERPINNING THIS HUGE SUPPORT AMONG HER COUNTRYMEN, AND EXAMINES THE ICELANDIC GOVERNMENT'S ATTITUDE.

The environment is a very real issue in Iceland and the debate here reflects the attitude of people living directly from nature's resources. It also highlights the tension between old attitudes and new trends. Icelanders have pursued whaling for many centuries but, unlike the Norwegians, Canadians or Japanese, are not a whaling nation. In the past whaling around Iceland was mostly carried out by foreigners. Yet in 1986, Iceland fought against the moratorium on whaling, set by the International Whaling Commission (IWC) – bona fide or not, in Iceland the whaling issue is more a matter of principle than any pressing need to whale.

From the 15th century onwards, Basque and later Dutch and Norwegian whalers frequented the sea around Iceland. At the end of the 19th century, Norwegians and other nations ran whaling stations around the Icelandic coast. In 1916, Iceland banned whaling in order to get rid of the foreign whalers and protect its dwindling stocks. The ban was not abolished until an Icelandic whaling company, Hvalur hf (Whale Ltd), commenced operations in the late forties. Since then, this company has been the only one in Iceland hunting for whales, mostly sei and fin whale.

As elsewhere, whaling in Iceland was a seasonal activity and most of the meat was exported. In economic terms, whaling amounted to roughly 2 per cent of the export of fish products.

When the Icelandic parliament debated whether to protest against the IWC 1986 moratorium, parties were split and, with only a single vote majority, the parliament finally voted against contesting the ban. However, there was little sympathy with foreign views against whaling and it only fuelled anger when in 1986, 'eco-warrior' Paul Watson and his fellows on *Sea Shepherd* sank two whaling vessels. As time passed, the Icelandic politicians seemed at a loss against the growing anti-whaling lobby at the IWC, which they felt dictated its policies. Thus Iceland left the IWC in 1992, forfeiting its right to scientific whaling, used by Japan and Norway. Only a few voices whispered that by leaving the IWC, Iceland left the only international forum where whaling policies could be influenced. Thus Iceland attempted, unsuccessfully, to re-join the IWC last summer, adhering to the convention on whaling, but stating its reservations on the commercial moratorium.

As Árni Mathiesen, the minister of fisheries, points out, whaling is impossible if Iceland remains outside the IWC. No one will buy whale products from non-member countries. Following a recent meeting with the Japanese Prime Minister, Halldór Ásgrímsson, the Icelandic minister of foreign affairs, was quoted as saying that Icelanders would 'have to take up whaling again', and that Japan was the market for whale products. But it is not that simple. Norway, for example, has



recently allowed export of whale products to Japan, but Japan has not yet allowed imports of these same products. 'Joining the IWC does not mean that we intend to start whaling right away,' says Mathiesen. 'We only want to have the possibility to do so. It is a matter of principle.'

The 'matter of principle' obviously is an intriguing point. Since whaling is neither a core industry in Iceland nor at the centre of Icelandic culture, how come the Icelandic government has fought so fiercely for continued whaling? The answer is that the principles refer less to whaling than to other issues. Although the conservatives have been at the core of post-war political life in Iceland, political parties have been reluctant to give up the power exercised through state companies and have been heavily intertwined with a few well-situated families, such as those owning Hvalur hf. Another reason for the strong reaction to the whaling moratorium is a profound aversion among Icelanders to being told what to do. Iceland is not a member of the EU, and it does not want its fisheries policy steered from Brussels.

Ásbjörn Björgvinsson runs a whale-watching operation in Húsavík, a small village in the north of Iceland. He explains that the support for whaling 'is more a reflection of national pride and a statement of independence, than a real desire to resume whaling'. Icelanders viewed the rising influence of environmentalists in the 1970s with great scepticism. The photos of clubbed, bloody, baby seals and Brigitte Bardot cuddling furry pups reached the country, but created more disdain for Bardot than for the hunters. The campaigns portrayed wild animals more in the manner of pets, and this met with little understanding in Iceland. Icelanders identified more easily with the hunters. However, the strongest element in the Icelandic attitude towards the anti-whaling lobby was – and still is – the fear that after putting an end to whaling, environmentalists will turn against fisheries. Justified or not, this fear has been at the core of the Icelandic attitude to the anti-whaling organisations. Ásbjörn maintains that Greenpeace and the WWF must promote their policies towards fisheries in a much more reflective way if they are to invalidate this fundamental argument. Árni Finnsson, director of the Icelandic Environmental Organisation, says that

environmental agencies such as Greenpeace and WWF are seen as dangerous because Icelanders do not realise that 'much of the work of these and other organisations has been of great support to Icelandic interests in environmental issues, which the Icelanders have fought for internationally. Indeed, the WWF has just released a report on subsidies in fisheries, where Icelandic fishery policies are held up as a good example to follow.'

The conclusion is that the huge Icelandic support for whaling is seen as a declaration of independence and as a natural part of making use of marine resources. A parliamentary resolution in 1999 to resume whaling, and the international effort that the Icelandic government has put into fighting for whaling can be seen as a further reflection of this attitude.

Ask around in Iceland and the off-the-record answer is that: 'No, the Icelanders will not take up whaling any time soon, but as a matter of principle they want the right to whale.' In fact, the government has been reluctant to follow the parliament resolution, with Prime minister Davíð Oddsson claiming that there is no point in whaling since there is no market for the products. Kristján Loftsson, Hvalur hf's director, is obviously frustrated by the government's attitude. He claims the government is just running scared of what it presumes would be a negative US reaction to whaling.

With 75 per cent of the population in favour of whaling, Ásbjörn Björgvinsson is understandably worried that the practice will hurt both his and the rapidly-growing whale watching business throughout Iceland. With continued growth in the sector it may soon generate more revenue than whaling and he feels that Icelanders cannot pursue both whaling and whale-watching. The image of eco-tourism would be tarnished.

Without fishing, Icelanders might just as well turn off the lights and leave their island, which makes conservation an essential issue. Mathiesen argues that it's the same with whaling as only species that are plentiful would be caught. He points out that the scientific council of the IWC long ago established guidelines and quotas that have not been accepted by the IWC itself. 'We cannot understand that those who rely on scientific research in other areas refuse scientific evidence on the whales.'

Siv Fríðleifsdóttir, minister for the environment, points out that both the US and Canada have secured aboriginal subsistence whaling: 'What people do not seem to understand is that Icelanders are in a way the aboriginals in Iceland,' adding that sustainable whaling should be allowed. 'My foreign colleagues often confide in me that they can see our point of view, and even find it sensible,' he says, 'but since whaling is of no interest to their countries I can understand that they are not prepared to fight for it. However, we Icelanders find it unfair that others buy themselves peace at the expense of a small nation with different interests from their own.'

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MY LIFE AS A CORPORATE PAWN

ERNEST PARTRIDGE DESCRIBES THE GROWTH OF AN INDUSTRIAL PUPPET – THE AMERICAN CHEMISTRY COUNCIL.

On 3 December, 1984, a worker at a Union Carbide plant in Bhopal, India turned the 'wrong' valve, allowing water into a tank of methyl isocyanate. The resulting explosion released some 40 tonnes of gas into the atmosphere, resulting in somewhere between 2,000–5,000 fatalities, and 10,000–200,000 serious injuries – the lesser figures being from Union Carbide, the larger from the Indian government.

Because of this and other incidents, by the late 1980s the level of public trust in the chemical industry was near the bottom of the list of business enterprises. The Chemical Manufacturers Association (CMA), the trade association of the chemical industry, felt that some dramatic initiatives would have to be taken to restore the confidence of the public in the industry. Following the lead of the Canadian Chemical Producers Association, in 1988 the CMA launched a programme called 'Responsible Care,' and in the following year established a Public Advisory Panel.

I was invited to join the panel in 1994; typically we were given presentations by local and national industry officials, and engaged in several hours of free-flowing discussions, unattended by industry personnel.

I would like to say that the corporate initiators and implementers of Responsible Care deserve all the credit that they are due – and that credit is considerable. At our meetings we were shown (and I have no reason to doubt) statistics indicating significant reductions of industrial accidents and toxic releases.

Each year, the panel composed a 'letter' to the CMA which was published in its annual report, and each year (until 2000) a panel member was selected to give a presentation to the association's annual meeting. We endeavoured to make these messages and presentations as positive and upbeat as good conscience would allow. But we never doubted that we owed the CMA our candour. Each year, our primary concern was about 'responsible advocacy' – our euphemism for lobbying and public relations. We were especially concerned about reports (gained from 'outside sources') that soon after the Republican takeover of the Congress in 1994, CMA and industry officials had met privately with GOP congressional leaders and had virtually written their 'revision' to the Clean Water Act. We expressed these concerns to the CMA.

Recently, the panel came to sense that the CMA's enthusiasm for its Public Advisory Panel was beginning to wear thin. From 1997, our meetings were reduced in frequency to three a year and in duration to two days. Less often were we presented with proposals

and work-in-progress for our 'advisory' opinions, and more often we were given reports of settled policy. Especially vexing was the presenters' habit of handing out copies of reports, published weeks and months earlier and then commenting on these items, thus denying us the opportunity to read them beforehand. Throughout, we continued to express our candid concern about CMA 'advocacy' practices – ie, lobbying and public relations.

Probably the most important cause of the panel's eclipse took place 'in the background', beyond the influence of the panel itself. The 'pioneer' corporate executives who established and sustained Responsible Care were retiring and leaving the scene, and were being replaced by a more politically active, profit-oriented, and institutionally defensive corps of officers. The 'public commitment' proclaimed by Responsible Care was slowly but inexorably being replaced by the Milton Friedman rule: 'The social responsibility of business is to increase profits'.

And so, when the Chemical Manufacturers Association officially decided, in its April 2000 meeting, to change its name to 'The American Chemistry Council' and to adopt the slogan, 'Good Chemistry Makes it Possible', the panel was (typically by now) presented with a *fait accompli*. Even so, the panel did not hesitate to express its displeasure with the name and slogan change.

'Chemical Manufacturers Association', we felt, precisely describes the organisation, while 'American Chemistry Council' connotes an academic association (like the existing academic 'American Chemical Society'). The panel's response to the slogan, 'Good Chemistry Makes it Possible' bordered on the derisive. We were later to discover (*sans* consultation) that the Responsible Care slogan of 'A Public Commitment' was to be replaced with 'Good Chemistry at Work.'

Though we may not have fully realised it at the time, that meeting quite possibly sealed the fate of the Public Advisory Panel of the (now) American Chemistry Council. Those name and slogan changes were no doubt the result of expensive and extensive public opinion and focus-group studies. Ours was not the response that ACC had hoped for.

Our next meeting was in Arlington, Virginia, in late October 2000 (the date may be significant). At the close of that meeting, we were advised that: 'ACC is re-evaluating its public dialogue processes, including the Public Advisory Panel.' We were also told that a continuation of the panel was a



distinct possibility, and that we would be informed individually by phone of the council's decision in mid-November.

We can only speculate about the deliberations of the council concerning the future of the panel. However, the timing of the decision in the light of subsequent events makes such speculation irresistible. Was the panel and Responsible Care, 'window dressing' designed to give the industry the public appearance of responsibility? If so, then the panel would be more useful to the council in the event of a Gore victory and Democratic Congress, and a consequent threat of government oversight and regulation. But if Bush and the Republicans brought in an administration and congress much more friendly to the industry, then the ACC could adopt a posture more along the lines of Commodore Vanderbilt: 'The public be damned, I work for my stockholders.'

All this would be presumably settled a week from the Tuesday following the meeting: 7 November, Election Day, whereupon the ACC, as promised, would phone its decision to the panel members. Trouble is, a funny thing happened on the way to that decision. The election was not decided until a month later, 12 December, by the Supreme Court in *Bush v Gore*. A couple of days after that decision, we received our phone call: The Public Advisory Panel was toast.

At our final meeting in June, we were told that a new panel would be selected that would interact directly with the ACC President. On 'deep background' a list of names of possible members was read to us (which, of course, I can not repeat) – 'the sort of high-profile and prestigious individuals that we are seeking for this group.' It is doubtful that any of these estimable individuals are at all aware of the ACC's intentions, and even more doubtful, in my opinion, that they would accept such an invitation. The ACC was vague about its plans and timing for 'the new panel.'

Try as it might, the ACC is unlikely to gather a finer group of individuals than those who served on the now-defunct Public Advisory Panel. This collection of scholars, engineers, scientists, environmental and consumer activists, and community leaders carried out their voluntary service with energy, intelligence, dedication and integrity. They felt that they owed the council nothing more than their attention, their judgment, and their candour, which, it appears, was more than the council was willing to tolerate. In its 'valedictory message', the panel noted 'with disappointment the failure of the council to respond appropriately to the prospect of global climate change, brought about by the release of "greenhouse gases" into the atmosphere. In view of the overwhelming scientific validation of this grave threat to the global environment and to the welfare of future generations, the panel urges the council to reconsider its policy and to join the coordinated efforts of governments, non-governmental organisations and the scientific community to counteract this global threat.'

The response of the ACC to scientific studies and reports on global climate change has been inappropriate and disappointing. ACC President Webber has officially reported that the ACC is actively promoting 'voluntary programmes' among its members to 'contribute to shared national and industry goals... specifically, improved energy efficiency and strengthened international competitiveness; conservation of energy resources; and, reduction of energy-related and other greenhouse gas emissions.' Despite this promising beginning, the remainder of the report is not reassuring. There is no

further mention of energy conservation. Instead, the letter calls for: (a) the 'use of all available and proven energy sources'; (b) the removal of 'regulatory barriers to safe and reliable energy'; (c) 'encouragement of voluntary action' and; (d) further study.

Missing from that letter is any reference to the IPCC report (released in January 2001), the Kyoto Treaty, or proposals for federal or international regulation of greenhouse gas emissions. From sources outside the council, I have learned that the ACC 'pushed to kill the carbon cap' on power plant emissions (*Newsweek*, March 26, 2001). Also, I have learned that the ACC is a contributor to the Global Climate Coalition (GCC), a group funded by the coal and petroleum industries, and described by *Science* editor (and former Presidential Science Advisor) Donald Kennedy as a 'cleverly labeled industrial consortium.'

In 1963, the Manufacturing Chemists Association (predecessor to the American Chemistry Council) launched a public relations campaign to counteract public and governmental reaction to the publication of Rachel Carson's *Silent Spring*. Eventually, ongoing scientific research combined with public opinion and governmental regulation overwhelmed this industry effort, as DDT and other chlorinated hydrocarbon pesticides were phased out of commercial use. In our meetings with the staff of the ACC and with leaders of its member companies, the panel repeatedly heard admissions by these individuals that the response of the chemical industry to *Silent Spring* was a colossal blunder. Indeed, the Responsible Care programme, we were told, was established, in part, to ensure that such a mistake would never happen again.

Regrettably, it is now apparent to this former panel member that, in the face of an even greater challenge, the council is well-embarked upon a course which will repeat that past mistake. In my opinion, 'Responsible Care' means nothing if it does not entail 'careful stewardship' of the planetary life-support mechanisms, and 'responsible concern' for the welfare of future generations. 'Responsible Care' toward the common atmosphere and future generations may well exact sacrifices in the immediate future and curtail private-sector prosperity in the short term. But the weight of scientific evidence combined with the long-term perspective of human and biotic history together lead to an inescapable moral conclusion: industrial civilisation must act collectively and decisively to halt and reverse this global threat, brought about by human industrial activity. For, in the long run, *there can be no prosperity on a ruined planet.*

If the ACC persists in its effort to persuade the public and the government of the US to delay appropriate action in the face of global climate change, it may or may not succeed. What it cannot change are the facts of atmospheric chemistry and physics which continue to strengthen the already overwhelming scientific case for global concern and global action.

The late Nobel Laureate physicist, Richard Feynman, closed his dissent to the Challenger Commission with an observation which will serve well as a warning to the ACC: 'For a successful technology, reality must take precedence over public relations, for nature cannot be fooled.'

University of California professor Ernest Partridge served until recently on the 'public advisory panel' of the American Chemistry Council. For a statement of the ten ACC 'Guiding Principles of Responsible Care' visit: www.igc.org/gadfly/liberal/ACC-RC.htm.

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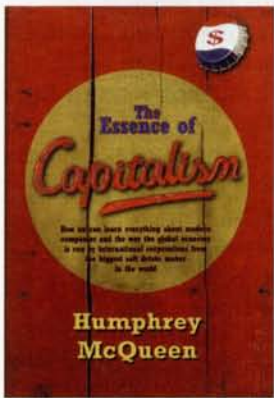
Reviews

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Under review this month: **The Essence of Capitalism** Humphrey McQueen • **The Story of Yew** Guido Mina di Sospiro • **The End of British Farming** Andrew O'Hagan • **The Origins of the Organic Movement** Philip Conford • **Architecture in a Climate of Change** Peter F Smith • **Bad Company: Behind the Corporate Mask** Richard Milton

THE ESSENCE OF CAPITALISM

by Humphrey McQueen
PROFILE BOOKS 2001/£17.99
ISBN: 1861970986



The long subtitle of *The Essence of Capitalism* by Australian historian Humphrey McQueen explains his purpose: 'How we can learn everything about modern companies and the way the global economy is run by international corporations from the biggest soft drinks maker in the world.'

Coca-Cola certainly had humble beginnings: in 1886, in an owner-operated drug store in Atlanta, Georgia, the proprietor poured syrup from a bottle into a glass and then topped it off with soda water. From then until today, the company has fulfilled its one main function – to convince billions of people around the world to drink its sweet caramel-coloured carbonated water from cans, bottles and cups.

McQueen carefully analyses the changing nature of the company, as well as of multinational corporations in general during the last 150 years. He charts the historical development of the different approaches used to become the most wealthy and powerful entities on the planet. The account is

both amazing and frightening.

As powerful and rich as these corporations are today, they still depend heavily on the military and economic power of nation states to further their interests. For example, during World War Two, the company promised to supply Coke to all US troops at the standard price of five cents a bottle. In 1943, the Allied Commander in Europe, General Dwight Eisenhower, hoping to boost morale, cabled Washington: 'On early convoy, request shipment three million bottled Coca-Cola, and complete equipment for bottling, washing, capping same quantity twice monthly'. When the war ended two years later, the US Army had built 36 bottling plants in various countries, kicking off the company's global sales expansion.

Corporations are also heavily dependent on the US government's legal definition of them as 'persons', giving them rights against legal efforts to close them down, while at the same time freeing their owners of financial and moral responsibility in case the business fails or is convicted of destroying the environment.

The tendency to monopolise, to destroy or buy out competing firms, or to secretly or informally fix prices with other corporations, has caused them to occasionally be targeted in anti-trust suits. Their response has been to delay until a more sympathetic government is elected (and in the interim to donate heavily to the political campaigns of both parties to ensure the sympathy is forthcoming!). As an IBM lawyer admitted, he learned at the beginning of his career that: 'I could take the simplest anti-trust case... and protract it for the defence almost to infinity'.

Corporations use 'creative

accounting' to raise the value of their stocks and reduce taxes. For example, the accountants at Rupert Murdoch's NewsCorp Investments were so skilful that it paid no net British corporation tax from 1987 to 1998, despite announcing group profits of £1.4 billion during that period!

Franchises are another gimmick that corporations use to increase profits. US small businessman Ray Kroc bought the rights to McDonald's name and methods in 1954 and made a multi-million dollar fortune because he bought every location cheaply and then forced the franchise owners to pay him rent every month! Cleverly, he also signed an exclusive contract that every restaurant would sell only Coca-Cola.

McQueen's choice of soft drink company is interesting, because it basically sells just one product that, in its sugar-laden form, is clearly unhealthy. A 330ml can of coke contains 46 milligrammes of caffeine, an addictive stimulant of the central nervous system, cardiac muscle, and respiratory system. Reducing a daily caffeine intake can cause headaches, irritability, nervousness, and drowsiness lasting from 1–5 days.

Coke also contains phosphoric acid, which makes the drink an excellent cleaning fluid to remove toilet stains,

'I want it all. I don't want them to have even these niche products'

Roberto Goizueta, Coca-Cola Chairman, 1981–97

rust spots from car bumpers, grease from clothes and corrosion from car batteries. Commercial trucks that carry the Coca-Cola concentrate syrup must display hazardous materials warnings.

Yet through massive advertising of its name and logo, the corporation has fooled the majority of people into

believing that this drink will quench a thirst better than water and bring happiness at the same time. Corporations spent more than \$200 billion on advertising in 1999. In addition to sponsoring sports teams, the Olympics and the World Cup, Coca-Cola also strikes multi-million dollar deals with Colombia Pictures, Universal Studios and the very popular Brazilian soap operas to have their actors drink Coke in their films.

Deregulation in the US has resulted in ever more monopolising. The four largest airline companies have formed global alliances and now control more than half the business. The lowering of trade barriers in Europe has resulted in a tripling of cross-border integrations and outsiders buying into European firms to get a foothold in the EC market.

When the head of RJR Nabisco was planning the largest ever leveraged buy-out in 1988, he feared there would not be enough take-over funds in the world to pull it off: 'I'll be going around on my hands and knees... to find 17 billion dollars!' Today the world is awash with speculation capital for mergers, partly because of the amount of retirement savings that have been put into mutual funds. In 1998, mergers and acquisitions in the US totalled \$2.4 trillion.

Coca-Cola and other multinational corporations are now pressing their governments to create trade agreements such as the Multilateral Agreement on Investment (MAI) and those of the WTO. Under these agreements, 'the Coca-Cola Company and the vendor of fresh coconuts at a village stall on Yap would have been treated as equals before the law. The superior force available to an oligopoly would have been deemed irrelevant to the freedom of the market... Alarm among citizens' groups has put the MAI on hold and... protesters have put the WTO on the defensive.'

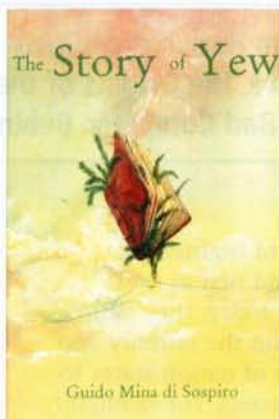
Today's multinational corporations are oligopolies that are out of control. The author advocates the need to defend and extend democracy in a more sustainable manner:

'The Essence of Capitalism has outlined the dynamics driving the juggernaut to which humankind is bound. To understand why capital behaves as it does is the precondition for reshaping the relations between nature and human creativity, and for reducing the inequalities within our species.'

Dada Mahesvarananda

THE STORY OF YEW

by Guido Mina di Sospiro
FINDHORN PRESS 2001/£12.95
ISBN: 1899171630



The Story of Yew is a unique account of a few millennia of world history as observed by... a tree! In this charming eco-fiction, somewhere between Italo Calvino and Jean Giono, the tree witnesses the coming and going of human generations, the increase and decrease of knowledge, listening and observing. Instead of a man who planted trees, here is a tree who shakes her leaves at our kind:

One beautiful morning the sun finally came out of retirement after a month of nearly uninterrupted rain, and an elegant gentleman made his way to the ruined, ivy-clad abbey. This gentleman, a foreigner, was accompanied by a rosy-cheeked little girl. I immediately felt her disarming candour and gentle heart transpire from beneath her skin, and listened carefully to the words they exchanged in their musical tongue:

'Pray tell, me Claire,' her father asked, 'do trees speak? Do they remember? Do they think?'

'At night they speak to each other,' answered the little girl, aglow with smiles for her father, 'and during the day too.'

'Well, then, why don't we hear them?'

'I hear them whisper "sh... sh... sh..."'

'Then they only speak when the wind blows?'

'That's right.'

'And when there's no wind?'

'They sleep.'

'And what if the wind never comes, my beautiful ray of sunshine?'

'They sleep for a hundred years till it comes.'

'And why don't they speak our language?'

'They speak their language, daddy dear.'

'And what is this magnificent yew tree telling you?'

'She's telling me she's lonely and that she'd like to have more company.'

Blessed little herald of truth! When I think back I can still see her, gorgeous, pure little thing, speaking such words of wisdom. In her I trace the dawning of a sense of hope, hope in the human species as a green race, a kindly race.

My hopes have been dashed since, on repeated occasions. But at least I had proof that a human heart could nurture kind feelings...

In its imaginative recounting of thousands of years of seasons changing, of death and renewal, of the slow passage of life in and around its branches, Di Sospiro's book is clever and lyrical as well as being ecologically accurate, with a healthy bit of fantasy woven in. There are Roman conquerors resting under the tree, fairy spirits enlivening the forest, a monk who kills the last snake on the island, and a hermit who builds a treehouse in her branches. All these forms of life come and go, but the yew lives on, as the great ancient monarch of the Irish forest. The tree even falls in love.

Mere anthropomorphism, you say? A tree's memoir as quaint as an old man's memories? Well, think of the usual language science offers to explain how nature is actually supposed to work: organisms are machines, assembled from parts, filling an ecological niche. Nature has laws, which are unbending. Are these not just human concepts as well? Why not use the warmer metaphors of story, longing, and love?

Di Sospiro takes risks, but he offers something both experimental and inviting: a truly ecological novel.

Where science must be cautious, the novelist must be bold. After her extraordinary long life, our tree wonders where the next step for life might be:

My kind and dear friends, I ask you: What is so great about Earth, and life as we know it on Earth, to inspire some of us to export it all the way to another planet?



Should we also export life's inherent strife? Its harshness? Its ambivalence? Or rather, should it be a better place? One in which we may do away with all the redundancies you, mother nature, have burdened us with? One in which I would not need to bear thousands and thousands of berries to see but a few seedlings, if any, grow out of them. Perhaps man would not need millions of spermatozoa to fertilise but one woman's egg.

Why not conceive a world in which every seed turns into a tree, in which for every sperm there is one egg? Then all species would multiply and prosper lovingly, unfettered, unchallenged. An unearthly place? Yes. An unnatural place? No! Why should it be unnatural? Did it ever occur to you, mother nature, that competition and 'natural' selection may well be unnatural? Why, there must be a better place, somewhere. One with no ambivalence.'

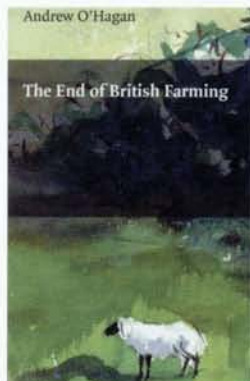
Di Sospiro has taken a brilliant seed of an idea and turned it into a timeless book that will be loved by generations of readers. He has answered the challenge that the discoveries of science put forth to all artists among us: can you be inspired by all the facts we have discovered? Can you create deep and beautiful mysteries out of all the minutiae we now know?

The Story of Yew is one fine example of a literary response to ecological history. Let there be many more.

David Rothenberg

THE END OF BRITISH FARMING

by Andrew O'Hagan
PROFILE BOOKS 2001/£5.99
ISBN: 1861973926



Fuelled by childhood nostalgia and a sense of impending loss, Andrew O'Hagan takes a journey across Britain, visiting farms with the belief that there are now only two choices facing British farming: 'a slow death or a quick one'.

Although the countryside of Constable still inhabits our national consciousness, the reality is that we are now faced with intensive, industrial agribusiness and environmental destruction. We are witnessing the accelerated decline of a rich tradition similar to the end of the British Coal Industry, and rural estrangement.

O'Hagan's encounters with arable, pig and hill sheep farmers make for poignant accounts of great financial pressure, in particular from a hill sheep farmer surviving on family credit and subsidies for environmental work. He is unable to make any money from his sheep as they are selling way below the cost of production. The talk is of mass sheep graves and suicide helplines.

At the other end of the scale, a disparaging picture is drawn of the supermarkets, who 'shop around' Europe for the cheapest deal whilst maintaining that they support British farming. They pass an unfair burden of costs back to farmers, employing practices that increase their own profits at the expense of the farmer and play the different farming sectors off against each other. Small farms are also threatened by the might of GM, 'putting land use and food production into the hands of corporations'. There is the strong pound, payment of subsidy cheques in Euros, BSE, and most importantly the problem inherent to the Common Agricultural Policy – of subsidy driven production that 'employs too many and produces too much'. All this is compounded by an unsupportive and uninterested government.

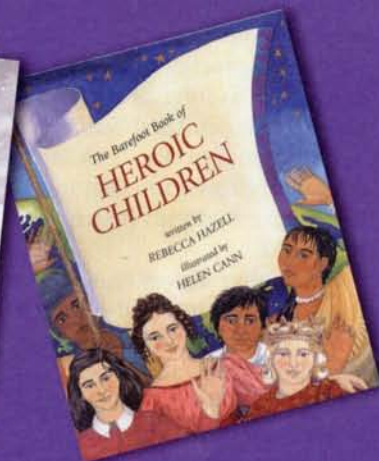
In light of these pressures, O'Hagan is sensitive to the problems facing farmers whilst considering many to be the authors of their own demise. They have exploited the subsidy system, destroyed land for money, devastated ecosystems.

EcoKids

As winter approaches, many children's minds turn to thoughts of Christmas. But, by no means all, and the enchanting *While the Bear Sleeps* (Barefoot Books, 2000/£12.99, ISBN 1902283805) collects winter tales and traditions from around the world, from the story of Hanukkah to the festival of Kwanzaa, where seven candles are lit, representing unity, self-determination, work and responsibility, sharing, purpose, creativity and faith.

The Barefoot Book of Heroic Children (Barefoot Books, 1999/£14.99, ISBN 1902283805) is filled with the true stories of some of the most exceptional children in the history of the world, children who made a difference through their courage, generosity and inventiveness. Some, such as Anne Frank or Pocahontas are household names, but often it is the lesser known accounts that really have the power to move.

Born in a small village in the Punjab, Iqbal Masih was sent to work in a carpet factory as repayment for a loan taken out to pay for his older brother's wedding. He was four years old. Working, often chained, for 12 to 14 hours a day, he missed out on any schooling, was beaten and consistently underfed, and by the age of 10 was bent over and



wheezing from the carpet dust he had inhaled for six years.

Thankfully, at this time he was rescued by Ehsan Ulla Khan, founder of the Bonded Labour Liberation Front. So moved was Iqbal on discovering freedom and finding out about his rights as a child and a human, that he committed himself to working for the organisation, becoming one of its most famous speakers and receiving the 1994 Prize for Youth in Action. To hear him talk of his own struggle, and of the struggle of many millions of children like him, mostly working to provide the West with luxuries, makes the reality painfully clear.

with public funds and are now paying the price of bad management under Margaret Thatcher. He states that 'as a piece of human business, British farming is a heady mixture of the terrible, and the inevitable, the hopeless and the culpable and no less grave for all that'.

Dismayed at the emptiness of the fields he travels on through the death and disinfectant of the foot and mouth epidemic to join a MAFF 'kill team', where the horrible realities of an industry on its knees are revealed.

With such despair does the book end. No attempt is made to offer any

possible escape routes, no mention of organic farming, farmers markets, box schemes or any other of the growing number of local initiatives striving to return food to the communities from where it came. But then this is, for O'Hagan at least, *The End of Farming*.

Rebecca Whitford

The organic movement is a story of intellectual paradoxes: Is it politically left or right? Is it Christian, secular or even pagan? Is it technophobic or scientifically rigorous?

The answer, for Conford, is all of the above, and he does a laudable job of teasing out the different strands to present a clear picture of the movement's origins and development, its mutations and offshoots, its drivers and catalysts, and its perversions.

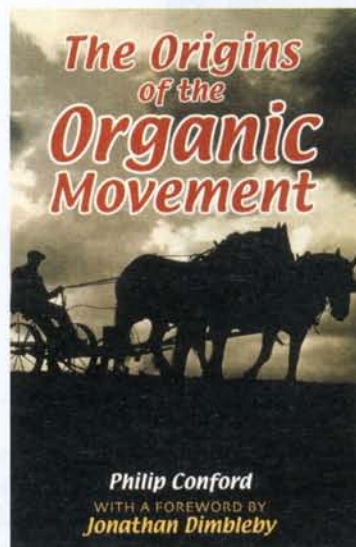
A cause blind to its past can learn no lessons from it, and with the organic movement's friends growing in number, it is important that its supporters have a sense of its history – and there is much history to learn.

Modern scandals and scares such as GM, salmonella, BSE, and now foot and mouth have driven increasing numbers of people to the organic movement as shoppers and consumers, via supermarket aisles and health food shops. Yet many will be surprised to learn that the 'organic versus artificial' debate is almost two centuries old.

Organic practices have, of course, existed for as long as people have practised agriculture. But an identifiable movement in its defence could only come into being when alternative methods began to take hold.

Those alternatives emerged with the growth in international trade and urbanisation of the 1840s, when experiments began in the use of artificial fertilisers, monoculture and larger farm units.

The argument – reaching full development in the inter-war years of the last century – pitted those who believed that plants needed only the essential minerals of nitrogen, phosphorous and potassium for growth, against exponents of the fertility-giving properties of humus – the decaying organic matter to be found naturally in healthy soil.



THE ORIGINS OF THE ORGANIC MOVEMENT

by Philip Conford
FLORIS BOOKS 2001/£14.99
ISBN: 0863153364

Early organicists such as Sir Robert McCarrison pointed to the vitality and health of 'primitive' cultures such as the Hunza in India, who practised agriculture according to the 'Rule of Return', using natural fertilisers, mixed crops and livestock, in order to safeguard fertility through the return of organic matter to the earth.

The Rule of Return is linked to a belief in an immutable Natural Law that sets the parameters for sustainable human activity. Natural Law may also be read as a God-given Law, and from this spiritualist base sprang some distinctly woolly brands of mysticism. 'Biodynamic cultivation' promoted the importance of 'etherising and astralising rays' and of zodiacal forces, and even its proponent, Rudolf Steiner, admitted that 'this all sounds quite insane. I am well aware of that.'

Furthermore, from a belief in the overriding rightness of natural processes can come a blindness to the

value of technology used intelligently.

But, most damaging to the movement's credibility, a belief in the world as one natural organism can lead to a dogma dictating man's fixed and natural place within it. As a plant can be ill-bred, went the ill-logic, so can a race. From here a number of prominent organicists stumbled towards ideas of racial supremacy and even eugenics. That said, a mix of dabbling in far right politics and New Age spiritualism was largely marginal to the movement's outlook. What is more troubling is the extent to which these intermingled with the mainstream in the pages of organic journals such as the New English Weekly and in the membership of organic organisations, including the Soil Association.

Nevertheless, the greater number, whilst doubtless informed by a Christian ethic, embraced scientific study as a means of proving the worth of organic theory and of building on the inherited knowledge of indigenous peoples. There were also those who came to support organic ideas from the left, proposing a system of Social Credit and a 'just price' in opposition to global financial structures that disadvantaged the small-scale, the self-sufficient, and the decentralised. Many of these ideas have obvious echoes today in the idea of 'true costs' and in the growing opposition to the IMF's neo-liberal loan conditions.

Conford's goal is clearly not to embarrass or discredit. Instead he seems driven by a desire to give credit where it's due – to rescue both pivotal and more marginal figures from undeserving obscurity, to celebrate their commitment and their far-sightedness, and to disentangle the 'bewildering network' that drove the movement in the past. Conford is not pulling up roots, only shedding light.

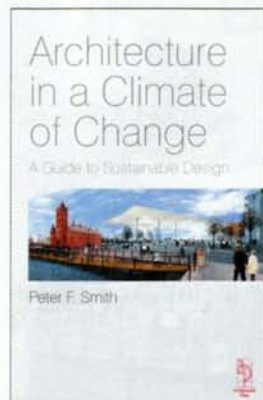
Gavin McGregor

ARCHITECTURE IN A CLIMATE OF CHANGE

by Peter F Smith

ARCHITECTURAL PRESS 2001/£17.99

ISBN: 0750653469



Professor Smith is a man with a mission – to persuade architects that climate change is of such magnitude that it will permanently change the way they approach design. Many architects are interested in environmental design, but only a handful are prepared to argue with Smith's passion that 'design should be a prime target in the war against catastrophic climate change'.

This is also one of the rare design manuals that remembers that architecture is a team effort. It goes out of its way to promote 'a constructive and creative dialogue between architects and service engineers'. Prominent mention is given to British architects Alan Short, Max Fordham, and Michael Hopkins, who have embraced this dialogue to meet the challenge of using natural ventilation in large buildings.

The result is a startling new aesthetic that saves up to 85 per cent of the energy of conventional air conditioning. Their buildings boast a dramatic roofline of turrets, wind towers, chimneys and revolving wind scoops. The huge H-shaped pot stacks above the Contact Theatre at Manchester University or the cooling towers that surround the Coventry University Library have the excitement of all breakthrough architecture, for they augur an entirely new vocabulary of architectural expression. As this book shows, it is to these buildings that we should look for the forms of the future, not to the bizarre pyrotechnics of signature architects who stuff the ducts in their energy gobbling buildings where the sun doesn't shine.

However, it's hard to read books such as this without a growing cynicism

Sick Century

Anything you can do...

EDUARDO GONCALVES REVEALS THE HORRORS OF THE WORRYINGLY RECENT PAST

Anxious about anthrax? Terrified by bio-terrorism? Scared that a psychopath could contaminate water supplies, or some mad scientist poison our food? Relax – our governments have been doing it for years.

I'm talking about those government officials in London and Washington who have long thought it fine to secretly send down invisible radiation clouds over populated areas in experiments to see the effects on people and their environment. In case you were thinking this was another one of those Cold War 'excesses' that could not possibly happen today, you may be disappointed to learn that they are still permitted – without anyone's knowledge or consent.

It all started with the Manhattan Project's initial aim of producing a radiation weapon, as opposed to an atomic bomb. This, they reckoned, would not only be quicker and easier to develop, it would totally cripple the enemy by contaminating cities, and 'instil fear in adversaries'.¹ Project leader Robert Oppenheimer told colleagues that he wanted a strontium-based weapon that 'can poison food sufficient to kill half a million men'.

If this sounds eerily similar to events of recent months, then how about this: 'This material may be transported by several airplanes and dropped over a centre of dense population in the form of pellets. Since it affects none of the five senses, the population would not be aware of the attack until warned by nausea or other symptoms of excess radiation, and this warning would not be effective unless proper instruction had been given in advance'.² Where could the terrorists be getting their ideas?

From us, it seems, and we've been having these ideas for a while. Even after the war ended with the successful destruction of Hiroshima and Nagasaki by atomic bombs, the pursuit of radioactive terror weapons continued, not least in Britain, where ministers had felt frustrated and excluded by the US programme. The then Ministry of Supply set up a secretive unit in 1948, called 'The Crop Committee', an off-shoot of the Defence Research Policy Committee. Sir John Cockcroft, director of the UK Atomic Energy Authority (UKAEA), was told

about the extreme slowness with which such ideas enter the actual built environment. Prominent mention is given in this book to the latest self-styled 'House of the Future', built in the

that the committee's terms of reference included 'to review current research which may relate to possible methods of destroying crops or the vegetation, with particular reference to new developments which appear likely to make a significant change in the potentiality of this type of warfare'.³

The committee's existence was top secret, and its nine members – including chairman Professor F T Brooks – had strict security clearance. They soon got down to the arithmetic, as recently declassified papers show: 'To contaminate an area of 1,000 square kilometres would require a total activity of 10/7 (10 to the power of 7) curies, which is certainly attainable'.⁴

Even in the US, where plans were now afoot to develop the H-bomb, government scientists such as Dr Joseph Hamilton were nevertheless working on weapons that would create 'radioactive mists' generated by underwater nuclear explosions to attack cities and their food supplies, as well as terrorise enemy populations: 'In some contaminated areas, some would be doomed by radiation sickness in hours, some in days, some in years. No survivor could be certain he was not among the doomed, and so added to every terror of the moment, thousands would be stricken with a fear of death and the uncertainty of the time of its arrival'.⁵

Tests soon got underway, and the presence of local populations was not a problem. Between 1949 and 1952, 65 field tests released thousands of curies of tantalum in the form of dust, small particles and pellets into the skies over Utah. In the Bayo Canyon, a short drive from the Los Alamos nuclear bomb laboratories, nearly 250 'tests' using radioactive lanthanum took place up until 1961. Each explosion released a cloud of radiation of about 1,000 curies which drifted over nearby Pueblo Indian and Spanish-speaking communities. They were never told they were in the path of these radiation clouds.

To be continued...

Eduardo Goncalves is a Portuguese investigative journalist.

References on page 82.



grounds of the Museum of Welsh Life. The energy saving features – high insulation, south-facing glazed atrium, solar panels, recycled materials – are impressive, but nothing new. They

could have come from any 1970s environmental design manual, or from any of the environmental houses of the future gracing Ideal Home Exhibitions over the past 20 years. Surely it's reasonable to ask when we will actually enter this 'future' that we've been talking about for so long?

Clearly, the obstacles to implementation are larger than anyone anticipated. However, Smith has confidence in the power of information to change behaviour. 'Once the issues are understood,' he writes, 'it is difficult to escape a commitment to bioclimatic design.' Oh, that social change were that simply achieved. This book may help change the culture in the architecture profession – it has been completed in time to be included in the core curriculum of the new academic year. However, I suspect that what will ultimately shift these ideas into the architectural mainstream will be a combination of fashion, economics, and, above all, legislation.

Nowhere is this truer than of the urgent need to renovate existing buildings. Architecture magazines and books rarely pay any attention to renovation and it is to Smith's credit that he dedicates a chapter to what he calls 'the unacceptable legacy' of Britain's dilapidated housing stock. Scarcely 5 per cent of rented homes would meet the energy requirement of modern building regulations, and 3.3 million homes fail to reach even half the energy performance required of a modern house. The result is a shocking abuse of the poor. It was largely because of cold damp housing that deaths soared by 55,000 last winter. Renovation is a social as well as environmental imperative.

The brief discussion of ambitious renovation projects, such as that by Penwith Housing Association in Penzance to renovate its entire housing stock, is inspiring but all too short. In a book dedicated to combating climate change, more could have been said about renovations, extensions, and conversions. These are the plodding reality for most architects, but the overwhelming priority for the greenhouse world. Dramatic eco-buildings may set the pace, but insulation will be the harbinger of the revolution.

George Marshall

In an occasional series starting next month, George Marshall will be examining the environmental implications of the buildings making the headlines. First, the World Trade Centre and plans for its replacement.

Four for all seasons

As you are probably aware we have recently put together a book called **Go MAD!** (*Go Make A Difference!*). If you are a subscriber, then you already have a free copy. It's not really our place to review our own work, but we really do think it is an invaluable little gem. Whether you want to use more ecologically sound cleaning products, make your garden a haven of biodiversity or get more involved in your local community, **Go MAD!**'s 365 tips make it all much easier to achieve.

We wanted **Go MAD!** to be as concise and practical as possible, so there wasn't much room to explore the issues motivating the need for change. The three books below, however, do exactly that.

When **The Little Earth Book** by James Bruges (Alastair Sawday publishing 2001/£5.99, ISBN 1901970264) was first published last year, it made quite an impact. It seemed that every key topic from Kyoto to ecological footprints, Third World Debt and genetic engineering was covered in accessible, 2–3 page chapters.

Now it's back with a second edition enlarged to explain not only the problems, but offer solutions too, making it the perfect complement to **Go MAD!**

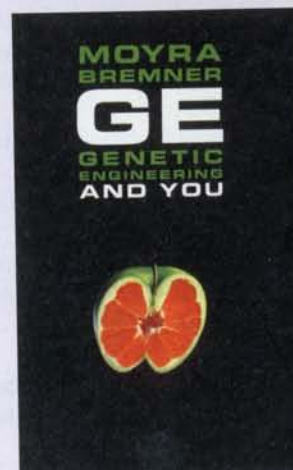
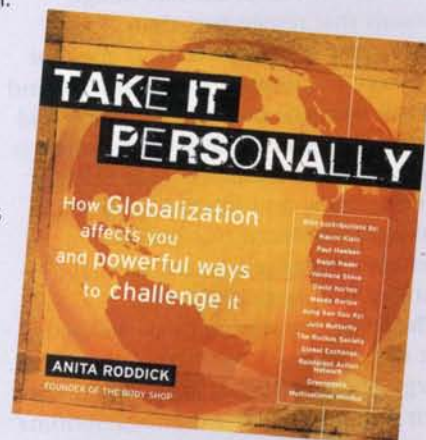
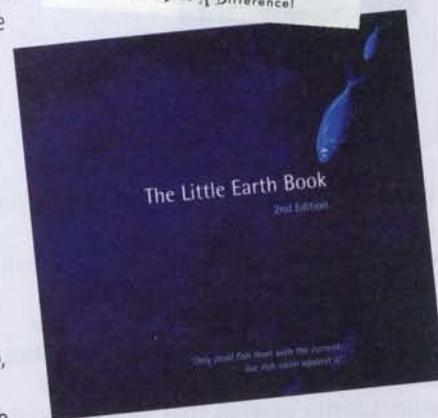
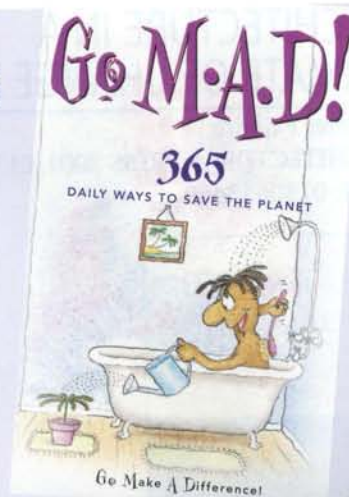
We have 60 copies of the book to give away free. Send a postcard with your name and address, marked 'Little Earth Book Offer' to *The Ecologist* (address on page 4). Winners will be decided on 15 December.

Bigger, brighter and just as bold, **Take It Personally** (Thorsons 2001/£12.99 ISBN 1573247073) has been put together by Anita Roddick to make everyone do exactly what it says in the title. Not only does the book feature essays by some of the world's key thinkers, but it presents it all in such an immediate and vivid way that makes it both accessible and instantly affecting. The simple image on the left says it all.

To obtain a copy of **Take It Personally** at the reduced price of £11.99 (+P&P), call Thorsons on +44 (0)870 900 2050 and quote '708G'.

Finally, **GE: Genetic Engineering and You** by Moyra Bremner (Harper Collins 1999/£6.99, ISBN 0006531903) focuses in on one of the most contentious topics of our time. It is still both the most thoroughly researched book around on the topic, and probably the most readable. In 300 or so pages it explains the truth behind the corporate lies, offers examples of what we can all do to stop the situation getting worse, and provides 115 pages of references, notes, glossary and useful organisations' contact details so that even when you have finished reading the book, its worth is immeasurable.

To obtain a copy of **GE: Genetic Engineering and You** at the reduced price of £6 (inc P&P), call Sally Snow at *The Ecologist* on +44 (0)207 351 3578 and quote this offer.



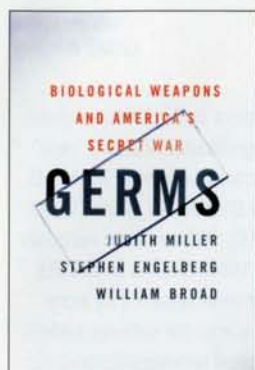
GERMS

BIOLOGICAL WEAPONS AND AMERICA'S SECRET WAR

by Judith Miller, Stephen Engelberg & William Broad

SIMON & SCHUSTER 2001/\$27.00

ISBN: 0684871580



How's this for spooky timing – on 11 September, the day of the terrorist attack on New York's World Trade Centre, this timely tome was released by one of America's premier publishers, whose offices are located just a stone's throw away from the epicentre of the disastrous destruction – or 'construction site', as Dubya, leader of the Free World, referred to it during his photo-op visit there three days later. As horrendous as this event was – with thousands of victims from some seventy nations – it pales in comparison with the potential consequences of germ warfare, the subject of this scary, but well documented, book based on data compiled by a team of *New York Times* staff writers.

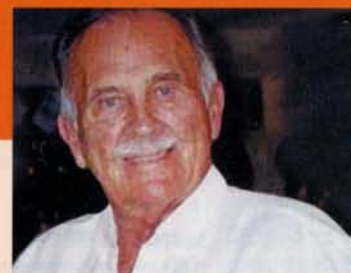
These are just a few of the many startling revelations in *Germes*:

- How the Pentagon launched a *sub rosa* attempt to develop a 'superbug'.
- How the CIA built germ bomblets, in violation of the international treaty banning biological weapons.
- How the Soviet Union secretly produced bio-weapons, including an untraceable germ that instructs the body to self-destruct.
- How the US military in the 1960s planned to attack Cuba with germ weapons to unseat the Castro regime.
- How, in the 1980s, a religious cult in Oregon made hundreds of Americans sick in a bio-terrorism attack that the government played down to avoid panic and copycat events.

Deadly germs sprayed in shopping malls, tiny vials of plague scattered in public places, or cluster bombs spewing anthrax spores over battlefields – these

En Garde...

BIG BROTHER: AMERICA'S REAL DEPENDENCE PROBLEM



As reported in the UK *Observer*, the British government has decided to abandon the costly and futile hunt for cannabis smugglers and dealers. Perhaps taking its cue from the Brits, a county in northern California has legalised the growing of marijuana for medicinal purposes. Though this decision will no doubt be challenged by state and federal governments, who – prompted by a self-serving pharmaceutical lobby – frown upon such frivolous practices as self-medication, it represents a tiny crack in the solid wall of official obfuscation.

According to the latest census, there are now about 280 million legal residents in the US, a mere 1 per cent of whom are gainfully employed in farming, fishing and forestry. Coincidentally, this is about the same number of Americans – 2.3 million – currently incarcerated in federal or state prisons, by far the largest 'criminal class' of any industrialised society. The majority of these prisoners are so-called minorities, who collectively make up more than one-third of the population. And almost half of these alleged miscreants are non-violent drug offenders, victims of mandatory sentencing laws. To their credit, many judges took early retirement rather than allowing themselves to be stripped of their judicial discretion.

The so-called 'War on Drugs' has now been waged for almost 30 years – twice as long as Prohibition, the failed attempt at dissuading denizens of the Land of the Free from imbibing alcohol. When this disastrous experiment was finally abandoned in 1933, it had created a subculture of bootleggers and Mafiosi, whose descendants control powerful crime syndicates in major US cities. But Uncle Sam does not get a cut of the profits from growing pot or smuggling coke, so has no incentive to legalise them.

Attesting to the failure of the self-defeating war on drugs is the fact that, while its budget has increased twenty-fold, from \$75 million in 1973 to \$1.5 billion last year, the number of drug addicts has doubled, and US taxpayers have shelled out a total of \$185 billion to no avail. As any student of economics knows, *if the demand for a product is constant, but the supply is curtailed, the price of the product will rise*. Elementary, you say? Of course – but try to get that through the heads of all the Watsons in Washington, who are more concerned with moralistic grand-standing than with the law of supply and demand. For a member of Congress to suggest that marijuana should be legalised – like the much more lethal tobacco plant – would be political suicide.

No, much safer to vote for ever bigger drug-busting budgets in a futile attempt at intercepting the avalanche of drugs streaming across the

Mexican border and the Caribbean – even though it is estimated that only 11–12 per cent is confiscated. Besides, thousands of law enforcement officers now depend for their livelihood on this misappropriation of tax dollars, orchestrated by a presidential appointee with the impressive, if unofficial, title 'Drug Czar'. It was recently reported that several competing law enforcement agencies, in their quest for bigger budgets and drug busts, employed drug-dealing snitches to report on competing gangs in exchange for lenient treatment, should they ever themselves be caught *in flagrante delicto*.

To suggest that you can cure Americans' drug addiction by incarcerating them is analogous to locking up diabetics to deprive them of sugar. But perhaps the most insidious aspect of this sordid saga is that it is counter-productive. Those who grow, process, and deliver the drugs to eagerly awaiting customers *norte de la fronte* are not greatly affected by interceptions; they just raise their price accordingly. But for the addicts, the higher street price increases the necessity to steal or commit other crimes.

In addition to breeding crime at home, the War on Drugs contributes to corruption and civil unrest in drug-producing and trafficking countries such as Colombia, Peru and Mexico. One of president Clinton's last executive acts was granting the Colombian government a 'loan' of \$1.3 billion, with which to continue its decades long fight against the FARC, the insurgent political party which now occupies an estimated quarter of the country's territory, and which finances its purchase of high-tech weapons with drug money.

On a positive note, both California's and New Mexico's legislatures are now considering substituting treatment of addiction for incarceration. As the governor of New Mexico, Gary Johnson, phrased it: 'We need to address the problem of drug abuse... as a public health issue rather than a criminal justice issue. The 'Drug War' should... be replaced by a common sense humanitarian approach.' Not only is this approach more effective; it is also cheaper. By reducing the demand, supply-side economics soon take care of the rest of the Keynesian equation: the artificially inflated prices collapse, and profits dry up.

Hopefully some day all Americans will face up to the truth: the solution to their drug problem lies within the US borders – not beyond them. If the same amount of money and effort had been expended on fighting terrorism or environmental pollution, as is now being spent on a futile attempt at preventing people from polluting themselves, all of society would have benefited.

Gard E Binney

Magazine Rack

Worthwhile reads you won't find in the shops



SUSTAIN DIGEST

Is the quarterly newsletter of Sustain – the alliance for better food and farming. A 'must' for all those who want to be kept abreast of developments in the food and agriculture policy arena. Although the focus is on the UK, it also covers relevant EU and

international news.

Sustain, 94 White Lion Street, London N1 9PF, UK.

Tel: +44 (0)207 8371228, email:

sustain@sustainweb.org or visit

www.sustainweb.org

LANDMARK

Is a bi-monthly publication of the Farmer's World Network in collaboration with CEIPAL; packed with all the right and thought-provoking farming issues. Check out their two latest briefings – one on the true costs of prawn farming and other on impact of the WTO agreement on farmers. Also get Food Awakening, a leaflet on how you can support vulnerable farmers.

Farmers' World network, The Arthur Rank Centre, National Agricultural Centre, Stoneleigh, Works., CV8 2LZ, UK. Tel: +44

(0)24 76696969, email:

fwn@fwn.org.uk or visit www.fwn.org.uk



ISIS NEWS

Is a fearless (monthly) voice that makes essential reading for anyone who thinks science too important to be left to the politicians and a science establishment in bed with big business.

Institute of Science in Society, PO

Box 32097, London NW1 0XR, UK.

Tel: +44 (0)207 3800980 or visit

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ORION – PEOPLE & NATURE

A favourite quarterly magazine with contributions by Wendell Berry, Peter Matthiessen, Noam Chomsky and other inspired writers. Biologist Lincoln Bowers recent article on the biotech industry's silent bond with government and universities will go down as a classic. Subscription includes Orion Afield, which celebrates people's positive actions.

All details on www.oriononline.org



are some of the hideous weapons of mass destruction that can be made in a simple laboratory. And after the Gulf War, the UN established a special commission (UNSCOM) to find out what, if any, chemical or biological weapons Saddam Hussein had stashed away for possible use in the future. David Kelly, a British microbiologist, asked for permission to check out a rumour that such weapons were buried at Al Hakam, an Iraqi military base. His request was denied on the grounds that, 'after all, the coalition never bombed it' – as if the pilots could somehow sniff out Saddam's secrets.

It was to take four years of bureaucratic bungling to figure out what the CIA had learned from an Iraqi defector in the fall of 1991 – that much of Baghdad's biological programme was intact, hidden away under the very noses of the UNSCOM inspectors. Ten years later, when Rolf Ekeus, the Swedish diplomat who had headed the investigation, was shown the CIA report, he shook his head in disbelief

and exclaimed: 'This is scandalous!'

Equally scandalous is the fact that no steps were taken to prevent a repeat of the 1993 attack on the WTC. But as horrible as the destruction wreaked upon the twin symbols of US capitalism and military might may have been, it pales in comparison to the potential environmental impact of biological warfare, so chillingly described by the authors of *Germs*.

Gard Binney

The recent anthrax attacks in the US have given this book a further significance. But this 'new' form of warfare has actually occurred in the US before. In *Rogue State* (Zed Books 2000/£12.99, ISBN 1842770152, p116), William Blum recounts that from 6–10 June 1966, trillions of *Bacillus subtilis variant niger* were released by none other than the US Army into the subway system during rush hour, dropped into ventilation grills from the streets above. The army report on this test is entitled: 'A study of the vulnerability of subway passengers in New York City to covert attack with biological agents.'

Word unheard



First we heard the terrorists referred to as 'folks'. Then, mindless of the historical implications and the meaning of the first syllable, the anti-terrorist offensive was labelled a 'crusade'. In both incidences, the power of language, both overt and hidden, was exposed.

As Raymond Williams explained in the preface to *Keywords*, his 1976 book on the language of cultural transformation, 'some important social and historical processes occur within language, in ways which indicate how integral the problems of meanings and of relationships really are'. Starting this month, Word Unheard looks beyond the syllables to explore how our prejudices, preconceptions and power bases have shaped the language we use today. First off, how we see each other...

SLAVE

While we may believe that the practice has been long abolished, the root of humanity's lowest point lives on in the words Yugoslavia and Slovenia, reminding us how long those countries have been fought over, annexed, and had their peoples subjugated by foreign powers. In bitter irony, the Slavic word 'slava', the origin of our word 'slave', translates as 'glory'. Many other peoples have also been reduced to pejorative adjectives – think Philistine, Vandal, Spartan...

BARBARIAN

They don't even speak our language! The word is from the Greek 'barbaroi', meaning 'babblers', or people who didn't speak Greek. It comes from the sounds the unintelligible foreigners were thought to be making – 'bar bar bar bar'. Classic xenophobia – we don't understand them, therefore they are backward and aggressive.

SINISTER

We hate and fear people for where they were born, for how they speak, but because of which hand they use to hold a pen? Sadly the marginalising of left-handed people goes a long way back, sinister being simply Latin for left-handed. And positive-nuanced dexterity, of course, originally referred just to being right-handed.



LAPIS

With three issues a year, this is a beautifully inspired antidote to the mainstream press and always on the leading edge of global change. Focuses on spirituality, the environment, the arts, politics – with great contributors.

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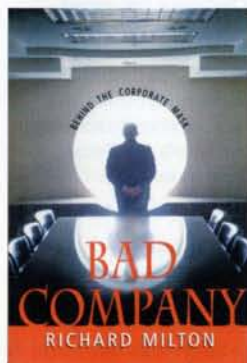
BAD COMPANY

BEHIND THE CORPORATE MASK

by Richard Milton

HOUSE OF STRATUS 2001/£12.99

ISBN: 0755101510



Using the examples of over a dozen large corporations, Richard Milton employs psychoanalysis inherited from Freud and Jung in his search to understand some of the most notorious instances of commercial misdemeanours.

This method of analysis is particularly appropriate for looking at the modern narcissism of corporate imagemaking. The susceptibility of large companies to delusive self-perceptions (what Milton calls the 'Magic Mirror Syndrome') is illustrated by the McLibel case, in which McDonald's was unable to see reality past the glitter of its own advertising.

Lloyd's decision in 1981 to withhold information from its underwriters about the dangers of asbestos is also subject to examination.

Was corporate psychosis or cold-blooded calculation responsible for this act of corporate dishonesty? The question is worth considering, especially following the recent destruction of the asbestos-ridden World Trade Centre, when it is predicted that claims will mushroom, and the burden will surely fall once again upon Lloyd's reinsurers.

In conclusion Milton offers a method of diagnosis for 'Bad Companies'. Do their websites talk mysteriously of 'legal action'? Has the company ever issued a libel writ? Could its market monopoly breed a corporate arrogance? Does a guaranteed profit margin support inefficient management? Using a points-scoring system, this quantitative method of distinguishing Bad Companies from commercial angels seems almost too good to be true: until you realise that completing the pop-quiz will probably require the skills of a business journalist as tenacious as Milton himself.

Esther Perkins

Philanthropy or Villain-trophy?

Everyone loves a winner. Giving is receiving. There's one born every minute. We are all resigned to chemical companies investing in chemistry graduates and sportswear companies sponsoring sports events, but when they start getting their paws onto all manner of seemingly unrelated literary competitions, community scholarships, and environmental prizes, you have to start asking, are we getting our just awards?



Each month, *The Ecologist* keeps you updated on what corporate responsibility really means.

CHILDREN'S AID HOLIDAY EVENT

The annual party welcomes 1,000 foster children and their parents to the unfamiliar surroundings of the Sheraton Centre, Toronto, where they get to learn about the power of brand loyalty, meeting 'several local [and highly merchandisable] celebrities including Toronto pop quartet, B2Krazy, Phil from YTV, Christian Hagen from YTV's *Uh Oh!*, Carlton Bear, Pikachu, Kings Clowns, and characters from Paramount Canada's *Wonderland*.'

The event, which enables these poor children to remember what they don't have for the other 364 days of the year, was made possible last year by the generosity of, amongst others, Wal-Mart, Procter & Gamble, and Mattel.

Meanwhile Wal-Mart's litany of abuses continues to grow, making it the most sued company in the US, with 4,851 cases brought against it last year alone. P&G has further improved children's education with its Destination Earth educational package, in which it argued that disposable nappies, of which it is the world's biggest producer, are no worse for the environment than cloth ones. Yet tests carried out by Greenpeace in 2000 found the hormone pollutant tributyltin in nappies produced by the company. And in 1995, Mattel CEO John Amerman made \$7 million and held an additional \$23 million in stock options – more than the combined annual salary of the 11,000 Mattel workers making Barbie dolls in China.

KEEP MUSIC ALIVE IN OUR SCHOOLS

Until 3 December, schools throughout Northern California can apply for a McDonald's 'Keep Music Alive in Our Schools' grant for new and refurbished musical instruments. 'Music education is proven to increase learning capacity and test scores, stimulate the imagination and creativity, and decrease dropout rates and drug use,' says Scott Rodrick, President of the Ronald McDonald House Charities of the Bay Area. He adds, 'Budget reductions for school music programs is a problem that could threaten to deprive a child of important cultural, emotional, intellectual

and social growth.' In August of this year McDonald's admitted 20 offences of illegally employing and overworking children aged 15–16 at two restaurants in the UK – including one schoolgirl working a 16-hour Saturday shift and another until 2am on a school day – which doesn't leave much time for those all-important piano lessons.

SEAWORLD/BUSCH GARDENS ENVIRONMENTAL EXCELLENCE AWARDS

The awards take place on 14 December, recognising efforts 'to protect and preserve the environment.' Anheuser-Busch, the world's largest brewery, furthered its environmental aspirations with a donation of \$663,025 to George Bush's presidential campaign, and was the main funder of the two-party presidential debate system, including spending \$500,000 to be the 'exclusive' sponsor for the debate in St Louis, Missouri. This ensured the absence of any anti-corporate discussion, causing the Green Party's Ralph Nader to declare: 'Unlawful corporate contributions to the debates corrupts the political process, tilts the electoral playing field sharply toward the Democratic and Republican parties, undermining third parties and limiting the choices of voters [of whom 64 per cent wanted Nader in the debates].' Meanwhile the orcas continue to die in captivity at Seaworld parks.



BBC WILD

THE Exchange

The Exchange is a noticeboard for environmental and ethical services and needs, open to all. Entries are FREE for individuals and NGOs, charities and campaign groups. For businesses and educational institutions, the cost is £54 per listing, including a year's free subscription to the magazine. Repeat listings are £20 per issue, £10 extra for a boxed ad. Please send entries – no more than 40 words long – together with cheques where necessary made payable to *The Ecologist*, to Sally Snow, The Ecologist, Unit 18, Chelsea Wharf, 15 Lots Road, London SW10 0QJ, or email sally@theecologist.org. For more information, call Sally on +44 (0)20 7351 3578. Free listings are allocated first-come first-served, and we reserve the right to refuse any entry. *The Ecologist* does not necessarily endorse the products, organisations or services listed.

APPEALS

The Ark Environmental Foundation has partnered with Office Green Ltd to collect **used cartridges from businesses for refill or recycling**. For every cartridge donated under this partnership, The Ark will receive a payment for use in its environmental education, sustainability and conservation projects. For more information, contact The Ark Environmental Foundation on 01582 608080 or Office Green Ltd on 0800 833 480.

Funds urgently required! Geography teacher is giving up her career to do volunteer work with a small NGO dedicated to empowering indigenous peoples of Northern Argentina in their struggle for physical and cultural survival (as of January). If you can assist in any way, contact ASOCIANA, c/o Susan Barry on +44 (0)20 8394 0447 or write to Allen Gardiner Cottage, Pembury Road, Tunbridge Wells, Kent, TN2 3QU.

ANCIENT WOODS UNDER THE HAMMER – PLEASE HELP!

Nearly half of the UK's ancient woodland that remained in the 1930s has been lost. Help us now before it is too late for this rare and irreplaceable habitat. To support the Woodland Trust's campaign, call freephone 0800 026 9650 or donate online via a secure website www.woodland-trust.org.uk/appeals.

The Planet-Friendly is a success! That is the GOOD news – with circulation of over 100,000, we are getting the word out. The BAD news is that the money runs out in January. Please visit our website www.planetfriendly.net

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energy efficiency and water to present new ideas and technologies. Visit www.globe2002.com for details.

CAMPAIGNS

Visit www.wdm.org.uk for the latest news on the World Development Movement's campaigns. We tackle the root causes of poverty, winning positive change for the world's poorest people.

Scottish Genetix Action – home to the campaigns of Scotland's anti-GM organisation. Briefings, news, reports, actions. Bookmark it as your guide to the GM campaign in Scotland. Visit: www.scottishgenetixaction.org

On 24 October, activists in 15 countries held protests outside the offices of WestLB, Germany's largest bank, to dissuade them from funding the OCP crude oil pipeline which would lay to waste ecology and indigenous culture from the Amazon to the cloudforests. Please send letter, fax or email; see www.forests.org/ric/

People & Planet is the national student network campaigning to end world poverty, defend human rights and protect the environment. To find out more about our campaigns, visit www.peopleandplanet.org. Our current campaigns include **Stop E\$0** and **Green electricity**.

THE GREEN PARTY is campaigning to get local authorities to pass motions opposing the **General Agreement on Trade in Services** of the WTO. For more details, contact Chris Keene, Globalisation Campaigner, Green Party of England and Wales, on 01268 682820 or chris.keene@which.net

Turn Globalisation on its Head! Simultaneous Policy (SP) is a global campaign to force politicians worldwide to adopt, and then to simultaneously implement, SP: a range of legislative measures to re-regulate global

markets and TNCs. Register your adoption at www.simpol.org

ReclaimDemocracy is an organising group as well as website, focused on revoking corporate power and reviving citizen authority over corporations from a US perspective. Visit www.ReclaimDemocracy.org

COURSES

Biotechnology, Agriculture and Racism. This four-day intensive study, 4-8 January, will provide participants with a deeper understanding of the politics, science and economics of biotechnology, and the connections between biotechnology, racism and agriculture. The course will also offer a critical perspective on the developing political opposition to biotechnology worldwide. For more information, visit www.social-ecology.org or telephone +1 (802) 454-8493.

Opening 26 May 2002 **Durrell School of Corfu.** A unique meeting point of the arts and sciences. School will host lectures and seminars by an international faculty of scholars and experts. Assistance with booking accommodation given, also limited number of scholarships available. Further information: USA: Anna Lillios, lillios@pegasus.cc.ucf.edu; Canada: James Gifford, gifford@ualberta.edu; Europe: Richard Pine, richardpine@eircom.net; Corfu: Hilary Whittton Paipeti, corfiotm@otenet.gr; Durrell School of Corfu, PO Box 445, Corfu 49100, Greece.

DIARY DATES

1 December, UK
Stop Esso Day. Join a picket of your local Esso Station as part of Stop Esso Day, co-ordinated by the StopEsso campaign. Find out more at www.stopesso.com, email stopessoday@stopesso.com or telephone 0870 010 9510 (local rates).

1 December, Global
Action day 'Prisoners for Peace'. War Resisters International; telephone +44 (0) 207 278 4040 or visit www.wri-irg.org

1 December, Oxfordshire, UK
The Future of Farming: Small Farms or Corporate Agriculture? Please come and participate in a day of talks and workshops with farmers, activists and others from Oxfordshire and the surrounding counties interested in food and farming issues. 10am-4pm, Braziers Park, Ipsden, near Wallingford, Oxfordshire. Space is limited so to reserve a place, contact: Kathryn Tulip, Action on Corporate Agriculture, 16b Chervell Street, Oxford, OX4 1BG; Tel: 01865 791 391 or 07796 430 141; email: holly@gn.apc.org

2 December, London UK
Christmas Without Cruelty Fayre. Kensington

Town Hall, London. Over 60 stands – all proceeds go directly to help charities, campaigns groups and ethical traders. All items animal friendly and cruelty-free. Celebrity Auction. Family fun day out, delicious vegan meals and cakes.

3-4 December, Paris, FRANCE
BusinessWeek's European Leadership Forum
An elite gathering of 250 key European decision-makers to debate economic and business issues that will shape development and growth. For programme or registration information contact Antonia Agbalaka at antonia@influencegroup.com

3-7 December, Bonn, GERMANY
International Conference on Fresh Water.
Government representatives, organisations and NGOs will address PPP's, waste water disposal and water resources management. Visit www.water-2001.de

3-7 December, Paris, FRANCE
Oceans and Coasts at Rio+10. Sponsored by UNESCO – the aim is to discuss the status of oceans and coasts 10 years after the UN Conference on Environment and Development. Contact: Patricio Bernak, IOC, 1 Miollis, 75732 Paris, France; email p.bernal@unesco.org

4-5 December, Southport, UK
Congestion, Inclusion and Quality – delivering the 10-year Transport Programme. LGA Conference. Telephone +44 (0) 207 6643131 or visit www.lga.gov.uk

Fri 7 December (4pm to 8pm), Sat 8th December (11am to 6pm), London, UK
World Fair Conway Hall, Red Lion Square, London WC1. **60 stalls run by ethical traders**, charities and co-operatives with arts, crafts and exotic Christmas gifts, WOMAD's famed 'Madras Café' and live music from around the world. Organised by Oxfam, War on Want and World Development Movement. Crèche facilities available Saturday, access and facilities for disabled visitors. Nearest tube: Holborn. Suggested donation £2. For more info: www.worldfair.org.uk; tel: 020 7354 4231

7-8 December, Berlin, GERMANY
Global Environmental Change and the Nation State. Speakers include Dr Klaus Toepfer (UNEP) and Juergen Trittin, German Minister for the Environment. Visit www.environmental-policy.de

8 December, London, UK
March against US obstruction of the fight against Climate Change. Visit www.Campaignagainstclimatechange.net, email philthornhill@yahoo.com or call +44(0)7903 316331

10-12 December, Isle of Vilm, GERMANY.
European Workshop **'Climate Protection and Conservation of Biodiversity – how to solve**

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- Ethical Financial Investment • Composting Organic Waste
- Climate Change & Kyoto • Alternative & Renewable Energy
- Environmental Educational Courses • And There's More

The site offers serious commentaries on selected topics. There's space for news and contributor's articles and loads of photo backgrounds to download. You can send virtual cards and obtain help on buying reference texts. And there's still more.

possible conflicts and find win-win solutions'

Contact: German Federal Agency for Nature Conservation; Tel: +49 38 301 860
10-12 December, Geneva, SWITZERLAND.
2nd Session of WIPO's Intergovernmental Committee on **Intellectual Property and Genetic Resources**. Traditional Knowledge and Folklore. Contact Francis Gurry, WIPO, + 41 22 338 9428, email: francis.gurry@wipo.int or visit www.wipo.org

12-13 December, Royal Society, London UK Climate change – what we know and what we need to know

A forum for key representatives from academia, government, business and NGOs to examine the conclusions of the Third Assessment Report of the Intergovernmental Panel on Climate Change. For information email climate@royalsoc.co.uk

17 January, London, UK Commonwealth Institute. Conference on Depleted Uranium. Contact The Society for Radiological Protection, on www.srp-uk.org or call +44(0) 1364 644487

19-21 January, Dhaka, Bangladesh International Conference on Renewable Energy for Rural Development. Technical issues for the future development of renewable energy sources with a focus on wind, waves and tidal schemes. Contact AKM Sadrul Islam, Department of Mechanical Engineering, BUET, Dhaka 1000, Bangladesh; or email sadrul@me.buet.edu

23-24 January 2002, Geneva, SWITZERLAND IATA Convention Centre, 3rd Annual Aviation and the Environment Conference. Development of the aviation industry, the EU and USA, emissions trading systems, aviation and climate change, noise issues etc. Chaired by Leonie Dobbie, director of Aviation Environment, IATA. Contact: Euromoney Institutional Investor, PLC. or visit www.euromoneyplc.com/index.html

28 January – 8 February, New York, USA UN Headquarters, New York. 2nd Preparatory Session for the 2002 world summit on sustainable development. Contact Andrey Vasilyev, DESA, Tel: +1 212 963 5949, email: vasilyev@un.org or visit www.johannesburgsummit.org

Spring 2002, UK Gaia Research is organising a series of events targeting building designers and cost professionals. Each is intended to provide useful and practical guidance on how design teams can create more sustainable buildings. For more information, contact Sandy Halliday on 0131 558 7227; email gaiasandy@aol.com or search for CPD at www.GaiaGroup.org

9 February, Brighton, UK Seedy Saturday. St George's Church, St George's Road, Kemptown, Brighton. 11am-4pm. The event is a way of bringing gardeners, seed savers or those wanting to learn more together. Speakers, stalls, demonstrations, seed swap etc. For more information, telephone 01273 882552 or send SAE to 5 Wellsbourne, Findon Road, Brighton, BN2 5NL.

5-7 March, Glasgow, UK Tackling Inequalities: building sustainable communities. Forum designed for those whose

work or interests are concerned with promoting the public's health, professionals and non-professionals. Research sessions, workshops, poster exhibition. Visit www.ukpha.org.uk
14th IFOAM Organic World Congress, "Cultivating communities", Taking place in Victoria, BC, Canada, August 2002. For information, visit www.cog.ca/ifoam2002.

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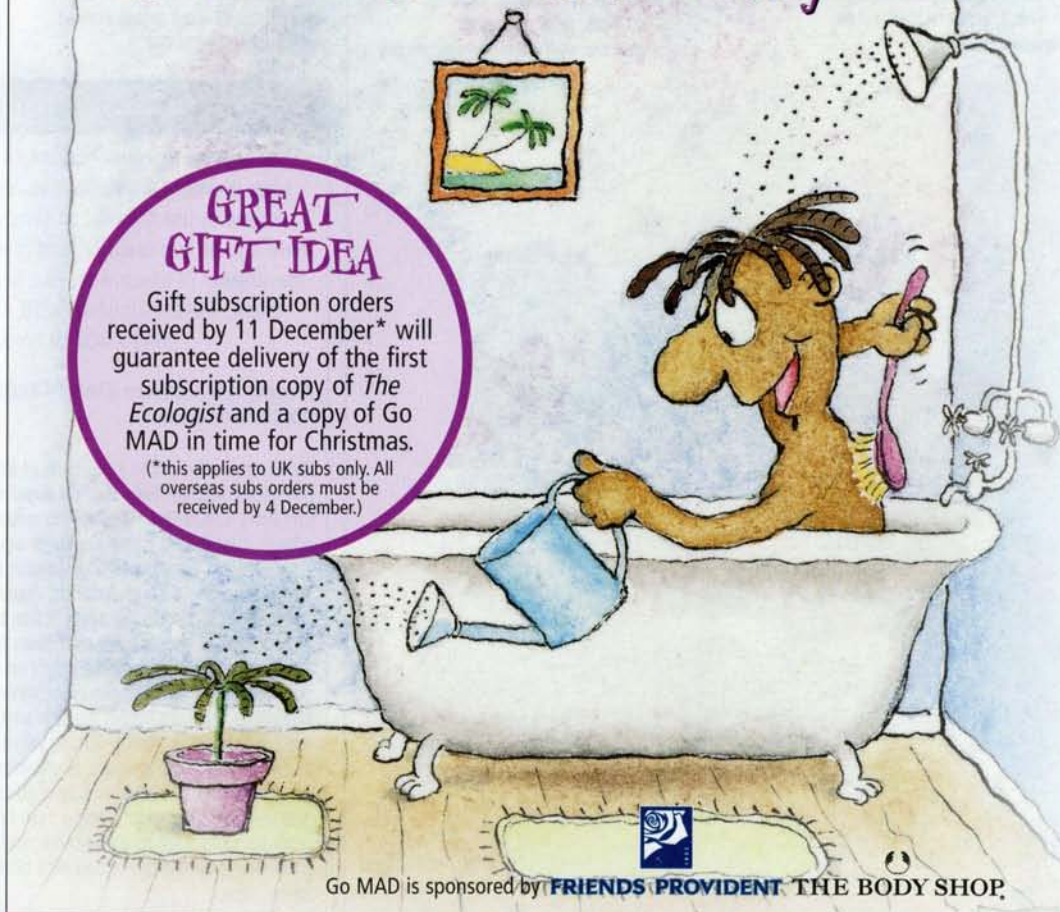
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Gift subscription orders received by 11 December* will guarantee delivery of the first subscription copy of *The Ecologist* and a copy of *Go MAD* in time for Christmas.

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One Village has launched on-line shopping for craft-made articles for the home from community organisations such as workers co-operatives in India, Bangladesh and other countries. Rugs, lampshades, containers, duvet covers, etc. Information pages too. Go to www.onevillage.org

HOLIDAYS

Walking, pony trekking, wining, dining, swimming and above all relaxing and spending quality time with your friends, your family, your children and your pets; this is all possible next summer at **Les Cagermes, in the French Dordogne**, a 17th century farm, ready to welcome you for the holiday of your life. Visit www.lescagermes.com for further details.

How about a holiday with a difference?

Farmers' World *network* is organising a tour of Costa Rica to look at agriculture, rural life and biodiversity. The trip will include visits to fairtrade and organic farms, cloud forests, volcanoes, national parks, multinational agricultural plantations and much more. For further details visit www.fwn.org.uk or telephone 01242 515712.

JOIN

Low Impact Living Initiative is dedicated to helping protect the global environment by promoting sustainable alternatives to various aspects of everyday life. Contact us to find out more about our installations, workshops, presentations and manuals. LILI, Redfield Community, Buckingham Road, Winslow, Bucks, NK18 3LZ. Tel/fax 01296 714184; www.lowimpact.org

PUBLICATIONS

The Case for an Independent Pound. A collection of speeches from politicians, business and trade unions from the UK and overseas. Individually they are very impressive; together the case they make is overwhelming. Please send a cheque for £5 per copy (made payable to Congress for Democracy) to 58 Kewick Road, Great Bookham, Surrey, KT23 4BH.

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To regularly receive a newsy, information-filled bi-weekly column on a broad range of subjects focused on health and the environment, the best mainstream press coverage around, read Your Environment. www.msnbc.com/news/YOURENVIRONMENT_Front.asp?Onm=H303

RESOURCES

Back issues of *The Ecologist* FREE to interested organisation/individual. Telephone Mr Cheney, 01608 685 279 for details.

Personal and Global Change. 'A Revolutionary speaker'. Talks by Michael Eaglemeare. Spiritual-ecological action. Talks given to groups/seminars/conferences. Enquiries invited from UK/International. No charge is made. Tel: +44 (0)1392 877228; email michael@eaglemeare.org; visit www.eaglemeare.org

Visit www.farmtalking.com for information, help and advice, your legal rights and the law for farmers, their families and others. **Find out all you need to know about life in the countryside today.** Helplines: telephone 01361 850282/850680

SITUATIONS VACANT

CEE Bankwatch Network (international NGO with member organisations from 12 countries of CEE and CIS region) is looking for full-time **International Transport Co-ordinator**. Work includes lobbying, writing papers, contributing to newsletter, project proposals, organising seminars, interacting with media. Visit www.bankwatch.org or email tomaszt@bankwatch.org

VOLUNTEERS

www.idealists.org
A gateway to over 23,000 organisations, jobs and volunteering opportunities all over the world.

Can you help at Festivals, conferences, meetings in 2002? We are looking for volunteers to help man *The Ecologist* stands at events throughout the UK next year. Please contact Sally on 020 7351 3578 or email sally@theecologist.org

Greenhouse – Norwich's Environmental Centre. Are you interested in Organic and Fairtrade issues and developing the local food economy? We welcome volunteers to assist in our shop and café.

To find out more about getting involved, telephone 01603 631 007.

Internship available at Environment and Social Development Organisation (ESDO), national research and networking organisation in Bangladesh. Excellent opportunity to get hands on experiences in implementation of environment related projects and research work. Visit www.esdobd.org to find out about us.

WEBSITES

www.nrel.colostate.edu/iboy/news/noviboynews.pdf The second newsletter of the Diversitas – International Biodiversity Observation Year (IBOY) 2001/2. It contains information on current research findings and upcoming activities of IBOY Core Network Projects and the IBOY Secretariat, including international meetings, research expeditions, awards and funding opportunities.

www.plannedplanethood.com Eco-friendly, satirical rag that's newsy and different. Many varied features – including Open Letter to the President urging his support for creation of Endangered Spaces Act.

COMPETITION

AN INTERNATIONAL SEARCH IS ON FOR A GROUND-BREAKING ENGINEERING DESIGN TO HELP DEVELOPING COUNTRIES.

The Altran Foundation for Innovation has launched its annual competition to find an innovation that helps developing countries. The winner will be awarded €1 million worth of consulting from consultants based at Altran. Entry forms are on www.altran-foundation.org or fax on 0033 144 095440. The deadline is 31 January 2002.

Questions & Answers

Ever wanted to know how much it would cost to convert your home to solar power? Or what sweatshop conditions are really like, and which companies use them? Just send us any question you have, we'll post it here and on our website, and then aim to put whoever thinks they know the answer in touch with you. Send your questions and answers to Sally Snow, *The Ecologist*, Unit 18, Chelsea Wharf, 15 Lots Road, London SW10 0QJ, or email sally@theecologist.org.

A reply from Kristen Steele-Thompson to J Cullen, who wondered what happened to Stevia

Stevia originated in the mountains of Paraguay and has been used for centuries by the native peoples there to treat sugar imbalances, high blood pressure and skin problems. Stevia itself means 'the sweet bliss', which refers to its mood improving effects. It is several hundreds times sweeter than sugar and yet is safe for people with diabetes, candida, hypoglycaemia and those trying to lose weight. It is used widely throughout South America, Japan, China and is sold as a nutritional supplement in the US. However, it has been banned in Europe, including the UK. Although no ill effects have ever been documented, US researchers apparently found Stevia could have an adverse effect on male fertility and a Stevia metabolite produced in the gut had possible DNA altering effects. So in 1999 the food Standards Agency banned the sale and import of Stevia. Great, you think, thanks for looking out for my health. But, as usual, it's not that simple. Saccharin, known to cause cancer in lab animals, is still in legal use. Aspartame (aka NutraSweet) continues to be the most widely used artificial sweetener despite a list of 90 documented symptoms ranging from headaches and skin rashes to seizures and brain tumours. And guess who manufactures NutraSweet? Monsanto. So, until government climbs out of bed with biotech, you'll have to head overseas to find sweet bliss.

And this month's eco-enquiry is...

Are there any campaigns already running (or planned) that want to ban advertising during children's programmes? Some Scandinavian countries have already done this.

Eva Fernandes



It wouldn't be Christmas without a tree. Our sentiments exactly.

Trees for London

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If you'd like to sponsor a tree as a Christmas present, call 020 7567 1320 or visit www.treesforlondon.org.uk

"I can't believe what I'm reading - every page grabs my attention. Every article is relevant. You've done a tremendous job in making accessible some of the most censored stories in the British media. I want to congratulate you from the bottom of my heart on the content, style, design and relevancy." Anita Roddick

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6 reasons to visit the new *Ecologist* website www.theecologist.org

Biotechnology	Brands	Campaign	Cancer	Climate	Cloning	Community	Corporations
Dams	Debt	Democracy	Development	Economy	Energy	Environment	Ethical
EU	Extinction	Farming	Food	Forests	GATS	Global warming	Globalisation
GM	Green	Greenwash	Health	IMF	Indigenous	Legislation	Localisation
Multinational	NAFTA	Nature	NGO's	Nuclear	Organic	PATENTS	Philosophy
Political	Pollution	Population	Poverty	Radiation	Recycle	Social	Supermarket
Sustainability	Technology	Toxic	Trade	Transport	Tribe	TRIPS	Vegetarianism
Waste	Water			World bank			WTO

1 SEARCH THE ARCHIVE

Our archive already features almost every article published in the magazine over the last two years. We are continuing to add articles all the time, keeping you up to date and taking you back into the magazine's 31-year history.

The Archive can be easily and quickly searched in two ways:

- Clicking on a **KEY CATEGORY**, eg Cancer. This will call up all the articles in the archive that have Cancer as a main theme.
- Using the search facility. Type in the title/author/subject you are interested in and press **SEARCH**. This will bring up all articles mentioning the chosen keyword/s.

2 HAVE YOUR SAY

Each and every article, debate, campaign and hot topic featured on the website can be discussed online. Select **CLICK HERE** to have your say and you will be connected to the discussion board where you can comment on what you've read or maybe what you'd like to have read! Either way, get on line and have your say!

3 VISIT THE EXCHANGE

The Exchange is a noticeboard for environmental and ethical services, products and needs. Website entries are FREE, so if you have a need for writers; a call for papers; a campaign to support; volunteers to recruit; events to fill; projects to fund; eco-products to buy or sell; courses to attend; publications to read; places to visit; organisations to join; websites to visit; and vacancies to fill... log on to *The Ecologist* website, click on **THE EXCHANGE** button, and complete the online form. We will then post your listing.

4 SUBSCRIBE TO THE NEWSLETTER

If you want to be kept informed of what's happening in the world of *The Ecologist* then subscribe online to receive our regular email newsletter, guaranteed to keep you abreast of the latest worldwide environmental stories and campaigns to support.

5 JOIN A CAMPAIGN

Visit the website for the latest full and detailed information on the campaigns currently being supported by *The Ecologist*. And for each and every campaign:

- Find out more about the campaign by clicking on the featured links.
- Discuss the campaign and its objectives with others using the online discussion groups.
- Help spread the word, and increase people's awareness of a campaign, by clicking on the **EMAIL** button and forwarding the campaign to a friend, colleague, or whoever else you think should know what's going on.

DATE	SUBJECT
31/10/2001	Is FTSE4Good just stock market capitalism dressed in green?
31/10/2001	ECGD and contamination of the Black Sea
31/10/2001	Draining the Rio Grande to water Malaga
31/10/2001	Protect Victoria's threatened woodlands
31/10/2001	The danger of hydro
31/10/2001	What if the World Trade Centre had been a nuclear power station?
31/10/2001	Europe: a new 'big idea'
31/10/2001	Education: on the ropes

6 DEBATE HOT TOPICS

Whether it be a feature in this month's magazine, a paper that no-one else dare publish, or just an issue that has to be discussed, Hot Topics ensures that the issues that matter get heard, and get discussed.

And for each and every issue:

- Have your say, by joining the online discussion.
- Find out more about the topic/s covered in the article, by simply clicking on the article links for direct connection to related sites.
- If the article interests you and you think a friend or colleague would be interested in it as well, click on the **EMAIL** button and pass it on.
- And if you prefer to read the article offline, just click on the **PRINT** button for a pre-formatted print-out.

Call For Papers/Writers

Air Pollution 2002

International conference on Modelling, Monitoring and Management of Air Pollution. Segovia, Spain. Paper deadline: 5 February 2002. Conference date: 1-3 July 2002. Website: www.wessex.ac.uk/conferences/2002/air02/index.html

Brownfields 2002

International conference on Prevention, Assessment, Rehabilitation and Development of Brownfields Sites. Cadiz, Spain. Paper deadline: 23 April. Conference date: 2-4 September. Website: www.wessex.ac.uk/conferences/2002/brownfields02/index.html

Draining the Rio Grande to water Malaga



Guaro is a small village 24km north of Malaga. Situated east of Sierra de las Nieves in mountainous countryside, its fertile plains are of great agricultural importance. Famous for its almonds, Guaro also boasts olive, citrus and avocado trees, all watered by the nearby Rio Grande.

All this is set to change. Malaga's ever growing tourist industry and golf courses need more and more water. While Madrid and Bilbao need an average 280 litres of water per inhabitant per day, Malaga's per capita consumption is 480 litres per day. Currently there are about 40 golf courses on the Costa del Sol, with 12 more coming. With each square metre using up about 7 litres of water per day, an average sized course needs a lot to drink.

The website also features...

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The Ecologist special issues

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'On 2nd October 2001, Bayer acquired the much reviled Aventis Cropscience from life sciences company, Aventis. Now Aventis, turning its attention solely to pharmaceuticals, hopes to shed its image as a company responsible for the mass contamination of food with un-approved GM Starlink corn across the United States and Asia. Starlink was solely approved as an animal feed as it was shown to cause allergic reactions in humans. Aventis is also trying to escape being branded public enemy number one in the UK for providing the seeds for the scientifically discredited Farm Scale Trials and attempting to get the first commercial consent for GM crops in the UK. By relaunching itself as a caring, sharing pharmaceuticals company, it hopes we won't notice that it was one of the companies that attempted to prevent the South African Government from buying cheap versions of its patented drugs or that, as Hoechst Merck Roussel, it was involved in human drug trials without the patients' consent in Buenos Aires in 2000. It also hopes we won't notice that only recently (22/10/01) Roussel Uclaf, owned by Aventis, was fined \$33 million for fraud by the US public health authorities.

Goodbye Aventis Cropscience, can't say we're gonna miss you, and watch out, Bayer...

For more info see the excellent 'Norfolk Genetic Information Network' website: www.ngin.org.uk. Also see briefings by Genewatch UK: www.genewatch.org and Corporate Watch: www.corporatewatch.org.uk/GEbriefings/Aventis.

Our Challenge is the Manipulation of Life

