

THE Ecologist

VOLUME 31 NO 8 £3.50

RETHINKING BASIC ASSUMPTIONS

OCTOBER 2001

Mobile Phones

the problem's
getting bigger

Ashing in

They're building houses with dioxin

How GM is your valley?

Monsanto's grand plans for India

Chemical imbalance

The other companies Glaxo directors run

JIM CAREY • DELE OGUNTIMOJU • RICHARD BODY • NICK FISHER



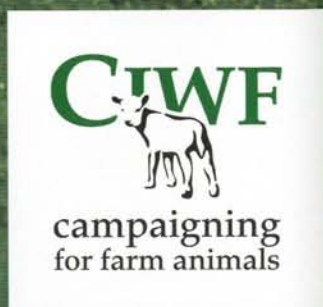
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The runaway train

The GM giants met their match two years ago in the form of wide-scale protests and consumer boycotts throughout Europe. Their profits slid, their reputations took a dive, and for many, the GM industry became a focal point for the collective frustration of critics of the corporate age. Yet despite this, Mr Blair exalted that 'genetic modification will be the revolutionary science of the 21st century, as important as the computer was for the late 20th century'. At the time, his words seemed little more than the chimes of an over-enthusiastic corporatist. But he must have known something, for instead of withdrawing their all-pervading tentacles, the industry has indeed grown from strength to strength. How they have done so defies belief.

At the height of the battle, Monsanto's share price plummeted by 40 per cent, supermarkets promised to remove GM products from their shelves, and even McDonald's, nervous about being seen to side with the bad guys, announced that its fries would be GM-free. Governments of Thailand and Japan, both significant importers of US grain, are currently ramping up their regulatory controls on GM, and Indonesia, Algeria and Sri Lanka among others are toying with outright bans. Not surprisingly, the US, which hosts the majority of GM plantations, fears for its £30 billion food export industry. Already, according to John Vidal of the *Guardian*, Europe, Japan, Taiwan, and South Korea have all turned to Brazil and China for non-GM grains.

Yet despite all this, the industry remains upbeat. Why? Because following a series of public relations disasters it has successfully changed its tactics, and as a result, the gates to a Brave New World have never beckoned so widely.

In the beginning, the industry sought public acceptance over and above all other considerations. That was the purpose of Monsanto's enormous advertising campaign. But what quickly emerged was that the more consumers learned about GM, the less they trusted and wanted it. And despite repeated efforts to dizzy us into acceptance with press stories on miracle cures and feeding the five thousand, the situation remains much the same.

So the industry has chosen instead to focus on a campaign it knows it can win: infiltrating politics and the regulatory bodies.

The former has been straightforward. In effect, the industry has been pushing at an open door. Before the recent US presidential election, Monsanto assured its shareholders that regardless of the victor, they could be sure of a friend in the White House. The industry has long enjoyed privileged access to American decision-makers. And in the UK too, the industry has earned friends in high places. 'Nothing has puzzled me more,' Mr

Blair lamented last year, 'than claims that this government is an unquestioning supporter of GM food. We are not pro or anti-GM food'. Only a few months later, he wrote in an overseas paper that his goal at the Stockholm EU summit was to provide 'a mandate to the EU Commission to prepare an ambitious action plan on biotechnology to facilitate a European leap forward'. Stephen Byers, Secretary of State for Trade and Industry was more candid when he said recently that 'the biotechnology industry is exactly the kind of industry we want to encourage in this country. Our current annual spend of some £600 million a year on biotechnology research and development speaks for itself'.

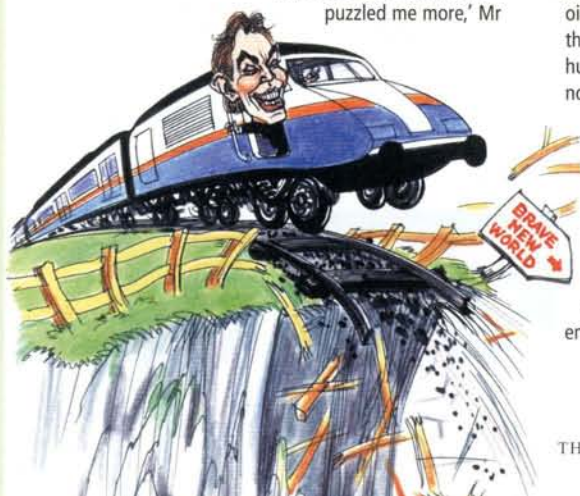
Influencing the scientists and 'experts' has required slightly more effort.

Recognising the futility of trying to persuade consumers directly, Monsanto ditched its vulgar advertising campaign and reshaped its budgets and personnel for an altogether more insidious purpose. The emphasis today, according to leaked company reports, is on influencing the constitution of supposedly 'independent' scientific panels. One report, stamped 'company confidential' boasts that the relevant team 'was instrumental in ensuring that key internationally recognised scientific experts were nominated to the FAO/WHO expert consultation on food safety held in Geneva. The consultation and final report were very supportive of plant biotechnology'. In last month's *Ecologist*, Indian environmentalist Devinder Sharma reviewed the recent UNDP Human Development Report. He described it as 'yet another biotechnology industry-sponsored study'. The report could easily have been written by Monsanto. It probably was.

Which leaves only the sceptical consumer. Back to the leaked Greenberg report of 1998. Yes, it conceded, the vast majority are opposed to GM, but almost everyone regards its arrival as inevitable. And since you can't prevent the inevitable, it has been the role of our freshly sweetened regulators to reinforce that view.

Don Westfall, vice president of Promar, said recently that 'the hope of the industry is that over time the market is so flooded [with GM] that there's nothing you can do about it, you just sort of surrender'. Organic regulators in Australia are already feeling the pressure. They have refused to allow organic produce from the US to be labelled as such, on the grounds that US agriculture has been irreversibly contaminated by GM. And in the UK, it seems, our own regulators are vying for the same status. When last year Advanta Seeds mistakenly imported GM-contaminated oilseed rape, they quickly alerted the British government. Yet for reasons best explained by them, the government took no action to prevent planting on 4,700 hectares, and waited instead until it was too late for many farmers. Even then, despite laws forbidding the commercial cultivation of GM oilseed rape in the UK, it initially resisted demands that the crops be destroyed. Today, the UK hosts more than a hundred GM test sites. Why there are so many we have not been told.

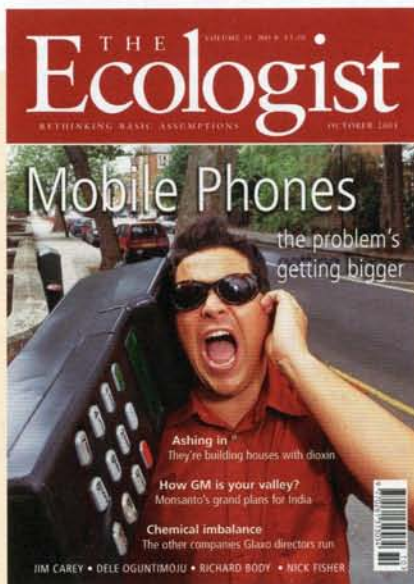
Virtually the entire administrative infrastructure has been twisted to suit the biotech industry, and consumers are left effectively with two choices: surrender or action. Perhaps in anticipation of backlash against the GM establishment, former Home Secretary Jack Straw implemented anti-terrorist laws last year that put direct action campaigners on a par with Osama Bin Laden. But fortunately there are still enough good people willing to defy the odds.



RICHARD WILLSON

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VOLUME 31 NO 8, OCTOBER 2001



COVER FEATURE

Most of the public debate over mobile phones seems to be about which ringtone or clip-on fascia to choose. The real issues have been sidelined, ignored or consciously suppressed in a blatant example of governments choosing industry dollars over public health concerns. David Edwards looks at how the government is ignoring what certain scientists are now saying. Roger Coghill goes a step further, showing that even the proposed safety standards are irrelevant. Elsewhere we back up their claims with evidence from further studies, reveal a worrying new development being trialled on the police and give some suggestions as to what you can do to look after your own health.

Cover photograph: Rob Carter



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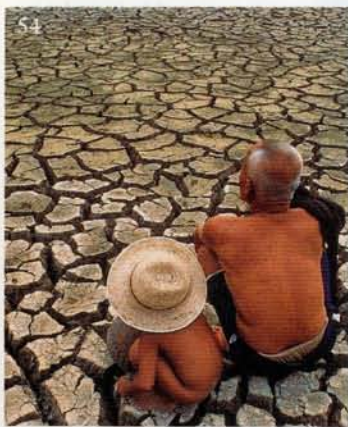
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 Please attach your name and postal address, even when sending by email.
 The editor reserves the right to shorten or edit correspondence where necessary.

Music to whose ears?

I was disturbed by *Religion as a Tool to Rule*, by Gard Binney (Vol 31/3). While I fully support his criticisms of George Bush, I felt there was a particular and unjustified punch at Christianity, and indeed any religion based on 'God'. I realise that *The Crow* is 'a mouthpiece for thinkers with individual and strong views', but Binney's article seemed to echo a common, unfair sentiment among environmentalists, that religion and environmentalism cannot go hand in hand.

It surprises me how many environmentalists refuse to believe in God. Sure, it's difficult to imagine God, to imagine that prayers are a way to communicate, and it's difficult to imagine an eternal life of paradise. In a way, it's not unlike a mosquito trying to comprehend Mahler's 9th Symphony. The mosquito might sense the vibrations of music, and it might very well earn a meal from the bass clarinetist. It may even be quietly squished by the 4th French horn during the second movement. But it could never understand the theory behind the music, the composer's artistry, the chemical make-up of a cello's varnish, or the emotional influence of the sound waves upon the performers and audience.

We humans aren't much different. We have a limited capacity to understand.

There are a lot of things we can't fully comprehend – the distance of a million light-years, the temperature of our planet's core, the power of an atomic bomb. Yet because these can be measured by scientific methods, they are believable and just easier to imagine.

Science, however, has never been able to prove there isn't one, despite the feeble attempt in 'THE IMAGE OF GOD'. That science hasn't disproved God is an obvious point, and it's not even a new argument – I think we rely too much on science. (Heck, today's Western society nearly makes a religion based on it!)

Christianity and most other religions offer a 'simple' explanation, one that our tiny, limited brains will never fully grasp. But because we can't comprehend it, does that mean God doesn't exist? Does that mean

Mahler's 9th Symphony doesn't exist, because Molly the Mosquito couldn't understand it?

'Didn't God make man lord of all creation?' Gard Binney may not realise that the reference is not a Biblical quote. Maybe 'lord' doesn't have to be equated with 'exploiter' and 'destroyer'. Maybe it refers to an 'admiring steward'.

Timothy Cummings, Wellington, New Zealand

Editorial reply: To find out more about how religion and ecology go hand in hand, get hold of a copy of *The Ecologist: Cosmic Covenant*, (Vol 30/1), which was devoted to the subject. Details on ordering a copy of this issue can be found on page 67.

Border crossing

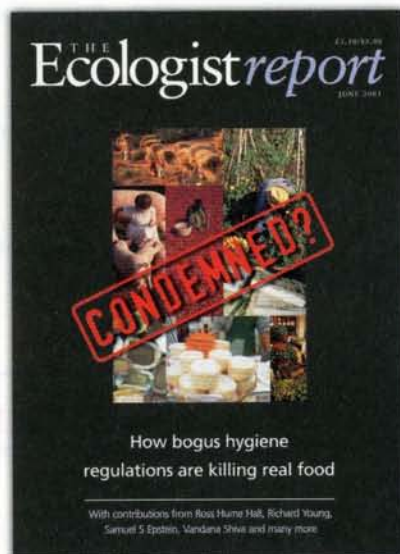
I read your special Hygiene report (Vol 31/5) where it looks like you might have fallen into the trap of media propaganda. Teddy Goldsmith writes that the majority of *The Ecologist* readers would prefer buying British produce where possible in order to reduce food miles. Well, I would like to suggest that people in Liverpool should rather go for Irish produce, as it is a lot nearer than, say, produce delivered

from Kent. And the people of Kent should intensify their trade with Brittany rather than with Scotland, again as food miles are reduced!

People want to buy British because they are nationalistic and comments like the above do not acknowledge that. It is time that *The Ecologist* and its readers start to think globally, act locally and kiss nationalistic views goodbye.

K Engler, London, UK

Stephanie Roth, researcher on the hygiene special issue, replies: Acting locally and beyond intellectual blocks of nationalism is the way forward, indeed. What about re-empowering a Kentish or Liverpoolian local community in such a way that there is no need for the locals to look beyond their own region? Encouraging local production by buying local products surely would bring food miles to a bare minimum. Travelling to Brittany or Ireland to do your shopping isn't the solution because under our current parameters of 'free trade' you would find yourself confronted with the same products on either side of the sea.



Winding up

John Rogerson (*It's an ill wind...*, Vol 31/6) states that there is significant opposition to wind farms in Dumfries and Galloway, from people who want to keep their hills turbine-free. I agree with his criticism of the present situation, which is undemocratic, lends itself to central control and may involve wasteful infrastructures.

I have been arguing for some time that we should have a Scottish Renewable Energy Commission, to identify the best sites for wind farms and hydro plants, and to arrange for them to be built and owned by local communities. This is now the official policy of the Scottish Green Party. Community ownership of wind farms has been a great success in Denmark. It may well turn out that the wind is the most valuable natural resource of the Highlands and Islands of Scotland: even in Dumfries and Galloway, it may come to be one of the most valuable of the local resources. Present arrangements are allowing this resource to fall into the hands of a new breed of absentee landlord, consisting of companies with no roots in the region that they are exploiting.

P W Agnew, Energy speaker, Scottish Green Party, Stirling, Scotland

Doming down

I've just read Stephanie Roth's report on Rotterdam's Multi-Storied Agronomic Dome, (*Special Report*, Vol 31/5) and I found her commentary somewhat lacking in substance. While the 'dome' is probably not the most humane place in the world to keep farm animals, I believe (and nothing in the report contradicted) that it actually is a fairly ecologically sound idea. It is powered by wind, an entirely sustainable energy source. The animal waste, rather than running off into waterways, is to be used as fertiliser and 'fuel' (more sustainable energy). The internal cycling of CO₂ also seems like a pretty good idea. The 'ecologically' unsound thing that I can see about the dome idea is the possibility of infection or infestation, which Ms Roth mentions in the first paragraph of the report, but never elaborates on. She repeatedly places quotation marks around the word, 'ecological', implying that this intensive farming somehow isn't consistent with ecological concepts. Coming from the US, where broad expanses of land are literally being washed away, and poisoned with fertilisers, all in the name of 'production', I think that this agronomic dome idea deserves more credit than it seems to be given here.

JUST A QUICK WORD...

TWO PLUS TWO EQUALS...

Whilst travelling in the US last year I heard rumours that the US government would find a way of ensuring the UK and Europe would indeed import hormone-treated US beef, after all. The speed of the spread of foot and mouth along with the resistance of the US to chemical weapon manufacturing installation inspections makes me wonder! I don't have the resources to investigate further, but, I would very much like to be reassured that I am barking up the wrong tree!

Phil Taylor, pltaylor@talk21.com

A GNAT'S CHANCE

What about the *Smart dust* (Vol 31/6) surveillance sensors the size of a grain of sand? I was watching on the Discovery Channel on how they will have video cameras in something the size of a gnat that will have the ability to fly around and film what you are looking at on your computer screen. Maybe we shouldn't say Big Brother is watching you and just say little bugs and dust are! What next?

Paul Dale Roberts, Political Reform, California, US

But above all: by all means call the project inhumane, but please don't suggest that it isn't ecological without at least offering some evidence.

Alexandra Thorn, Wellesley, UK

Stephanie Roth replies: Happy to read that my article doesn't lack substance in providing the necessary information to make you conclude that the Delta-park project 'actually is a fairly ecologically sound idea'. Collins dictionary defines 'ecology' as 'the study of the relationships between people, animal, plants and their environment'. The Delta-park reduces these relationships to the mere mechanised functioning and therefore (to me) is ecologically unsound.

You are right to suggest that the use of fertilisers and the way industrial agriculture functions are not good – I don't challenge this. In terms of 'relationships' the solution therefore lies not in trying to decide which one of the two is a worse evil, but in embracing a solution that nurtures these natural relationships.

Utopian? Far from it. What about organic and bio-dynamic farming?

A FARC cry

In relation with the interesting set of documents *Reading between the lines: the complexity of Colombia* (Vol 31/6) the interviewer of 'Guns, Drugs and the New World Order', Mónica del Pilar Uribe Marín, regrettably did not ask about FARC's reasons regarding why Tom Deferer had to abandon the biological research station Caparu. Sadly it isn't the only case, and more than admitted that FARC's obstruction to environmentalists' activities are a fact. There is also serious evidence that compromises the FARC in deeper relations with drug traffic organisations, more than Mr Reyes is willing to admit.

We enclose a letter written by José Manuel Vivanco, Director of Human Rights Watch (Washington DC) dated 10 July 2001, to Manuel Marulanda Velez, leader of this subversive organisation. It might add to the objectivity of *Reading between the lines*, if you consider the following statement by Jesus Pinacue, an indigenous member of the Colombian Parliament: 'without scruples they are killing the leaders of Colombian aborigines'.

Luis Guillermo Parra, Director, Fundacion Pais Libre

Contact Stephanie Roth, c/o The Ecologist to obtain a copy of José Manuel Vivanco's letter.

...and more

Peter Bunyard's ex-hiking companion Juan Mayr, Minister 'for' the Environment, is a walking environmental disaster. Truly concerned members of the ministry staff left their jobs when he was appointed: a businessman with zero interest in the environment, he has heaped disaster upon disaster since taking office.

We have lived in FARC areas, remote forested mountain regions, for all our 13 years here and their 'green' policy is excellent. Unfortunately, their 'red' politics are not.

Your news about the Kogi I find shocking: if they are lending themselves to 'Plan Colombia' in any form, then they abdicate any rights to be considered anything but 'enemy' by any revolutionary movement. How does it make sense to threaten defoliation to 'save trees'? There is something seriously wrong with Alan Ereira's article – either he has gone over the top with his 'Kogi romanticism' or the Kogi have lost it altogether. Heart of lightness? I don't think so.

Jenny James, Huila, Colombia

Free speech?

I am writing to you in connection with the debate on the human genome sequence in *The Ecologist* (*Debate*, Vol 31/5). Matt Ridley in his letters makes a completely unsupported and irrelevant comment about homeopaths. While writing about the possible profits which may be made on cancer treatments from these developments he says that 'their consciences would be clearer than homeopaths and other quacks who currently prey on the terminally sick'.

This statement adds nothing whatsoever to the argument and is not backed up with evidence. He is entitled to his opinion, however much it may show his ignorance, but I am shocked that you allowed it to be printed, since it borders on the libellous. Homeopathy is a serious and scientific form of medical practice. Most homeopaths belong to organisations which require them to reach a high standard of expertise in the profession and bind their members by a strict code of ethics. There is a considerable body of research available, and growing all the time, to demonstrate the efficacy of homeopathy in benefiting sick people in many situations. Of course it is always possible to find individuals in any profession who misuse their position. Matt Ridley obviously has his own agenda on this issue and I would be happy to debate the matter with him. It is not acceptable for him to use space in an article on another subject to insult people and I am shocked that such a reputable journal did not require him to remove this statement.

Your journal is one I have always held in esteem. As you are promoting ecology I would expect you to be ready to support a form of medicine, which by its very nature is far more ecological than much which is done in the conventional medical world.

**C Angela Needham, Publications Director,
The Society of Homeopaths.**

Editorial reply: *It is our editorial policy not to edit any of the contributions from those we invite to debate on a particular subject.*

What is left?

I write to express my profound disappointment at the concluding paragraphs of Paul Kingsnorth's *It's the democracy, stupid* (Vol 31/7) which are highly divisive and based on a completely wrong analysis of the political left and its role in the anti-capitalist movement against globalisation.

He jeers at people using terms 'comrade' and 'proletariat'. Does the former not accurately express the relation of friendly co-operation that unite all in the anti-

globalisation movement, from the Zapatistas to the Tute Bianche? Is not the 'proletariat' now larger and more destitute than ever on a world scale? Is not power 'concentrated at the top of society' in the giant transnationals and the planetary capitalist bureaucracy of the World Bank, IMF and WTO? To confuse real socialists and Marxists with Black Bloc-ers and their mindless violence is a travesty of political analysis. It is also a gross insult to a country like Cuba.

Kingsnorth is no clearer in his description of what he sees as the future of the movement. What is this totally different way in which power must be looked at? We can agree that power should be dispersed, but how does he propose to do it? Also that power should be localised. But again how? I agree that we have much to learn from tribal people, but how does Kingsnorth propose that their ecological wisdom be adapted, adopted and applied to the urban societies of the northern hemisphere.

Kingsnorth recognises the moral bankruptcy of capitalism, but has no idea how to replace it. We are in fact in a binary situation; the opposite of capitalism is socialism, which will be as different as the countries it takes roots in; except for one fundamental feature: production will be for use, not profit, and will fulfil all the goals Kingsnorth seeks. Indeed these goals cannot be attained without it. He should read the 'portrait of the world in miniature', *The Ragged Trousered Philanthropists*, so described by Jake Bowers in his fine article *Mugsborough Revisited* (Vol 31/7). He should in particular read chapter 21, 'The Great Money Trick', which demonstrates the feature of capitalism which makes it an engrenage infernal which must be ended before it destroys our society and the environment.

**Andrew Lockhart Walker, Dollar,
Clackmannanshire, UK**

Paul Kingsnorth replies:

Andrew Lockhart Walker misses the point of a lot of what I was trying to say. I did not, for example, 'confuse real socialists and Marxists' with Black Bloc-ers or anyone else. My point was that, in very different ways, they present problems to the new and growing movement which was evident in Genoa.

This is precisely because of the 'totally different way power must be looked at'. It is simply not true that 'we all agree that power can be dispersed'. Much of the old left do not agree with this – had Mr Lockhart Walker heard some of their speeches in Genoa he would know this.

The opposite of capitalism may well be socialism, but mirror images reflect the faults of the original. When Mr Lockhart Walker says 'Kingsnorth recognises the moral bankruptcy of capitalism but has no idea how to replace it' he gets to the heart of the problem. It's not up to me, or him, or Karl Marx for that matter, to devise vast blueprints with which to replace a bad system. Real change comes from below, and across the world, networks of activists from many countries are putting alternative systems into practice which don't aim to seize state power



for 'the people', but to make it irrelevant through local action. That's real democracy – and it's already working – he should go and see it for himself. It's the future. The left needs to learn from it, or become irrelevant.

Give a child an inch

With reference to Leberman's letter (*In for a pound*, Vol 31/7) I would like to make the following comments:

60 years ago foreigners admired the high level of British children's mental arithmetic (necessary to deal with our unique currency, weights and measures). Now you ask a child what 5x10 equals, and they reach for a calculator.

I also used the metric system, which is a French invention based on an erroneous estimation of the earth's diameter. Unfortunately errors were always multiples of 10 up or down, rather than the odd fraction of an inch with the Imperial system.

If the metric system is so good, why has the government found it necessary to enforce it piecemeal with draconian laws?
Ron Copeman, Battle, East Sussex, UK.



Following in the footsteps of Zapata

Merely players?

I'm responding to Robert Butler's *All the world's a stage?* (Vol 31/6). I agree on the effect of the silence of the playwrights about ecological issues; but I wanted to relate a story about these issues.

I'm a playwright based out of New York. Amongst other productions I've been touring a one-woman play about genetically engineered food, which I've taken to universities in the New York area.

In 1999, this play was sponsored by a United Methodist Women's conference and the actress took the play to a missionary meeting, where she performed for hundreds of young people ready to go out into the world as missionaries.

There's a group in the US called the Institute for Religion and Democracy (IRD). It was founded in the 1980s when the Methodists and other mainline protestant groups protested President Reagan's proxy wars in Latin America. IRD was supposedly a 'fundamentalist' group whose membership was determined to return denominations to Biblical foundation. In fact, it was led by Mark Tooley, a former CIA agent, and funded by conservative groups who wanted to make sure that religious organisations would be prevented from organising anti-government protests on the scale that occurred during Vietnam and the Contra wars.

IRD got wind of our play and put out an 'action alert' to its membership. Then it directly approached the head of a major food foundation that was helping to fund the missionary program. The IRD persuaded this man to pull over \$1 million of funding out of the Methodist Church. The Women's conference almost went under, and the message was clear: the national Methodist Church will not help us in any funding now.

So that's why most of the plays coming from the US are lukewarm at best on ecology issues (and peace issues and globalisation, etc). I'm not going to write plays that can't be done. I would be interested in hearing from anyone who's intent on doing plays about ecology and environmental issues – maybe that's something that *The Ecologist* could address?

Daniel Kinch, Brooklyn, NY, USA.
danmk@rcn.com

Salute meaning goodbye

At least one of us would be greatly relieved to hear no more of the 'Royal' navy. In your editorial, (*The enemy within*, Vol 31/6), the navy's relationship with the city of Portsmouth 'has been a long and glorious one'! To me it means all that

For the first few days at La Garrucha, Mexico, it's almost possible to forget why I'm here – to forget, amongst the butterflies and the banana palms, that I am in the middle of a low-intensity warzone – and that, supposedly, I have a job to do.

La Garrucha is one of five Zapatista 'capitals' that dot the state of Chiapas, in southeastern Mexico. Like the Zapatistas itself, it is a thorn in the side of the country's 'modernising' government, led by Mexico's very own Tony Blair, ex-Coca-Cola magnate Vicente Fox. This is why La Garrucha is ringed with army bases and surrounded by gangs of paramilitaries, funded by the state.

On 1 January 1994, the Zapatista Army of National Liberation (EZLN) staged a military uprising in Chiapas. On the day that NAFTA came into effect, they invaded four towns in the state and embarked on their 'war against oblivion'. That war, or at least the military part of it, lasted just 12 days. Ever since, the EZLN has been holed up in the mountains of Chiapas, from where its increasingly famous spokesman, Subcomandante Marcos, has waged a very public, very global war of words against the government and against the global free trade order itself.

A failed revolution, then? Not a bit of it. For a start, the Zapatistas, unlike many Latin American guerilla movements before them, never expressed any interest in national revolution. Their aim is not to storm Mexico City and unseat the government; their aim is more conservative, and at the same time more ambitious. They want the people of Chiapas to be granted the legal right to control their own lives, their own land and their own resources; not to be 'developed' from above by politicians or corporations, but to develop from below, themselves, in their own way.

For the Zapatistas are, with the prominent exception of Marcos, the indigenous people of Chiapas; the Mayan indians, oppressed since the arrival of Cortes. People with no place in the new world order of export-led agriculture, maquiladoras and free trade zones – 'the ones without faces, the ones without voices' as

they put it themselves. Free trade wants them dead. They have other ideas.

And the most interesting, and most lasting, part of Zapatismo is what the indigenous people – the hundreds of thousands who call themselves Zapatistas – are doing on the ground, in places like La Garrucha. Since 1994, they have taken matters into their own hands. Over 1,000 communities have voted to declare themselves 'autonomous municipalities' – they have driven out the local government and they now govern for themselves every aspect of local life, from schools to sewage. They are, in effect, independent.

This is why the government doesn't like them; why the army are here and why I am here. I am one of a small group of international peace observers, whom the Zapatistas have invited into their villages to track the movement of the military, and to make it clear to the authorities that everything they do is being watched by the world.

Most of the time, nothing much happens. Then, three days in, we get a rude awakening. A low rumble fills the valley for five minutes before we can make out its cause. Then, cresting the ridge of the dirt road, a military convoy comes into view. We rush for our notebooks and cameras. Twenty minutes later we have logged 31 military vehicles, with over 600 soldiers, guns, ammunition, explosives and equipment, moving past us towards the military base a mile down the road.

It's only a week later, when I leave La Garrucha, that I learn why. The government is pumping even more soldiers into Chiapas, to add to the 70,000 already here. Nobody knows why, yet, but one thing is clear. It may be cold right now, but this is still war.

Every month, Paul Kingsnorth reports from one of the world's centres of resistance to the global economy. He is currently writing a book about the new global resistance movement, to be published by Simon and Schuster in spring 2003.

bullshit about patriotism and pirate Drake.

I like *The Ecologist*, depressing, indeed suicidal, reading, that it is. Do you really think there is the least prospect of any change for the better? Pace John Papworth, size isn't really the problem. Wherever there are human beings, in any part of the world, there is killing and

environmental devastation. The Romans did both; without the aid of the internal combustion engine.

The invention of the latter has simply speeded things up so that the final reckoning approaches at accelerated speed.

Howard Cheney, Shipston on Stour, UK

India says NO to GM cotton

One of the world's leading cotton-growing countries has decided not to allow the commercial growing of genetically engineered (GE) cotton. The decision, taken by the Indian Genetic Engineering Approval Committee (GEAC), is a significant set back for Monsanto, whose partner, the Indian Maharashtra Hybrid Seed company (Mahyco), had hoped to introduce Bt Bollgard cotton for commercial production across up to 8.5 million hectares. However, the GEAC has ordered an additional year of field trials for the GE cotton to be conducted under independent supervision by the Indian Council of Agricultural Research. The committee concluded that the data submitted by Monsanto/Mahyco was insufficient as the field trials were not conducted during a normal cotton season. In addition, Monsanto/Mahyco did not inform the authorities of the emerging problem with their GE cotton in China, where the pest cotton bollworm has already developed some resistance to the Bt crops and the farmers are having to employ pesticides ■

Indonesia – logging off

The government of Indonesia has banned the export and domestic trade of the rare tropical timber, ramin, due to continued illegal logging of this tree within Indonesia's National Parks, which provide habitat for the endangered orangutan. In April, the Indonesian Minister of Forests enacted a domestic ban and requested the

Secretariat of the Convention on International Trade in Endangered Species (CITES) to list the species with a zero quota. This listing, which came into force in early August, means that countries must seize any Indonesian ramin wood and products that do not have a CITES export permit issued by Indonesian authorities. Major importers of ramin are the US, Europe, Japan and China. Illegal harvesting has particularly been taking place in the Tanjung Puting National Park, situated in Indonesia's Borneo state of Kalimantan, which is home to 500 orangutans – one of the largest remaining populations. Roughly 80 per cent of orangutan forest habitat has been destroyed in the last twenty years ■

BBC WILD



China's fix

China's love affair with injections is becoming a medical nightmare, spreading illness rather than curing it, reports *The International Herald Tribune*. While statistics on the spread of HIV have been shrouded in official secrecy, experts say that syringes and needles are often inadequately sterilised and an overuse of medical injections may explain the alarming spread of blood-borne infections. Today, as many as 60 per cent of the Chinese population have had hepatitis B. A survey of 40 rural counties conducted by Unicef and the Chinese Medical Ministry in 2000 revealed that 47 to 65 per cent of children received injections as treatment for their last cold and that many children get more than half a dozen shots (not including immunisation) each year. The newspaper also reports that 88 per cent of injections in one large rural county were unsafe whilst according to a 1999 study in the *Chinese Journal of Epidemiology*, 56 per cent of rural doctors said they changed needles only if they could see blood in the syringes. An additional problem is the disposal of syringes. Although most rural doctors deny all knowledge, there is plenty of evidence that the equipment is being reused. Unaid, an umbrella organisation of the UN and World Bank AIDS programmes, estimates that more than 1 million Chinese people were infected with HIV by the start of 2001 and warned that the country could well have 20 million cases by 2010 ■



NOTES &

'Who cares what you think?'

President Bush to Andrew Hudson, who works for the Mayor of Denver, after saying he was disappointed in Bush's work so far.

It would seem however, that Hudson is not alone. According to a poll conducted by *The International Herald Tribune*, 83 per cent of the British, 80 per cent of Italians, 87 per cent of Germans and 85 per cent of the French disapprove of Bush's decision on the Kyoto Protocol. 66 per cent of the British, 65 per cent of Italians, 83 per cent of Germans, 75 per cent of the French disapprove of Bush's decision to develop a missile defence system.

'For any scientist who wants a good job and a nice home with mortgage payments, he's not going to choose the Union of Concerned Scientists.'

Hugh Gusterson of MIT gives some caring, sharing career advice. And timely too. Corporate funding of US university research increased five-fold – from \$850 million to \$4.25 billion – between 1985 and 1995. By 1997, corporate contributions constituted 40 per cent of the overall academic research budget.

'Roundup Ready Soybeans clearly require more herbicides than conventional soybeans.'

Biotech advisor Charles Benbrook, whose report also claims that the yields from GM beans are lower too.

'On present smoking patterns, about one-third of all the young men in China will eventually be killed by tobacco.'

Sir Richard Peto, epidemiologist – China which has 20 per cent of the global population, consumes 30 per cent of the world's cigarettes.

'We cannot say that there is a risk, and we can not say that there is no risk... the research was never intended to provide all the answers.'

Pat Troop, the government deputy chief medical officer on the results of the recent UK landfill site study.

A monthly roundup of George W Bush's recent words of wisdom

'One of the interesting initiatives we've taken in Washington, DC, is we've got these vampire-busting devices. A vampire is a cell deal you can plug in the wall to charge your cell phone.' **Colorado, 14 August, 2001**

'My administration has been calling upon all the leaders in the Middle East to do everything they can to stop the violence, to tell the different parties involved that peace will never happen.'
Texas, 13 August 2001

'You saw the president yesterday. I thought he was very forward-leaning, as they say in diplomatic nuanced circles.' **Referring to his meeting with Russian President Vladimir Putin, Rome, Italy, 23 July, 2001**



D'OHBYA!

'I say things because I believe them'

QUOTES

And while we're on the subject of rubbish, in a bid to collect mercury that otherwise would have been discarded in municipal sewers or trash, 165 dentists from the state of Connecticut collected 400 pounds of dental mercury during June.

And according to the WWF, every year 1.5 million tons of plastic are used to bottle water, and a quarter of the 89 billion litres of water bottled worldwide are consumed outside their country of origin.

'How dare you stand up and talk about something when you've never been there. Shame on you.' Alaska Representative Don Young on the floor in Congress condemns US attitude to the rest of the world – not really – actually he's defending arctic oil drilling.

'I can see people milking their cows in the morning, working on a BMW assembly line during the day, then milking their cows in the evening. This sort of pattern I think is going to grow... Farms will get bigger and that's a good thing... Agriculture has got to strive to be more competitive and more productive.'

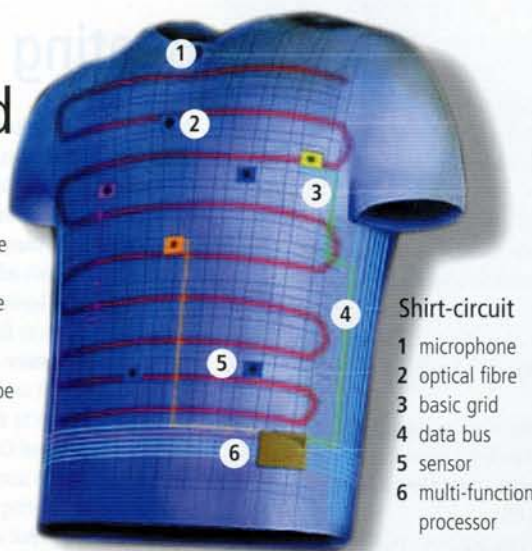
Lord Haskins, UK government's newly-appointed rural recovery coordinator and chairman of Northern Foods, sees a bright future for, er, milk.

'I sometimes think that farmers are a pretty ungrateful lot.' Elliot Morley, minister for Agriculture. With Lord Haskins at the helm, they should thank their lucky stars.

'...we have to point out that it is people, and not penguins or pine trees that participate in a democracy and consequently, people are the standard to which we need to measure the world.' Bjørn Lomborg, author of *The Skeptical Environmentalist*.

The Emperor's new clothes have arrived

Do you remember Alec Guinness in *The Man in the White Suit*? In the comedy film, he invented a synthetic material that never got dirty and never wore out. Well, the facts are now not so far away from the fiction. A new generation of fabrics that interweave nanotechnology (the science of engineering at the atomic level) with high-tech fabrics is on its way. Motorola, for example, is developing clothing that will tell washing machines how it wants to be washed. Burlington of North Carolina has a 51 per cent stake in Nano-Tex, a company using nanotechnology to make fabric resist wrinkles and stay drier. At Nano-Tex, researchers work and play baseball in the same socks, which are engineered with sponges to absorb the hydrocarbons responsible for body odour. The sponges are programmed to release the molecules only when meeting detergent in the washing machine. Over at MIT, scientists are developing smart clothing incorporating computers and phones. Aerospace giant Boeing has developed a smart spacesuit designed to monitor the astronaut's condition while constantly providing information and feedback. DuPont has plans to engineer fibres capable of reacting to electricity, heat or pressure. As a DuPont product manager says: 'The clothes that we wear might not look like the uniforms on the bridge of the Starship Enterprise, but they will be able to do the same thing'. Sensatex in New York soon hopes to market a T-shirt that will monitor everything



Shirt-circuit

from heart rate to calories burnt and body temperature. The T-shirt feels and looks like cotton but is interwoven with fibres that receive and transmit information. A special receiver the size of a credit card stores the information and can transmit it for playback on a mobile phone. With a major conference on nanotechnology in November (9th Foresight Conference on Molecular Nanotechnology, 9-11 November, Santa Clara, California, www.foresight.org) sooner rather than later there might be clothes smart enough to refuse to be worn for all manner of reasons, though perhaps not yet on ethical principles ■

Send in the clones

'The concept of the 'human non-person' – a human being whose life can be deliberately destroyed, or who can be mutilated or enslaved to serve the interests of others – richly deserves the ignominy in which it has come to be held. Let us not accept the devil's bargain of reviving it in the mere hope of scientific advances.' **Robert P George, Professor of Jurisprudence at Princeton University on harvesting stem cells**

The battle over what defines 'human' and 'non-human' is raging on both sides of the Atlantic and most fiercely between patent offices and applicants. Currently at issue in the US is the 13th Amendment to the Constitution – the one that abolished slavery. The legal prohibition against owning humans has complicated efforts by various companies to patent medical uses of human cloning technology. In Europe the European Patent Office has put a hold on the whole field of embryonic stem cell research until an ethics committee issues a definition of what constitutes 'human'. Meanwhile a veritable cat and mouse game is taking place between scientists and patent offices. Scientists want to make the broadest claim they can. Patent offices want to restrict them. Thus cloning companies have filed multiple applications to protect some aspects of human cloning; 'therapeutic' cloning of embryos being the obvious strategy. 'Therapeutic' cloning will enable hopeful scientists to create an embryo-stage clone of a living patient, harvest its stem cells and re-insert them back into the patient. Patent offices are in the meantime receiving applications on cloning technology, covering its use in every way imaginable. Just to make sure. Whilst some draft claims are broad and ambiguous, others clearly state the intention of creating cloned people. The University of Hawaii has a patent application for an approach for creating genetically modified humans. The University of Massachusetts is going for an patent on stem cells made from bovine eggs and human cells. In Europe, Tufts University of the US has a patent application that states its intention of covering the creation of cloned people. Maybe that's why Professor Antinori *et al* are in such a hurry (see *Notes & Quotes* page 12) ■

Forces for courses

According to *The Wall Street Journal*, Tanzania's department of health is investigating whether a human trial of an experimental AIDS drug, Virodene PO58, was conducted without proper regulatory approval. Virodene first caused an uproar in 1997, when a group of researchers in Pretoria tested the drug on 11 HIV patients without government approval. South African drug regulators eventually refused to allow more tests of the drug on humans. Testing of Virodene however continued quietly, first in England and then in Tanzania. There the drug's developers worked closely with the Tanzanian police and military to test the compound on 64 HIV patients. Although the Tanzanian National Institute for Medical Research rejected trial proposals for Virodene, researchers went ahead anyway. Jacques Siegfried Visser, one of the researchers, said approval from the institute was not necessary because the Tanzanian military was involved in the experiment. And that's that ■

You don't have to be crazy to work at the Institute for Human Reproduction in Rome...

BUT...

'They are calling us mad scientists, which of course we are not... If we can clone animals we can also clone humans.'

Panayiotis Zavos, associate IT...

'If there are hopes and if there is a technology, then it will be done.'

Brigitte Boisselier, associate HELPS!

'I can guarantee 99 per cent that I will not produce any monsters.'

Severino Antinori, director

Thankfully, Rudolf Jaenisch, professor of biology, proves they ain't all bad at MIT...

'Scientifically I can not take these people seriously because they have simply disregarded all warnings. They consciously and publicly veil the dangers of [human] cloning. On the other hand one has to take them seriously because they plan irresponsible things.'

...and an unearthly moment of sanity from Capitol Hill...

'Cloning would reduce... human beings to the level of an industrial commodity... This exploitative, unholy technique is no better than medical strip mining.'

Congressman Tom DeLay

'Latin America has opened up commercially as part of the process of globalisation, and this has been good for intra-regional trade...the bad news is that when something goes wrong in one of our countries ...it drags the rest with it.'

Ricardo French-Davis, economist at the UN Economic Commission for Latin America and the Caribbean – essentially making the argument for localisation.

Get ready for the politics of the sticking-plaster...

Beating about the Bush

The issue of US contributions, or rather non-contributions, to the UN is nothing new, but their latest conditions are – and strangely enough they involve both House Republican leaders and the Bush administration. House Republican leaders intend to block US payments to the UN unless the Bush administration agrees to legislation aimed at undercutting the treaty binding them to the International Criminal Court (ICC). The Bush administration also opposes this court and is considering how to 'unsign' the treaty. But what, you might ask, is the US problem with an international court at the Hague which, after all, deals with enemies to democracy; villains like Milosevic?

Here follows a lesson in US political logic and international relations. In late September, President Bush will address the General Assembly and, in order to avoid embarrassment, he has asked Congress to release \$582 million in payments to the UN. Conservative lawmakers are threatening not to release payment unless it is approved together with the American Service Members Protection Act (ASMPA). That legislation smartly exempts

Americans from the International Criminal Court, which the administration views as threatening to US military personnel. But it gets more complex. Whilst the ASMPA is attached to the authorisation bill containing UN money, it would cut off US military assistance to any non-NATO country that ratified the ICC treaty. It would prohibit US troops from serving in any peacekeeping forces unless the Security Council gives American soldiers immunity from the ICC's jurisdiction whilst at the same time authorising the president to use military force to free US or allied service members held for prosecution by the court. Rather than giving way to so-called 'anti-court' legislation, as favoured by House Republican leaders, the Bush administration wants to make the payment in order to convince the world that it is not pursuing an isolationist approach to foreign affairs whilst considering how later to 'unsign' the treaty altogether. This is of course nothing new. Bush's history of not signing or unsigning international treaties already covers the environment, nuclear arms, small arms and germ warfare ■



More than 14,000 billboards line Moscow's streets, netting the city's government \$25m in funds federal powers cannot control

Depth charge

All is not well on New York's Hudson River. It's heavily laced with PCBs emitted from General Electric's (GE) nearby plant, which once used the chemicals in insulating materials. In early August, Environmental Protection Agency chief Christie Whitman decided to rid the river of these cancer-causing chemicals and wanted GE to contribute more than \$500 million. Unsurprisingly, GE doesn't want to pay and as well as spending tens of millions of dollars lobbying to overturn the plan, which would dredge as many as 2.65 million cubic yards from the river, it is looking for ammunition to bolster its argument. Fortunately for GE, the Hudson is not the only PCB-polluted river around.

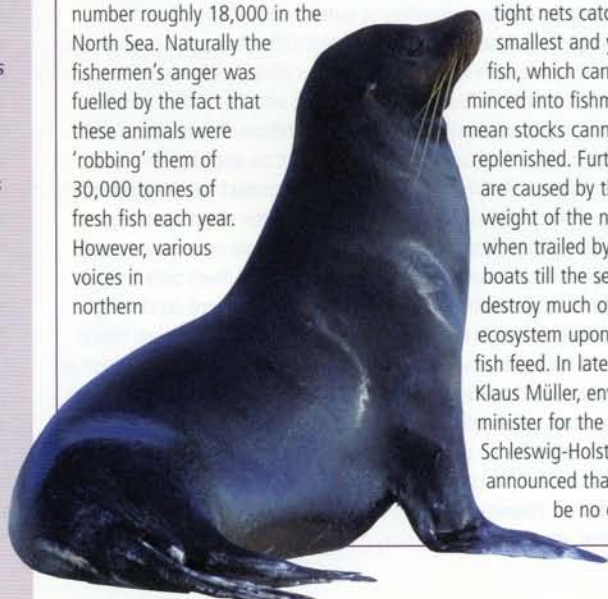
Back in 1995, General Motors (GM) dredged 18,000 cubic yards of PCB-laced sediment from the St Lawrence River at Massena, New York State, at a cost of \$14 million. Despite excavating the PCBs, GM failed to cut the entire site's PCB levels to 1 part per million, and that's the fact noted by GE on its website along with descriptions of other problem-plagued dredging projects. 'If dredging has failed to achieve the low PCB concentration required by regulators, why would anyone inflict a long-term, large-scale dredging project on the Upper Hudson River?' GE concludes.

Unsuccessful dredging projects however, certainly do not excuse GE from cleaning up its mess, but should on contrary serve as a model for successful dredging of cancer-causing PCBs. GE might also note that Alcoa, the aluminium specialist that bought a plant responsible for polluting the St Lawrence, is currently paying for the clean up to the tune of \$47 million ■

Let the sealions roam

Barely two months ago, Danish fishermen demanded the culling of around 6,000 sealions. With ever smaller catches, they were quick to blame sealions, which, after a drastic decline in 1988, now number roughly 18,000 in the North Sea. Naturally the fishermen's anger was fuelled by the fact that these animals were 'robbing' them of 30,000 tonnes of fresh fish each year. However, various voices in northern

Germany argue that whilst it is true that fish stocks have drastically declined, it is precisely the tight nets of their Danish neighbours that have seriously added to the decrease. They argue that tight nets catch the smallest and youngest fish, which can only be minced into fishmeal, and mean stocks cannot be replenished. Further problems are caused by the heavy weight of the nets which when trailed by large fishing boats till the seabed and destroy much of the fragile ecosystem upon which the fish feed. In late August, Klaus Müller, environment minister for the state of Schleswig-Holstein announced that there would be no cull ■



BBC WILD

STAN AT EASE by Stan Eales

DEATH ON THE FARM



BNFL hires Arnold & Bolingbroke

In late August *The Ecologist* was invited to take part in a market research project conducted by Arnold & Bolingbroke on behalf of BNFL.

The aim of the study was to test the ground amongst environmental journalists' attitude towards nuclear power. Questions focused mainly on climate change, safety, and current public attitudes toward nuclear power. One thing is sure: BNFL must believe there is some kind of future for nuclear power (see *News*, vol 31/7), otherwise it wouldn't be working so

hard on its image. And every one of them is working at it. 'The nuclear power industry needs to get much better in presenting the environmental case for nuclear power and its crucial role in combating global warming and pollution,' said chairman of British Energy, Robin Jeffrey, recently. Although Blair has stated that he sees no economic case for new nuclear power plants, he has been known to change his mind, and anyway if BNFL's privatisation goes ahead by 2002, such decisions might be put conveniently beyond his control.

...more nuclear PowerR

The US nuclear power industry has hired former governor Robert List to promote Yucca Mountain as the 'inevitable' repository for USA's high-level nuclear waste. So far, the former Republican governor is the highest profile public figure to side with the industry. Meanwhile, the US Department of Energy has released a report that purports to assess the performance of this proposed high level nuclear waste disposal site against 'strict safety standards' set by the US EPA. Guess what? The report concludes that the Yucca Mountain site 'would likely meet' the agency's radiation protection standards.

Safety Czechs

Last December the Czech and Austrian governments signed the so-called 'Melk agreement', promising to undertake a full environmental impact assessment and allow foreign inspections of the Temelin nuclear power plant. Pressure for the assessment was exerted by the European Commission after vigorous allegations by Austria and Germany that the Temelin nuclear plant did not match western safety standards. In early August a leaked draft report from the European Commission said that the Czech Republic had 'fully and satisfactorily implemented' the safety agreement reached with Austria. By late August, however, a faulty signal had caused the plant to automatically shut down. Which is reassuring.

Nuke... missing... inaction

A nuclear bomb, 100 times more powerful than the one dropped on Hiroshima, is lying 10km off the east coast of the US.

Its existence has been confirmed in newly declassified documents which reveal how it was dumped in the sea after a mid-air collision more than 40 years ago. Pentagon officials, though admitting they do not know the bomb's exact location, insist it is safe, whilst at the same time rejecting demands for it to be recovered, saying it is too dangerous to be touched.

The 3,450kg hydrogen bomb, known as a Mark 15 weapon, has been lying off the coast of Georgia since 5 February, 1958, when it was jettisoned from a B-47 Stratojet bomber after the plane was struck by a fighter jet during a training exercise at 36,000 feet. Although Georgians are demanding action, the military is standing firm, saying recovery could take five years and cost \$23 million, so there!



Journalists inspect soil samples taken from sites near the Mayak nuclear site

REUTERS

Nukes... amassing... inaction

Ecodefense!, the international environment group has disclosed a letter written by Petr Sumin, governor of Russia's Chelyabinsk region, saying that the region is on the threshold of a new nuclear disaster and demanding immediate action to solve the problem of radioactive pollution in water. His letter refers to the Mayak nuclear reprocessing plant, which has been dumping radioactive waste into rivers for the last 40 years. Sumin's letter, sent out in July, never appeared in the media. Earlier this year, the federal government decided to open the national border for foreign spent nuclear fuel to be stored or reprocessed in Russia. Mayak is the only reprocessing facility operating in Russia and its reprocessing line was started in 1970s. According to Vladimir Sliviyak of Ecodefense!, 'Mayak must be shut down as soon as possible... Russia doesn't need imported plutonium, it already has more than enough and it's unlikely that this material will ever be properly watched and protected'. Current amounts of high-level radioactive waste, such as spent nuclear fuel accumulated at Russian nuclear plants, is estimated at 14,000 tonnes.

'I think that people are pretty uncertain as to the future and so they go for global institutions because they see us as the centrepiece of management or non-management of a globe which is going in directions which they don't understand... I don't think we have the option on globalisation in its broadest sense... my own judgement is that we are better to have a free economy in the globe and then deal with those people that are disadvantaged in the sense of helping them to adjust to it.'
James Wolfensohn, President of the World Bank Group.

Or to put it another way...
'There's a lot of hard economic work for [Indonesia] to do and it's going to be very tough, and she needs all the friends she can get.'
Alexander Downer, Australian foreign minister on the financial crisis facing Indonesian President Megawati. Next thing you know, in late August a high level IMF delegation arrive in Indonesia, saying that they are optimistic that they could get the country's \$5 billion lending programme back on track. Hurrah.

Meanwhile, back at the Bank they can't make their minds up...

'This report is an... accurate statement of how global integration can benefit the poor... I am not interested in compelling countries to integrate with the global economy.'
David Dollar, World Bank economist and author of the report *Globalisation, Growth and Poverty*.

Free trade – the people's choice!

'Global free trade is not going to be achieved in one big bang... It is the successful experience of the EU and NAFTA that is encouraging other countries and regions to implement similar reforms even when that can result in domestic controversy and unpopularity.'
Sir Malcolm Rifkind, UK foreign secretary from 1995-97 making the case for global free trade even if people don't want it, because the trouble with people is...

Mexican wavering

The equations are simple. Mexico produces T-shirts for a dollar – China makes them for 20 cents. Mexico produces sports shoes for \$38 – China is selling at \$13. Mexico is a member of the WTO – China wants to join. Unsurprisingly, Mexico is emerging as China's single largest obstacle and to date is the only member not to have reached bi-lateral trade agreements with China. Both countries disagree on tariffs on Chinese products. Whilst Mexico want them extended for eight years, China has suggested three.

Meanwhile Mexican manufacturers complain that they can not compete with the low wages and the lack of regulations the Chinese enjoy. Thus they want to maintain tariffs, some of more than 1,000 percent for 15 years to give themselves time to find ways

to become more competitive. Already Mexico is struggling with cheap imports from China via California and Panama; claiming to come from the US to avoid tariffs. And some Chinese products find their way via discount chains like Wal-Mart. As the US, too, is increasingly looking for bargains, cheap Chinese goods are beginning to hurt exports of Mexican manufactured goods. Although Mexico originally said it would not block China's membership even if a bilateral deal fell through, other members will want to see details of any deals before giving China the go-ahead. Under the WTO's most favoured nation system, a deal reached with one nation has to be equally offered to all other members ■

Millions of discarded tyres pile up in an illegal eight acre dump in Attalla, Alabama while state lawmakers refuse to approve a proposed \$1 per tyre fee to eliminate the environmental threat.



PHOTO NEWS

STILL PICTURES

Agenda benders

Over the past few years, a host of so-called 'informal' business forums and summits have been created in order to advance the progressive dialogue of the new world order. Amidst all the rich diversity of the world and in the glimmering light of global opportunities the natural aim of these business gatherings is to find ways and means of streamlining procedures and regulations in such ways as to ultimately minimise input and maximise output. The feeling is that the WTO cannot do it all on its own, nor can it be completely trusted and so has to be helped on its way. The setting of the WTO agenda for November is of vital importance as will be the arguments during the meeting that in turn will shape the outcome. In order to successfully meet and anticipate challenges ahead, some businesses have been smart enough to divide themselves up into their natural segments or blocks with the aim of formulating a cohesive strategy particular to their industry. From 17-20 September, the Global Medical Forum will hold its first annual meeting in Pontresina, Switzerland. The meeting will bring together leading representatives from all sectors of the healthcare arena; including the pharmaceutical, medical technology and biotechnological industries along with representatives of major foundations, government bodies and NGOs. Watch this space ■

Smoke on the water

There is a 20-year-plus multi-million pound waste disposal contract up for tender in East Sussex. Last summer six companies were invited to bid. This summer, East Sussex County council and Brighton & Hove City Council announced that Onyx Aurora and Viridor-Tiru will be the only two firms remaining on the short list. Fair enough, but the twist to this tale is that the competing consortium Viridor-Tiru is part-owned by Onyx Aurora's majority shareholder.

The Tiru part of the Viridor-Tiru consortium is 24 per cent owned, via a subsidiary, by the French giant Vivendi and Vivendi is the majority shareholder of Onyx Aurora's parent company.

The plans that make up the contract include building large incinerators at North Quay, Newhaven, and Mountfield Mine near Robertsbridge. Plans for the incinerators have provoked harsh criticism amongst the local population ever since unveiled two years ago. During a recent consultation more than 13,000 people objected to the proposals.

A spokesman for East Sussex County Council said, 'we have no reason to believe that the (two) companies are acting other than independently.' However, Viridor Waste Management created the consortium with Tiru, one of France's biggest incinerator operators, exclusively to bid for the £1 billion East Sussex and Brighton & Hove contract.

Tiru is 51 per cent, via subsidiaries, owned by Electricité de France; the world's largest electricity company. Suez Lyonnaise de France, Vivendi's main competitor is not only the third company with a stake in Tiru, but is also the ultimate parent of Sita (GB), one of the two companies in reserve if either of the two short-listed bidders drop out.

Vivendi (Environment) is the world leader in environmental services specialising in offering integrated services that combine water (Vivendi water), waste management (Onyx), energy (Dalkia) and transport (Connex). Vivendi (Environment) operates in 100 countries. For a list of its impressive subsidiaries visit www.transnationale.org/anglais/fiches/898366848.htm

See focus on page 51 for more incinerator dirty dealings, or turn to page 17 to see what you can do ■

'Mass marketing has become very hard... because people don't want to be seen as 'normal' anymore – they all want to be seen as individuals.'

Martin Hayward, chairman of forecasting group The Henley Centre.

'Globalisation of brands is driving the increasing globalisation of networks. That's why only a few decent-sized independents are left for acquisition.'

Sir Martin Sorrell CE of WPP, the world's second largest marketing services group

'The AIDS fight needs exactly what business can offer, everything from leadership and influence to marketing and sales, to media, to supply chains, to distribution.'

Bill Roedy, president of MTV Networks.

'In all of American public life there is hardly a single prominent figure who finds fault with the notion of the United States remaining the world's sole military superpower until the end of time.'

Andrew Bacewicz, Professor of International Relations at Boston University

'We remain hopeful that we can talk to the Russians. If contrary to our hopes and expectations, we're not able to move together jointly, we will exercise the express right provided by the ABM Treaty to give notice of our withdrawal.'

John Bolton, US undersecretary of State

A World Bank study estimated that \$138m worth of diamonds were exported from Sierra Leone in 1999, of which \$1.2m were 'legal'.

Hans-Josef Brinkman, vice-president of the regional court of Neubrandenburg, is currently suing Coca-Cola for causing his diabetes. Coca-Cola responded:

'There aren't any good or bad foods, only good or bad eating habits.'

...ah, so it's all our fault then.

Keeping levels down

Public Citizen, the US consumer group is pushing federal regulators to boost the warnings on cholesterol-lowering drugs. Public Citizen claims that a total of six statins-class drugs are associated with a debilitating muscle-weakening condition known as rhabdomyolysis. While Baycol, manufactured by Bayer AG, was recently pulled from the market due to fatal (31 deaths) and non-fatal cases of the condition, five others are still available. The drugs singled out by Public Citizen are Pfizer's Lipitor, Merck & Co's Zocor and Mevacor, Bristol Mayers Squibb & Co's Pravachol and Novartis AG's Lescol. The consumer group documented 722 cases of rhabdomyolysis during a period of three years. While half were related to the Bayer drug, each of the others had from 10 to 187 cases of the condition associated with its use. Of all the cases, there were 72 documented deaths – 20 related to the Bayer drug, 52 to the five others. Tens of millions of patients worldwide are taking the medications and sales for this year alone are expected to be in the region of \$16 billion.

Ecuador hires Burson-Marsteller

Burson-Marsteller's 'Black Kelly Scruggs and Healey' lobbying wing has a \$180,000 contract to provide strategic advice to the embattled Government of Ecuador. The country, bordering Peru and Colombia, has been beset by killer mudslides, environmental protests over a proposed pipeline (see *Campaigns*, vol 31/2) and a rebellion by its native Indian people. The Government is also concerned about the US-backed 'Plan Colombia' and that drug violence could spill onto its territory.

Ships and whales

At least five whales were hit by ships off the Southern California coast during the month of July alone (see *Notes & Quotes*, vol 31/7). According to *USA Today*, marine biologists are baffled by the rise in such incidents. Experts concluded that whales might for some 'unknown reason' be congregating in areas of heavy ship traffic. No suggestion that the whales might have been there first and it's the ships doing the congregating.

Sea O too

According to *Jane's Merchant Ships*, an important area of environmental health that gets little publicity is the emission of CO₂ from ships. This follows a survey by The Ship & Ocean Foundation (SOF), a Japanese organisation involved in research and development in shipbuilding and marine technology, which found that 400 million tonnes of CO₂ is emitted from ships each year.

Wal-Mart

Wal-Mart, the American retailer, that currently opens on average six stores in the USA a week, is sued more often than any other US business. Indeed, legal experts believe that only the federal government gets sued more often. Last year alone, Wal-Mart was sued 4,851 times – or nearly once every two hours, every day of the year. According to *USA Today*, juries decide a case in which Wal-Mart is the defendant about six times every business day; usually in favour of the defendant. 'If we haven't done anything wrong, we owe the strongest defence possible,' says Robert Rhoads, head of Wal-Mart's legal department. As a point of reference, Wal-Mart posted profits of \$6.3bn on \$191bn in revenue last year.

Get alive!

It's time for algal bloom to kick in again and its kicking hard (see *News*, vol 30/6). Fisheries Research Services (FRS) scientists in Aberdeen have identified the algal bloom responsible for the high rates of mortality on seven salmon farms in the St Magnus Bay area in Shetland; an area with a high number of salmon farms. Gymnodinium, the algae currently present in high concentrations, causes irritation to the gills and the gut lining; leading to death of the fish through anoxia and suffocation. According to *The Press & Journal*, as many as 500,000 farmed salmon, as well as shellfish and wild fish, were killed in Shetland by gymnodinium.

While monkfish and plaice were washed up on several beaches, divers working at one of two Aqua Farms sites affected were helping to recover 45,000 dead salmon. The bloom has been seen in several different parts of the isles, including Fair Isle, Fetlar, and Skerries. The WWF has just

released a new report claiming that high levels of nutrients are fuelling some plant species, particularly algae, to the detriment of marine life. FRS scientists said that it was 'very unlikely' that the current algal bloom was caused by pollution such as nutrient run-offs. It must be something in the air, then.

Small print excluded

The grizzly bear, Canadian lynx, grey wolf, bull trout and the mountain caribou – of which there are less than 30 left – are at risk from logging and road construction, due to access grants given to a logging company by the Colville National Forest near Spokane. Granting Stimson Lumber Co a cost-share easement will lead to the degradation of critical endangered species habitat, says the Lands Council, a regional conservation coalition. Stimson Lumber Co plans to log 1,577 acres, clear over 16 miles of new roads, and build 28 stream crossings in this critical habitat.

The Lands Council is part of a US/Canadian group of organisations working to protect and restore the wildlife, watersheds and communities of the Southern Selkirk Mountains. For more information contact The Lands Council, 517 S Division Street, Spokane, WA 99202 or visit www.landsCouncil.org.



BBC/WILD

campaigns

- Oil in Oz • UK is a dump • Indonesian Bt stitch-up • Colombian oil strike
- LA beach boycott • Russian logging on, and on

AUSTRALIA Oil and the Great Barrier Reef

Imagine this: It's December 2000 and a Texas-based company with the inscrutable name TGS-NOPEC is preparing to hunt for oil near the Great Barrier Reef. The Christmas present they are hoping for is permission by the Federal Government for a 5,000km trail of seismic detonations – more than one a minute, 24 hours a day, over 50 consecutive days less than 50km from the Great Barrier Reef World Heritage Area. Three weeks later and after the WWF discovered the application in a remote section on Environment Australia's website; causing a public outrage, TGS-NOPEC admitted that numerous threatened marine species; including whales, turtles and at least six dolphin species would be in the region during seismic testing. Whilst the company admits that seismic testing has 'the potential to cause physiological damage' to some

BBC WILD

marine species, it is the



prospect of oil production that is threatening the region. Best of all, the Federal Government has been actively promoting oil exploration in the region and other 'frontier regions' around Australia. However, it still has to officially sanction it. Such a decision obviously depends on TGS-NOPEC's seismic tests and findings. By the end of January and stung by an outcry from the public, conservationists, fishers and tourists operators alike, Federal Environment Minister Robert Hill, called for a further assessment of TGS-NOPEC's proposal and its impact on the region. TGS-NOPEC spokesman Bruce Williams told ABC News that despite the fact that the company has no specific customer for the results of the survey, if allowed to access the area, the company would have no trouble selling its report on the presence and location of oil.

Everybody knows what would flow from that, and a recent poll showed that 92 per cent of Australians questioned believe that oil drilling should not be allowed



Send a letter to the incumbent environment Minister, Robert Hill and the Opposition Environment Minister Nick Bolkus, who is moving on this issue at the moment and will appreciate some grist to his mill. Senator the Hon Robert Hill, Parliament House, Canberra, ACT 2600, Australia. Senator the Hon Nick Bolkus, Parliament House, Canberra, ACT 2600, Australia. Please copy your letters to the Australian Conservation Foundation, 340 Gore St, Fitzroy, Vic 3065 Australia; or email Bruce Atherton media@acfonline.org.au. For more information, visit www.wwf.org.au/.

make a difference

in areas near the Great Barrier Reef. In late August, Australian environment minister Senator Robert Hill said that he has not ruled out the possibility of exploration and mining in the waters adjacent to the Great Barrier Reef World Heritage Area, though neither has he made a decision to allow the activity.

In the light of these developments it is urgent to press decision-makers to establish a permanent and large protection zone for the unique marine life in this

sensitive area. Seismic testing shouldn't even be considered. Just imagine subsequent oil exploration and production, and the very real threats of oil spills drifting onto the Great Barrier Reef, all of which would have a devastating impact upon the marine wildlife.

The Great Barrier Reef is unique and irreplaceable, and it is vital to help the vast majority of Australians to safeguard this treasure. It would take less than an oil spill to destroy it forever.

UK Useful tips for rubbish plans

Incineration plants are the source of serious toxic pollutants: dioxins, furans, acid gases, heavy particulates, heavy metals, and they all need to be treated very seriously. There must be absolute priority given to human health requirements... and protection of the environment. We know scientifically there is no safe threshold below which one can allow such emissions' – the words are Michael Meacher's, in his evidence to the House of Lords, April 1999. Yet in the summer of the same year the Labour Government outlined its new waste strategy, envisaging the construction of no less than 130 new waste incinerators, each capable of burning between 200,000 and 250,000 tonnes a year, to cope with the 25 million tonnes of refuse annually produced by British households.

Since then the country has witnessed the emergence of an unprecedented opposition – local and national. However professional, progressive and timely the various opposition groups might be, and however many signatures they collect in support, their success has been limited to delaying a decision within the process rather than stopping it altogether.

The reason is simple – local authorities refer to the regional, regional to the national and national to the EU. Caught up within the complex referral process, campaigners suddenly realise that various contracts have in the meantime been handed out to prospective tenders; thus ever more blurring their capability to express their

voice and target their campaign.

But what are we to do when there are so many forces at play – when European packaging interests, for example, are capable of successfully lobbying member countries to register objections to eco-friendly packaging laws, rather than looking out for the health and listening to the objections of the very people that these member countries are supposed to represent?

Two years ago, the East Sussex and Brighton and Hove Council proposed the construction of three incinerators in the region. Despite considerable local opposition the process has now reached the stage where both councils have singled out two companies for tender (see *News*, p10). The winner, to be announced next spring, will take charge of the region's waste disposal in a £1 billion private finance initiative drawn up by the two councils. Whilst lobbying their respective councils against these incinerators, Defenders of Ouse Valley and Estuaries (DOVE) have equally been pressing the councils for the adoption of the so-called Zero Waste Strategy.

The Zero Waste Strategy, being about recycling rather than landfilling or

incineration, makes manufacturers design products for re-use, disassembly and recycling and urges businesses to use cleaner production techniques. It shows local authorities how to provide incentives and support infrastructure for recycling and resource recovery; and this all the way down the supply chain.

Utopian? The Zero Waste Strategy is now adopted by over 30 per cent of all authorities in New Zealand. In Canberra, Australia's capital, there is a target to eliminate waste by 2010. Canberra currently recycles 66 per cent of all household and commercial waste, and has reduced disposal to landfill by 42 per cent in five years. The pre-requisite incentive though is that waste minimisation and recycling are favoured by central government policy over landfilling or incineration.

If our government and councils are truly committed to improving air quality and ensuring everything possible for a healthy sustainable future (ie Local Agenda 21), then they must radically change their ways and 'design out' waste. Landfill and incineration are technical solutions based on the flawed belief that assumes the environment

offers an unlimited capacity to accommodate our requirements. Many countries including Ireland, Australia and New Zealand are vigorously resisting landfill and incineration as in the long run it does not provide the answer and is unacceptable from every angle. A Zero Waste Strategy sets out the framework and provides a vision for long-term change. Officers within Council waste departments play a part by designing new waste contracts with incentives to minimise waste. Reduction, recovery and recycling are the core components, instead of landfill. (Incineration is not an option in New Zealand and is now strongly resisted by many countries).

Every county in Britain is under threat from the rush for incineration. An informed public must no longer accept Government assurances that incineration is safe and the only viable solution. What's more, isn't it ludicrous that one currently pays three times for excess packaging? First there's the cost at the cash till; next is when the council tax bill lists waste collection and disposal; and finally there's the cost of the suffering environment.

make a difference

Start a Zero Waste Policy group in your neighbourhood, inform locals and together

target your local Council (Waste Contracts Manager) to adopt a Zero Waste Policy (see www.dove2000.org and www.zerowaste.co.nz). Unwrap products at your local store, return the packaging to the manager. Tell him/her about Zero Waste. Write to Prime Minister Tony Blair (10 Downing Street, London SW1A 2AA); tell him why his current waste policy is unacceptable, unsustainable and dangerous (see www.dove2000.org and www.foe.co.uk, or get Greenpeace's Incineration and Human Health Report www.greenpeace.co.uk). Ask for a reply that will inform you that this matter is being promptly looked into. Please copy your letters to *The Ecologist*.

INDONESIA Redesigning nature – keeping Bt cotton out of Indonesia

Whilst India, one of the world's leading cotton growing countries, decided not to allow the commercial growing of genetically engineered cotton (see *News*, p10); an Indonesian Coalition consisting of 72 NGOs in June launched legal action against a Ministry of Agriculture Decree allowing the limited release of Monsanto's Bt cotton in South Sulawesi. The coalition,

asked the State Administrative Court to revoke decree No 107/Kpts/KB. 430/2/2001 – that allows a limited, one-year commercial production of Monsanto's Bt cotton (NuCOTN 35B) in seven regions of South Sulawesi. The suit is based on the fact that none of the pre-requisite biosafety tests were made public or independently reviewed, that farmers were not

informed on all potential effects, and that the recommendation for an independent risk assessment had outright been rejected. From the very onset of the trial, PT Monagro Kimia, the Indonesian subsidiary of Monsanto, has been trying to shape the outcome. Days prior to the trial it appealed for the right to become one of the disputing parties in the case. The subsidiary cited the fact that the company has a stake in the case because: it supplies the transgenic seeds; it is a proponent of the Bollgard Bt cotton; and if the ministerial decree is revoked, the company will be disadvantaged. The court granted this appeal and together with the Ministry of Agriculture, Monsanto now is a

defendant. In late August a team of experts gathered to give testimony.

However, vital questions and evidence, ie Bt cotton's effect in Indonesia's tropical climate, 'improved' yields, seed prices or the funding of independent research, have been left unanswered. Fajar, a local Sulawesi newspaper, reported that the two-month-old Bt cotton plants in Balleanging village, are infested by *spodotera* (a leaf damaging pest) and *Helicoverpa armigera* (boll damaging pest). Despite the fact that farmers have been demonstrating against the Bt-cotton and have appealed for a moratorium on the release of all transgenics into the environment, the judges have promised a swift decision.

make a difference

Write to President Megawati Soekarnoputri, Presidential Merdeka Palace, Jl Veteran No 16, Jakarta Pusat, Indonesia, fax: + 62 21 3483 2557, and minister of agriculture, Bungaran Saragih, Jl Harsono RM, No 3, Pasar Minggu, Jakarta, fax: + 62 21 7883 3066. Copy to: NGO Coalition for Biosafety & Food Safety, Jl Kelapa Hijau 99 Jagakarsa, Jakarta 12620, fax: 62 21 787 3169. For sample letter, email campaigns@theecologist.org.



COLOMBIA Oil and blood

South America's largest coal strip mines at Cerrejon are controlled by US-based Exxon and a consortium consisting of three multinationals, Swiss-based Glencore and London-based Billiton and Anglo-American. In order to expand and improve access and logistics of the mines, the companies involved have stopped short of nothing; with local communities having been forcibly relocated. Right now, Exxon's 100 per cent owned mining subsidiary Intercor is poised to evict all residents of the indigenous and 'campesino' community of Tabaco in the province of La Guajira, Colombia in order to facilitate the expansion of South America's biggest coal strip mine, Cerrejon Norte.

Residents have been resisting eviction and have refused to accept the company's 'relocation package' which would break up the community and insufficiently refund locals needing to buy new land in order to continue to practice small-scale agriculture. The current plan would result in poverty and unemployment in nearby towns, already swollen with people displaced by Colombia's internal war.

Intercor's current relocation arrangement is threatening to use Colombian police and army personnel to force the residents to move. But the residents are determined to resist. The community's legal representative, Armando Perez, fears a massacre:

'The most shameless and absurd collusion with the mining companies, smashing the human rights of the indigenous people and peasants in the region of La Guajira, has taken place. The decision to expropriate a town, functioning with public authority, its cemetery, school, telecommunications office, health centre, streets and squares etc, is without precedent in contemporary legal history. This decision was taken by the Pastrana government through Luis Carlos Valenzuela, its Minister of Mines and Energy. This decision means that the resident families may be judicially robbed of the very homes they live in, including the possibility that these humble people will be ejected and their homes destroyed before their eyes. Next to Tabaco is another community, Tamaquitos, an indigenous community that has been

5 world-wide watchdogs

1 www.worldbank.org/nipr/Atrium/mapping.html

A study by the World Bank has produced a series of interactive maps on global estimates of environmental degradation, threats to natural resources and World Bank project responses

2 www.farmedia.org

The Centre for Alternative Agricultural Media (CAAM) is a communication channel for farmers in India and has cases studies of farmers developing alternatives to modern agriculture

3 www.nci.org

The Nuclear Control Institute's (NCI) has released a Department of Energy (DOE) report being withheld from Congress on the escalating cost estimates for the disposition of surplus weapons plutonium

4 www.pbs.org/tradesecrets/

Exposes the lack of testing for health effects of chemicals in the USA., discusses the threats chemicals pose to future generations and promotes precautionary measures

5 www.aceee.org/

Bush's energy bill does much to waste energy and little to promote energy efficiency. See www.crest.org for a vision of the future of energy

abused and de-recognised, reaching the extreme point that the office of Indigenous Affairs was trying to affirm that it did not exist.'

make a difference

Send letters of protest to:

1) ESSO, the UK subsidiary of Exxon-Mobil
The email address for Ansel Condray, Chairman of Esso UK, is hilary.faulkner@exxonmobil.com, Fax: +44 (0)20 7412 4133.

2) Intercor is a member of CECODES, the Colombian Employers Council for Sustainable Development. This group claims to promote an institutional framework for sustainable development, something which clearly has not happened in La Guajira. Fax: +571 622 1157
E-mail: cecodes@colomsat.net.co

3) Doctor Andres Pastrana Arango
President of the Republic, Palacio de Narino, Santafe de Bogota DC
E-mail: rdh@presidencia.gov.co
Fax: +1571 337 1351 or +571 336 2109

Please copy your letters to Roger Moody at 'Mines and communities', c/o Partizans, 41 Thornhill Square, London N1; fax: (+44) 20 7700 6189, who will forward them collectively to Armando Perez. Visit www.minesandcommunities.org to read more about this incredible story.

5 dot. campaigners

1 www.globalizethis.org/s30/
Mobilisation site for the IMF/World Bank Annual meeting – with all the necessary links and resources. Get some graphic ammunition from www.subvertise.org – an archive of favourite subverts, political art and articles to re-use in web and print

2 www.navs.org.uk

Get animal experiments included in the Freedom of Information Act. This way activists can gain access to details of proposed animal experiments before they take place and offer alternatives and eradicate repetitive experiments

3 www.PetitionOnline.com/Alqueva/petition.html

Beautiful, mysterious, and important prehistoric rock art is about to be sacrificed for the sake of the ill-conceived and economically illogical Alqueva Dam project on the Guadiana River along the Portuguese and Spanish border

4 www.wilderness.org/takeaction/

The House of Representatives voted to pass the giant energy package which includes opening the Arctic Wildlife Refuge in Alaska to oil drilling. The bill also contains billions in subsidies for the nuclear, oil, gas, and coal industries. Now the bill moves to the Senate, which could take up energy legislation any time now... react!

5 www.closecampfield.org.uk/

There are 200 detainees in Campsfield House near Oxford. Most are political refugees fleeing danger, torture and even death from countries such as Nigeria, Algeria, Ghana, Turkey, India and Zaire. They are held without charge, without time limit, without proper reasons given, and without proper access to legal representation. Amnesty International report that these are breaches of internationally recognised human rights

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

RUSSIA The price of development

The Samarga watershed, located in Russia's Far East Primorsky region occupies 2 million acres, is in pristine condition, and is an important refuge for wild Pacific salmon populations as well as one of the last strongholds for the rare Japanese cherry salmon. The Samarga provides habitat to species including the Amur (Siberian) tiger and the Himalayan black bear.

The forests of the Samarga are also the traditional hunting and fishing grounds for the Udege people – about 200 of whom live in the remote village

of Agzu, halfway up the Samarga watershed. For years, the Udege have fought to protect their forests as an officially recognised 'Territory of Traditional Natural Resource Use', which would guarantee their right to have a voice in how these resources are being

used. While the Udege were able to guarantee their rights to wildlife resources, the regional government – interested in the Samarga's timber resources – blocked efforts to designate the Samarga as such an area.

The situation has now got worse. Earlier this year, the Primorsky Regional government auctioned logging

rights for more than 1 million acres of the Samarga watershed to the Russian timber company 'Terneiles' – without informing the local community.

In addition, the auction was completed without there being any environmental impact assessment – even though this made it a violation of Russian law.

make a difference

Please write a letter to: Sergei Mikhailovich Darkin, Governor, Primorsky Region, Svetlanskaya 22, 690110 Vladivostok, Russia, fax: +7 4232 223 800. Sergei Viktorovich Zhekov, Chair, Primorsky Region Duma, Svetlanskaya 22, 690110 Vladivostok, Russia, fax: +7 4232 223 570. Ask them to immediately annul the auction results and instead begin a process that will ensure that the Samarga watershed is protected as a Territory of Traditional Natural Resource Use. For a sample letter visit www.pacificenvironment.org. Please copy your letters to Pacific Environment at +1 510 251 8838 or info@pacificenvironment.org.

USA Redesigning nature, part II

Language is a powerful weapon and environmental destruction can be couched in many seemingly positive terms. Whilst 'development' might be a classic metaphor, projects termed 'sustainable' have increasingly become the most radical and controversial, with the term essentially designating the same thing – destruction.

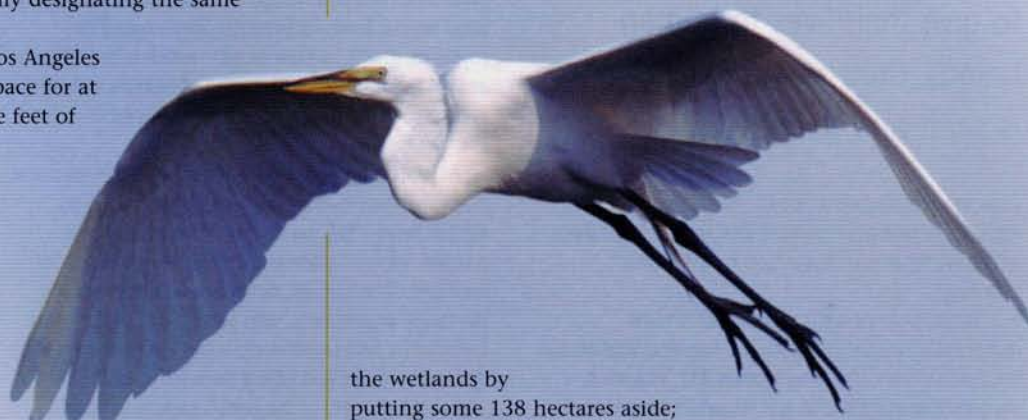
One example is the intention of Los Angeles developers 'Playa Vista' to develop space for at least 8,600 homes, 5.6 million square feet of office and commercial space, an entertainment, new media and technology complex between the beaches of Santa Monica and Los Angeles international airport in California.

The problem, though, is that an important part of the space is made up of wetlands that provide crucial habitat to egrets, blue herons, peregrine falcons, brown pelicans, gnatcatchers and a host of other endangered wildlife and plants. Furthermore, the so-called Ballona Wetlands are in fact the only remaining large coastal wetlands ecosystem in Los Angeles county (see *The Independent*, UK, 18/8/01).

In order to justify the project to the local population, Playa Vista has gone to extraordinary lengths. Thus there are statements ranging from 'Playa Vista is sponsoring PVJOBS, a program that matches at-risk youths and young adults with construction jobs at the project' to 'The project has been selected by President Bill Clinton... for its commitment to sustainable development under the leadership of the US Department of Energy's Building America program. Playa Vista recently received a coveted Ahwahnee Award for recognition as a model "smart growth" project.'

Best of all: 'More than half of the project will be devoted to open space, including the restoration and expansion of the Ballona Wetlands. This restoration will improve habitat for many species of flora and fauna, and during the first phase of development, create a freshwater marsh and restore a portion of Centinela Creek along the Westchester bluffs to a natural state.'

Accommodating 8,600 homes and millions of square feet of office and commercial space, a mini-city in other words, entails a heavy encroachment and re-design of the area. Although Playa Vista claims that it is saving



the wetlands by putting some 138 hectares aside; they are essentially destroying it and keeping just the sort of 'wilderness' space that fits with the concept and buyers they would like to attract – ie 'green open-air business meetings; parks, paths and waterways'.

Opposition points to the fact that, in addition to the environmental damage, Playa Vista has been on the brink of financial collapse for years and that the development is very likely not to recover its costs; this despite a £116 million cash infusion in public subsidies for Playa Vista.

make a difference

Playa Vista's consortium is mostly owned by Goldman Sachs and Morgan Stanley Dean Witter. Write to: Henry M Paulson, Jr., Chairman and CEO, Goldman Sachs & Co, 85 Broad Street, New York, NY 10004, fax: +1 212 902 3000. Philip J Purcell, Chairman & CEO, Morgan Stanley Dean Witter, 1585 Broadway, New York, NY 10036, fax: +1 212 761 0086. Copy your letters to the Ballona Wetlands Trust, Box 5623 Playa del Rey, CA 90296, USA; email: Ballona@earthlink.net, fax +1 310 399 2920. For more argument ammunition visit www.ballona.org

Is veganism a

SALLY FALLON AND BRUCE FRIEDRICH

Dear Bruce

First, let's define our terms.

We are debating the subject of 'veganism', which is the practice of avoiding all animal foods – meat, fish, eggs, milk products and insects. I have no quarrel with lacto-ovo vegetarianism, the practice of consuming milk products and eggs, but not meat or fish.

Vegans claim that their lifestyle is healthier, kinder to animals and better for the environment.

Both science and tradition confirm that humans must have animal products to be healthy in the long term. During the 1930s and 1940s, Weston Price studied the dietary habits of 14 non-industrialised groups. None of them was vegan. In fact, the sacred foods in these

'Animals raised on farms have space, good food and purpose. When it comes time to give their lives to human beings, they go in a way that is swift and painless'

cultures were all animal foods – from bear fat to fish eggs. These groups recognised that animal foods were necessary for normal reproduction and healthy offspring.

Science confirms what these peoples knew instinctively. Animal foods provide nutrients unavailable from plant foods, including vitamin B12, vitamin A, vitamin D, coenzyme Q10 and important long chain fatty acids, such as DHA and EPA. So vital are these nutrients that humans store them for times of famine. But during times of stress – including the stress of childbearing – these animal-based nutrients are rapidly depleted. The breast milk of vegetarian mothers is deficient in B12, DHA and EPA, which are vital for the development of the eyes and nervous system. Vegetarian mothers are more likely to give birth to low birth-weight babies and to babies with birth defects of the reproductive tract. In fact, veganism cannot be sustained over many generations because each generation becomes weaker and more prone to infertility. That is why, among Buddhists, veganism is practised only by the celibate.

Vegans accuse animal products of causing heart disease and cancer. The real culprit is vegetable oils, which have insidiously replaced animal fats in western diets. The genesis of the myth that beef causes colon cancer began in 1965 when Ernst Wyner, an influential physician, took the data for mostly-processed vegetable oils, called them animal fat (which they were not) and

compared them with worldwide colon cancer mortality rates. What looked like a correlation between animal fats and colon cancer was really a correlation of vegetable oils and cancer. When the statistician Russell Smith analysed all the studies on vegetarianism, he found that while vegetarian men had slightly lower rates of heart disease than non-vegetarian men, they a higher rate of death from all causes. Vegetarian women fare much worse, with a higher rate of heart disease and a much higher rate of death from all causes. When the Russians studied the long-lived villagers of Soviet Georgia, they found that those who ate the most meat and animal fat lived the longest.

The kind of animal foods that sustain good health come from animals that live most of their lives on pasture. The current abomination of factory farming is extremely cruel to animals and ultimately unsustainable. But the tortured logic of PETA and other vegan groups that blames factory farming on animal food consumption is misplaced. Factory farming is, in fact, the brainchild of the grain cartels, which sell more grain when animals are locked in cages. Should humans forgo animal foods for imitation foods based on soybeans, grains and chemicals – which is the ultimate goal of these cartels – the killing of animals will still be necessary to protect crops from the ravages of rodents and ruminants.

Animals raised on farms have space, good food and purpose. When it comes time to give their lives to human beings, they go in a way that is swift and painless. Were all farm animals set free to forage for food and die a 'natural' death, it would be death by starvation or predators, with sheer terror of the chase followed by dismemberment. Is this kinder than raising animals on farms and killing them for meat?

Only 11 per cent of the earth's surface is tillable. Arid, cold and mountainous areas yield their fruits and sustain human beings through animal life. When marginal lands are used for crops instead of animal grazing, depletion soon follows. Allan Savory has shown us how wise grazing practices, in which groups of animals are moved to new areas daily, actually improve the land and make lush grass grow where little grew before. Ruminant animals aerate the soil with their hooves and fertilise it with their urine and manure. In arid and semi-arid areas, the absence of animal herds has the same result as overgrazing – desertification. Wise animal husbandry can help restore lands that have been depleted by monocropping of grains and soybeans. Grass-based livestock production is also helping to restore prosperity to small farms because it does not require huge outlays of capital for fossil fuel, pesticides, fertilisers and mammoth machinery.

Animal foods are the basis of human health and animal husbandry is the basis of sustainable, community-based farming.

Sally Fallon



Sally Fallon is the co-author of *Nourishing Traditions: The Cookbook that Challenges Politically Correct Nutrition and the Diet Dictocrats* with Mary G Enig. She is the founding president of the Weston A Price Foundation and editor of the foundation's quarterly magazine *Wise Traditions*.

better way of life?

MAKE NO BONES ABOUT THEIR DIFFERENCES



Bruce Friedrich is senior campaign coordinator for People for the Ethical Treatment of Animals (PETA), the largest animal rights organisation in the world. Before joining PETA he spent many years working in a shelter for homeless families. He received the Gilbert Award for original research in the field of economics.

Dear Sally

After much investigation, I am convinced that the best diet for people who care about animals, the environment and their own health is a vegan one. Allow me to explain:

Animal Abuse

All cows, pigs, chickens and lambs for sale in grocery stores and restaurants today have been reared on farms and killed in slaughterhouses that support animal cruelty – farms that you rightly call ‘extremely cruel’ and an ‘abomination’. The commercial fishing industry also supports extremely abusive practices (such as hours-long crushing, suffocation and decompression – gruesome and excruciating ways to die). Suffering for animals who are turned into meat or used for dairy products and eggs is so severe that it would warrant prosecution were it done to companion animals.

Dairy cows and laying hens are even more grossly abused than their meat counterparts and are killed when their reproductive capacity, which is manipulated for maximum production of mother’s milk and eggs, wanes. One simply can’t claim with integrity to care about animals as one goes on supporting their abuse by consuming them, their milk or their eggs.

Environmentalism

The intensive method of raising animals for food today is both destroying and depleting our arable land, potable water and clean air. Eighty per cent of agricultural land in the UK is used to raise animals for food, because one must grow vast quantities of crops to feed to the animals whom we then consume. The animals produce far more excrement than humans do (130 times as much in the US, for example), and this excrement is swimming with bacteria, antibiotics, hormones, pesticides and other filth. It pollutes water and destroys topsoil. There really can be no such thing as a meat-eating environmentalist.

Health

Your peculiar anecdotes ignore established science on the subject, which documents longer lives for vegans, a fraction of the heart disease and cancer rates, far more energy, less obesity and so on. In fact, meat, dairy products and eggs contain high levels of saturated fat and cholesterol, which slow people down and make them fat in the short term and are likely to kill them in the long term. And you can eat all the meat, dairy products and eggs in the store, but you will still not have consumed a single atom of complex carbohydrate or fibre, the nutrients that keep our bodies in good working order.

The only researchers in human history documented to have successfully reversed heart disease, by far the

West’s biggest killer, include an exclusively vegan diet as a part of their programmes. On the Dr Dean Ornish and Dr Caldwell Esselstyn programmes, patients become ‘heart attack proof’ (to quote Dr Esselstyn in the August 1999 issue of the *American Journal of Cardiology*) as their cholesterol levels fall below 150, the level below which no one has ever been documented as having died of a heart attack.

After just two weeks on a low-fat vegan diet, most people lose weight and feel energised. After a few years, many asthmatics find their asthma clearing up, many diabetics get off their medications, many people with angina suffer fewer or no attacks and so on.

People who consume animal products are also 40 per cent more susceptible to cancer and at increased

‘Suffering for animals who are turned into meat or used for dairy products and eggs... would warrant prosecution were it done to companion animals’

risk for many other illnesses, including stroke, obesity, appendicitis, osteoporosis, arthritis and diabetes. Additionally, meat contains pesticides and other chemicals many times more concentrated than those found in plant foods.

Conclusion

We’re happy to send our free vegan starter kit. Simply e-mail info@petaeurope.org.uk, call +44(0)20 8870 3966 or order online at GoVeg.org.uk. Other useful Web sites include VegSource.com, which hosts expert discussions on nutrition and other matters, Viva.org.uk, which has extensive undercover documentation of animal abuse in the meat, dairy, and egg industries, and PCRM.org, a physicians’ website that documents the health advantages to be gained from the adoption of a vegan diet. PETA’s favourite books on veganism include *The New Food Revolution* by John Robbins and *The Silent Ark* by Juliet Gellatley, both of which are available from Viva.org.uk or your local bookseller.

There is simply no reason to support the gratuitous cruelty involved in eating an unhealthy and resource-intensive diet of meat, dairy products and eggs. Every time we sit down to eat, we make a decision: Do we want to support animal cruelty and environmental havoc, or do we reject them? There is so much violence in the world, from war-torn regions of Africa and Europe to our own cities. Most of this violence is difficult to analyse, let alone influence. But veganism is one area where each one of us can make a difference every day.

Bruce Friedrich

Dear Bruce

These are tattered arguments, part of the vegan propaganda mill. It is the vegans who are making up the science with claims of better health. Dr Ornish admits in his own promotional literature that his drastic, soulnumbing diet of itself does not cure heart disease. His study was a shabby one in which he claimed that the artery widening observed in the angiographs was proof of 'stenosis,' or clearing of the arteries. Actually, the arteries widen during the first stage of blockage, so his study proved nothing. (Read *The Cholesterol Myths* by Uffe Ravnskov for a complete debunking.) The International Atherosclerosis Study, which took precise measurements of artery blockages (something that is impossible to do in angiography) in 31,000 autopsies from 15 countries, found no difference in atherosclerosis between vegetarians and meat-eaters. Those with low levels of cholesterol had just as much blockage as those with high cholesterol.

Dr Esselstyn's statement about heart attacks in persons with cholesterol below 150 comes from Dr William Castelli of the Framingham Study, and he selectively omits the last part of Castelli's statement, which was as follows: 'In Framingham, in 30 years we have yet to report a heart attack in any person whose cholesterol was 150 mg or below. Of course... there is no one in Framingham with a cholesterol level under 150 mg' (*American Journal of Medicine* 1986, 80, 23). What has been shown in major studies over and over again is that cholesterol-lowering results in an increase in deaths from intestinal diseases, stroke, cancer, accidents and suicide.

A vegan diet is deficient in many nutrients that protect against cancer. Studies of vegetarian Seventh Day Adventists found they had higher rates of brain cancer, malignant melanoma, prostate cancer, Hodgkins disease, uterine cancer, cervical cancer and ovarian cancer than non-vegetarians. A 1975 study found that Seventh Day Adventist physicians had significantly higher rates of colon cancer than non-Seventh Day Adventist physicians. Anyone trotting out the cholesterol-and-saturated-fat argument is simply not familiar with the science. Cholesterol is the body's repair substance, an essential part of the cell membrane, the basis for sex and stress hormones, a critical component of the brain and nervous system and a potent antioxidant. The body needs saturated fat to function, which is why our bodies make saturated fats out of carbohydrates. Cholesterol and saturated fat have been demonized by the 'Imitation Food' industry in order to sell more vegetable shortenings and margarines, which are full of trans fatty acids, the only fats that have ever been statistically associated with heart disease. PETA promotes this agenda. A serious problem with veganism is B12 deficiency, linked to cancer, heart disease, anemia, nerve degeneration, depression and psychiatric disorders. One of the first signs of B12 deficiency is irrational anger, so the claim that veganism can bring peace and harmony to the world is preposterous. When the Native Americans of Mexico and the Southwest ran out of animal foods, they resorted to cannibalism and cannibalism was only eradicated among the New Zealand Maori's when the pig was introduced.

We had pelting rains in Amish country last week with shocking topsoil runoff from corn and soyabean farms. There was no runoff from pasture where cattle graze. Snow melts more slowly from corn and soyabean farms because

hardpan makes cultivated land colder. Only animals in rotation with crops can maintain soil fertility in an economical way. The kind of intense cultivation that PETA recommends will not solve world hunger. Actually, we currently have a glut of grain and soyabeans, even with the large amounts going into animal feed.

Veganism militates against small farms and is the multinational corporation's best friend.

Sally Fallon

Dear Sally

One has only to consider the plight of farmed animals, who are treated like inanimate objects and are frequently fully conscious through the entire gruesome slaughter process, to know that eating meat promotes cruelty and suffering. Full documentation of the animal abuse universal on UK farms and abattoirs is available at www.Viva.org.uk (in the US, visit GoVeg.com).

Environmentally, the case is equally unassailable: Eating animal products depletes and destroys our land, water and air. You amusingly forget that the vast majority of corn and soya is fed to animals who will be killed for meat. All problems multiply exponentially as we cycle grain and soya through animals.

Regarding health, you cite The International Atherosclerosis Study. This 'study' is not listed among hundreds of thousands of international studies found in the National Library of Medicine (MEDLINE) and does not appear on any of 15 Web search engines. One must wonder about this, as you totally misrepresent the only other study you cite. The Adventist study suggests, in diametrical opposition to your representation, that meat increases cancer risk (for colon cancer, meat-eaters had almost three times the risk) and that Adventists suffer 'mortality rates that are 50 to 70 per cent of general population rates for most cancer sites that are unrelated to smoking and drinking.' A study of Adventists just this year indicates that vegetarian Adventists live an average of 10 years longer than the general population.

It's silly to argue that consuming cholesterol is necessary, since our bodies make plenty of it. And it's equally to praise B12, since no study anywhere indicates that vegans are more likely to suffer B12 deficiency than meat-eaters.

Meat and dairy, however, are clearly linked to many illnesses, including the developed world's top two killers, heart disease and cancer. Dr William Roberts, editor of the *American Journal of Cardiology*, sums it up: 'Human beings are not natural carnivores. When we kill animals to eat them, they end up killing us because their flesh, which contains cholesterol and saturated fat, was never intended for human beings, who are natural herbivores.'

Dr Esselstyn was not quoting Dr Castelli, as you falsely claim; he was stating the scientific fact that a person with a cholesterol level below 150 has never had a heart attack, while noting that people who followed his vegan programme (all of whom had suffered heart attacks previously) were all able to lower their cholesterol levels to below 150 (from an average of 246), and not one suffered another attack (*American Journal of Cardiology*, 1999).

Dr Castelli, the Harvard Medical School dietary researcher, points out that 'vegetarians have the best diet. They have the lowest rates of coronary disease of any group in the country... [T]hey have a fraction of our heart attack rate, and

'One of the first signs of B12 deficiency is irrational anger, so the claim that veganism can bring peace and harmony to the world is preposterous. When the Native Americans... ran out of animal foods, they resorted to cannibalism'
Sally Fallon

they have only 40 per cent of our cancer rate.'

Dr Ornish's vegan programme has the highest proportion of participants sticking with the diet (better than any other heart-diet programme ever) – primarily because patients feel vastly healthier as their angina disappears, pounds melt away, arteries clear, energy returns and sexual potency improves. All of this is documented in the world's top medical journals, including *The Lancet* and *The Journal of the American Medical Association*.

In summary, you completely misrepresent the Adventist and Ornish studies, as well as the intentions of Drs Castell and Esselstyn, and cite a study so obscure that it's not traceable. Your position is indefensible, as is thoroughly documented in *The Food Revolution* (2001) and on the internet at PCRM.org and VegSource.com, the latter of which includes sites for a host of nutritional researchers.

Bruce Friedrich

Dear Bruce

The International Atherosclerosis Study was reported in 'The International Atherosclerosis Project', *Laboratory Investigations*, 1968, 18:(5):4981. It was published in an obscure journal because the results were not what establishment researchers expected.

Pity those who managed to get their cholesterol to 150 – which is dangerously low. They escape heart attacks only by dying of something else sooner – stroke, cancer, intestinal diseases, accidents or suicide. Ornish neglects to mention that one person died in the small group of individuals that could stick to his diet and participate in his study.

If Dr William Roberts, editor of the *American Journal of Cardiology*, says humans are natural herbivores, what else is he lying about? Humans resemble carnivores – they have a simple stomach, produce hydrochloric acid, cannot digest cellulose, and have a digestive tract that is 5 times body length (compared to 25-30 times body length in the herbivore). Doctors who make statements that are so blatantly incorrect have a different agenda than the promotion of the truth, one that has an eye on funding for the next study.

And what is PETA's agenda? Several years ago PETA demonstrated at an organic turkey farm and put the farmer – practising humane farming – out of business. Yet they ignored the dozens of confinement farms in the same district. Now PETA wants to stop air shipment of chicks, which hurts only small farmers, not the big guys, who bring them in trucks.

How similar are PETA's supporters to the missionaries of earlier days, riding high on moral rectitude while they squashed local culture and ushered in modern processed foods. According to PETA's tortured logic, the milk drinkers of Lapland, India and North Africa, beef eaters of Argentina and Korea, fish eaters of Japan, pork eaters of China and Russia are all sinners who must give up their depraved customs and eat veggieburgers instead. Typical of the culture crushers is Dr Neil Barnard preaching his anti-milk gospel in India – where milk and butter is praised in holy writ. In his wake come the soyamilk salesmen with their carpetbags of free samples. How like the temperance movement where well-intentioned pious ladies lobbied to ban liquor and thereby transferred the value-added of liquor production from local communities to the Mafia. PETA's actions are couched in fine verbiage but they lead to the same thing – the transfer of value-added from artisans

and farmers in local communities to multinational corporations churning out imitation foods.

Mankind has always depended on animal products. Our paleolithic ancestors used meat and fat to nourish themselves, furs to keep warm, skins for housing, clothing and food storage, and bones for tools. Today animal products are used in many lifesaving drugs, household and building products, photographic supplies, shoes, luggage, tires, hydraulic brake fluid for cars, airplane lubricants – and flavourings for vegetarian foods. Even the most ardent vegans cannot escape dependence on animal products. If PETA is sincere in its goals of stopping cruelty to animals, let them join us in our efforts to get animals out of factories and back onto green pasture at family farms.

Sally Fallon

Dear Sally

You attempt to divert readers by attacking PETA and raising issues that are beside the point. It is this simple:

Every time we sit down to eat, we make a decision: Do we support animal cruelty, or do we support kindness? Few of us could watch the abuse; fewer still could work on a factory farm or in an abattoir. Yet if we are eating meat, dairy or eggs, we are paying others to abuse animals for us.

Ecologically, few of us would turn our tap on full blast and wander off, leave on all of our lights, or dump pesticides and herbicides into a river. But if we're eating animal products, we are directly supporting ecological damage that's even worse than this.

Raising the issue of the developing world is odd, since most basic grains there are grown to feed farmed animals for consumption by the developed world, even as the masses starve. As one example, throughout the famine in Somalia, the country exported planeloads of soya to Europe to feed to dairy cows, chickens and other farmed animals.

Natural meat-eaters are different from humans and other herbivores in that they: manufacture their own vitamin C; perspire through their tongue; have sharp, pointy front teeth, no molars and a tooth-bone density five times greater than humans; have acidic saliva and digestive acids 20 times more acidic than humans; have jaws that only move vertically; have claws; have an intestinal tract only three times their body length; and never experience atherosclerosis, no matter how much saturated fat and cholesterol they consume.

Dr T Colin Campbell, the world's foremost epidemiological scientist and director of 'the most comprehensive large study ever undertaken of the relationship between diet and the risk of developing disease' (*The New York Times*), states, '[T]he vast majority of all cancers, cardiovascular diseases and other forms of degenerative illness can be prevented simply by adopting a plant-based diet.' Dr Benjamin Spock, the world's foremost paediatrician, in the final edition of *Baby and Child Care*, argues that meat and dairy should be avoided, especially by children, as they lead to problems that include allergies, obesity, lethargy and colic in the short-term and heart disease, cancer, diabetes and other illnesses in the long-term.

Respected paediatrician Dr Charles Atwood concurs, noting the industry's callous disregard for children's health: 'During my forty-year practice as a board certified paediatrician, I've observed the damaging effect of cow's milk in eight out of 10 children I see.'

Bruce Friedrich

'Every time we sit down to eat, we make a decision: Do we support animal cruelty, or do we support kindness... if we are eating meat, dairy or eggs, we are paying others to abuse animals for us'

Bruce Friedrich

Some people only have to open their wallets to influence our lives. Others only have to open their mouths to put theirs at risk.

ILLUSTRATIONS BY CHRIS BLYTHE

LORD HASKINS

As a sequel to our profile on Lord Haskins in May (Vol 3/4), Corporate Watch's Lucy Michaels examines the business interests of this 'colourful' man.

15 August 2001 will become known as the day the Labour Government, building on its handy mismanagement of the foot and mouth crisis, consolidated its destructive plans for British farming as we know it. For 15 August was the day Lord Chris Haskins began his six week role as 'rural recovery co-ordinator' for Cumbria and other areas badly affected by foot and mouth.

Since his appointment, Haskins has suggested that half of the UK's farms will disappear in the next 20 years, that small farmers should take second jobs on 'BMW assembly lines' to survive, and that 'molly-coddled' British farmers could learn a thing or two about entrepreneurship from the French.

Hypocritical comments indeed from a man who receives £50,000 worth of subsidies on his Yorkshire wheat and barley farm and, like most farmers, is hugely indebted to the bank.

Some other comments have sounded more sensible, such as overhauling subsidies to support environmental stewardship, promoting co-operatives to supply local markets and subsidies for the organic market. But it's hard to know which Haskins to trust. Earlier this year, at the Provision Trade Federation annual dinner, he famously said: 'Let the heir to the throne enjoy his excellent if somewhat risky organic food... Let my cattle enjoy their genetically modified soya'.

To understand Haskins' vision, it helps to look a little more closely at his business interests; the empire he inherited through marrying the boss's daughter – Gilda Horsley, daughter of Alec Horsley, who founded Northern Dairies on Spalding Moor, East Yorkshire, in 1937.

Northern Foods is currently the market leader in chilled food and grocery provision in Britain, with a turnover last year of £1.3 billion

and 23,000 employees. They are also the supermarkets' dream. They supply cheap processed food, which apparently the British public wants. They are efficient, even owning their own distribution company, NFT. This is a US-style hi-tech vertically and horizontally integrated manufacturing business, and as Haskins himself has admitted, it will be a 'beneficiary of a big shake-up of the food industry as over-capacity is eliminated'.

'Our aim' according to Northern Foods' 2000 annual report, 'remains the creation of shareholder value by being the most effective added-value food manufacturer

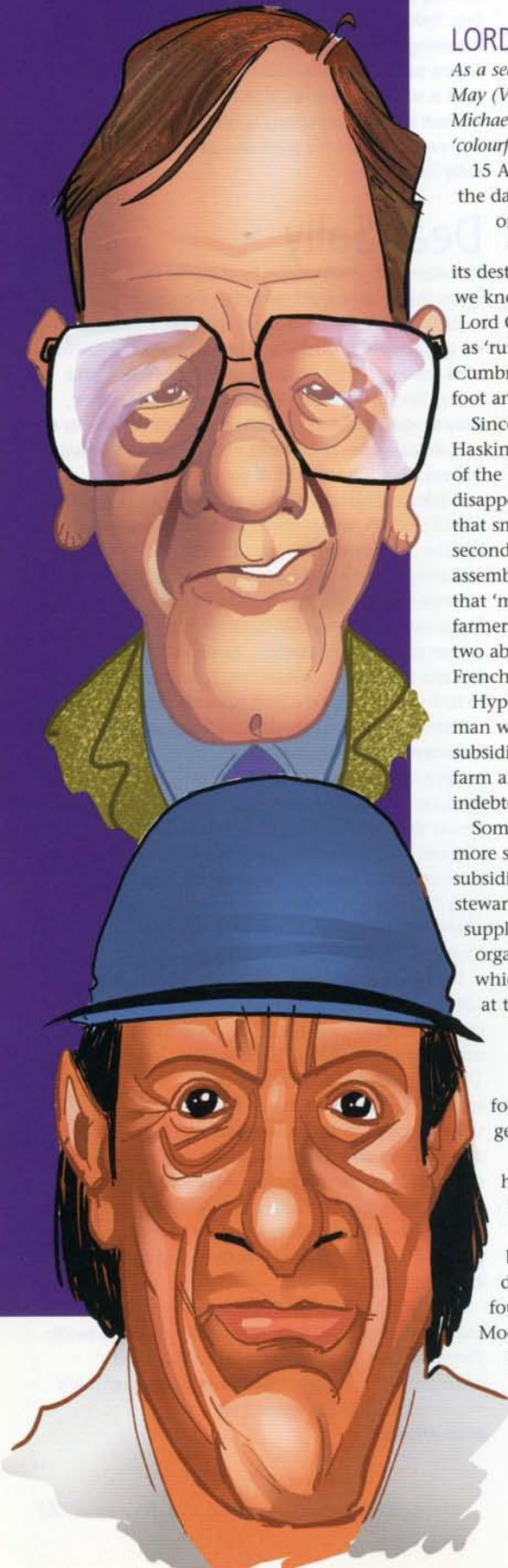
'Let the heir to the throne enjoy his organic food... let my cows enjoy their GM soya'

supplying the UK retail market.' This is a world where 'quality' means convenience and innovation, and 'consumer interest in health issues' is interpreted as 'low fat and calorie-counted ranges'.

But modern corporate farming gets much worse as you look further upstream. In the House of Lords register of interests, Haskins is also named as a director of JSR Farms and chair of Express Dairies.

JSR Farms, based down the road from Northern foods in Drifffield, East Yorkshire, is one of the largest private, family-owned farming companies in Britain. Owning 6,400 acres, over 120,000 breeding and slaughter pigs and with an annual turnover of £20 million, this is scarcely a family farm of yore.

One look at the links page, with its catalogue of agrichemicals companies, shows where JSR's sympathies lie. In 1998, they hosted an Aventis GM sugar beet trial. The biotech links are reinforced through a joint venture in pig genetics with US-based DeKalb genetics, owned by Monsanto. The language used to describe pigs on their website reveals all. Currently they are using high-tech laboratory-based selective breeding to produce their genetically improved 'genepacker 105', 'genepacker 120' and 'meatpucker plus' models. Considering their links with Monsanto,



however, one could imagine them jumping at the idea of genetically modified or cloned pigs in the future.

When animals become mere commodities, it is no wonder that across Britain's highly industrialised pig sector, the level of animal welfare abuse is shocking, as Viva's recent report, *Pig in Hell* (2001), reveals.

If anything reveals the inequities within the food chain to Lord Haskins, it should be his own experience with Express Dairies. Despite being the market leader in liquid and UHT milk in the UK, they are in desperate financial trouble – their profits have fallen 18 per cent this year. This is not just as a result of foot and mouth nor an overly competitive market. Insiders claim that there is not even room for the three massive dairy companies that control the industry. The real reason is the 'stranglehold' that the supermarkets have over the industry.

Knowing that there is an oversupply of milk within the industry, the supermarkets have mercilessly squeezed the processors, and hence the small dairy farmers who supply them. During the height of the milk crisis last year, farmers were regularly being paid 5-6p/litre below the cost of production by Express and the others. Even when some of the supermarkets passed on an extra 2p/litre on the price of milk to processors on the condition it was passed back to the farmer, Express Dairies failed to do so, rightly predicting that the supermarkets would again drop the price thus hammering their profits further.

Haskins' experience with Express Dairies and his own farm means that he must know the real reasons for the global crisis in agriculture. He must know that farmers would much rather be paid a fair price than receive large subsidies. He must know that he peddles cheap, unhealthy, synthetic, 'convenience', junk food, and that agricultural liberalisation will only increase its availability. He must see that we will become reliant on exploiting Southern producers whilst rural communities in Britain are decimated. He must know that the faster the automated quiche machine goes, the faster the chink of the cash register, the faster the pace of modern life will go.

But somehow he can't see it.

KIMY PERNIA DOMICO

'Let me be clear, saying these things puts my life in danger. The [paramilitary] gunmen have set fire to our boats to prevent us from going to meetings. They have set up checkpoints on rivers and detained people. Anyone who dares to

speak out about Urra is accused of being involved with the guerillas and with that pretext they have declared both our communities and leaders to be a military target. You can understand that my people live in great fear both of imminent attack, as well as what the future hold for us without land or fish.' With these words Kimy Pernia Domico, a leader of Colombia's indigenous Embera Katio people, addressed a US parliamentary committee last year, trying to raise their awareness of his people's plight and the fact that paramilitary death squads had already murdered four other Embera leaders who had protested against the devastating effect that the Urra Dam was having upon their traditional way of life. A few months later, at 6.20pm on Saturday 2 June, he was forced at gunpoint onto a motorcycle outside his people's headquarters in Tierralta by three armed men. Nearly half a year later he is still missing, possibly dead, although his people refuse to give up looking and hoping. In the last two years sixteen members of their tribe have been killed by either guerillas or paramilitaries, yet all the Embera want to do is live the way they have done for centuries. According to Pernia Domico, '[our people believe that] water and fish are a common good, to be shared equally among all people. We believe our creator has entrusted us with the responsibility to conserve those resources for present and future generations, for indigenous and non-indigenous people alike.'

However, their simple agrarian lifestyle has now been destroyed by the flooding brought by the vast Urra Dam project. 'These days, with the fish gone,' said Pernia Domico, 'it is common in my community to see people fainting because they're weakened by malnutrition, which leaves people vulnerable to diseases that never used to affect us. The worst is that many children have died as a result.'

Tragically the voices of this small indigenous tribe have been systematically drowned out by the roar of foreign money pouring into the project. Although studies for the dam began as far back as 1951, the plight of the Embera Katio people was not publicised until 1994. 'The engineers have come to our huts, but... just to take tourist photographs,' said Pernia Domico. 'In 1977 the zone, including our territory, was declared a public utility without asking us.' In short, the Embera were simply not as important as foreign funded 'sustainable development'. When, in 1994 Pernia

Domico and his people were finally granted an audience at the Colombian environmental ministry, the then minister told them, 'the construction of Urra will continue, because it offers more development opportunities than ecological ones. We publicly assume the responsibility. This is a ministry for sustainable development, not for conservation of resources.' This 'sustainable development', it should be noted, will provide just 340MW, or two per cent, of all the electricity produced in Colombia.

Despite such attitudes, Pernia Domico has never stopped campaigning. In 1996 he and a group of his people occupied the Spanish embassy to ask for political asylum due to the extermination of their community and displacement from their lands. In December 1999 he and 160 other Embera walked 700 kilometres to the gardens of the Ministry of the Environment in Bogota, where they held a vigil that lasted four months. Last year he visited the United States and spoke publicly about the violent consequences that Plan Colombia will bring. And in April of this year he spoke at the People's Summit in Quebec, protesting against plans for the Free Trade Area of the Americas.

If he hadn't been kidnapped in June, he was destined to speak at the 'Water for People and Nature' conference held by the Council of Canadians. 'The disappearance of Kimy highlights the pressure on the developing world, on the poor and on First nations to hand over their water resources for private benefit, no matter the cost,' said

'Urra will continue, because it offers more development opportunities than ecological ones'

Maude Barlow, chair of the Council of Canadians at the conference. 'We are here in Canada with delegates from over 30 countries to push back, to protect the world's water from the corporate forces that want to profit from it, and today we're doing this in Kimy's name.'

Kimy Pernia Domico is hopefully alive. The Colombian government needs to find and return him to his people. It also must know the international community objects to the devastation caused by the dam. Please write or fax to Senor Presidente Andres Pastrana Arango, Presidente de la Republica, Palacio de Narino, Carrera 8 No.7-26, Santafe de Bogota, COLOMBIA (Faxes: 011 571 336 2109). Or go to www.globalexchange.org/colombia/action060401.html to send a fax or find out more.

Hold

The mobile phone invasion is an unprecedented experiment, pitting market forces against the health of the population, particularly the young. Governments, cashing in on the licencing bonanza, wave through plans for a forest of phone masts. Emissions guidelines are drawn up to minimise costs. Here, *The Ecologist* looks at the issues, beginning with a damning report which, says David Edwards, points to evidence of a cover-up. It may be good to talk, but why isn't anyone listening?

Imagine you're the government of the UK. You've recently taken £22.5 billion in licences for the new 3G network from the biggest mobile phone companies in the world and they want value for money. You've got a burgeoning market amongst technologically aware, image conscious teenagers that skyrocketed 250 per cent over the previous year (the 25 per cent of secondary school children who owned or shared a mobile at the end of 1999, became 64 per cent by the end of 2000). But then there's also an ever-growing number of scientific studies associating serious health risks with mobile phone use, especially amongst children and teenagers, whose thinner skulls make them all the more receptive to the non-thermal effects of mobile phone radiation. What do you do?

Well, according to Dr Gerard Hyland in a report submitted to the Industry, Trade, Research and Energy Committee of the European Parliament on 11 July 2001, you bury your head and take the money.

Pointing to an industry-inspired cover-up, Hyland describes how the voice of those with a view contrary to the officially perceived wisdom 'is at worst silenced, or, at best, studiously ignored.' The situation is worsened by reports of mobile phone industry attempts 'to "persuade" those who discover findings that prove potentially damaging to market development to actually alter their results to make them more "market friendly"'.

Dr Hyland, of the Department of Physics at Warwick University in the UK and the International Institute of Biophysics in Germany, further argues that existing safety guidelines relating to mobile phone masts are completely inadequate, since they focus only on

the thermal effects of exposure to electro-magnetic fields.

In the report he warns that a major contemporary threat to the health of society is man-made 'electrosmog'. The nature of the pollution is such that, for people living in the vicinity of mobile phone masts, there is literally 'nowhere to hide'. In addition, given the short time for which humans have been exposed to it, we have 'no evolutionary immunity against any adverse effects'.

Hyland reports that existing safety guidelines which are intended to protect the public—such as those issued by the International Commission for Non-ionising Radiation Protection (ICNIRP)—'afford no protection' against non-thermal influences of various kinds.

'Quite justifiably,' Hyland writes, the public remains sceptical of attempts by governments and industry to reassure them that all is well, particularly given 'the unethical way in which they often operate symbiotically so as to promote their own vested interests, usually under the brokerage of the very statutory regulatory bodies whose function it supposedly is to ensure that the security of the public is not compromised by electromagnetic exposure.'

Also doubtless driven by market imperatives rather than genuine concern for public health are efforts to establish a global 'harmonisation' of radiation exposure standards, by attempting to persuade countries that currently operate more stringent limits—such as Russia and China—to relax them in favour of the higher levels tolerated in the West. It can be no coincidence, Hyland argues, that in Russia, where the frequency-specific sensitivity of living organisms to ultra-



that call



low intensity microwave radiation was first discovered over 30 years ago, that the exposure guidelines are approximately 100 times more stringent than those of ICNIRP!

Criticising the performance of the media, Hyland argues that there is 'a regrettable tendency to attribute market-friendly results a greater significance, publicity and profile than ones indicative of the possibility of adverse health impacts.' An example of this is provided by the publication of the results of a recent study in the USA, which found an increased risk amongst users of mobile phones of a rare kind of tumour (epithelial neuroma) in the periphery of the brain – 'precisely where there

is maximum penetration of radiation from the mobile phone'.

This aspect of the report, Hyland argues, 'completely escaped the attention of the media, who focused instead exclusively on the finding that there was no overall increase in the incidence of brain tumours amongst mobile phone users.'

Hyland argues that research necessary to establish mobile phone safety has not merely been bypassed or compromised, 'but rather – and more reprehensibly – that already available indications that

the technology is potentially less than safe have been (and continue to be) studiously ignored,' not only by the mobile phone industry, but by national and international regulatory bodies.

Hyland gives as an example the conduct of the UK National Radiological Protection Board, which was 'unable' to provide the Independent Expert Group on Mobile Phones (IEGMP) – for whom they were acting as the secretariat – with certain highly relevant published papers, on the grounds that they could not 'find' them, 'despite having been provided'.

Mast effects

There are alternatives to the UK government's *laissez-faire* attitude. The German government is considering a precautionary approach for mobile phone masts. But, asks Jörg Blech, will this just make matters worse?

Until recently Juergen Trittin, German minister for the environment, wasn't afraid to use his mobile phone. Today, he is not so sure: 'We are currently investigating whether we need to introduce precautionary measures against the radiation emitted from mobile phone masts.'

According to Trittin's ministry there is no scientific evidence proving that mobile phones damage health. The problem thus isn't the emissions, but fears about the emissions. Numerous desks at the ministry are stacked with protest letters; more and more people are asking for advice.

'Something will have to happen, there are too many worried people,' says Christoph Matschie, chairman of the governmental committee on the environment, protection and reactor safety.

Whether or not the current limit should be replaced by a more cautious one depends on the commission responsible for radiation protection. Even though the commission insists that 'there is no scientific evidence...', there are also proponents of the Swiss model, where the legal limit is ten times lower than the German.

Some argue, however, that a precautionary attitude would not dispel people's worries. They argue rather that it would increase fears. Even

in Switzerland, resistance against mobile phone masts is considerable.

Perhaps the greatest paradox of all, though, is the fact that lower frequency masts may ultimately mean more masts to cover the current number of mobile phone users. But more masts mean more resistance. In light of the 'lack of scientific evidence', surely network providers would not fork out for the extra costs just like that? Unsurprisingly, they have been very quick to come up with a figure of DM4 billion in extra costs.

Network providers, in order not to jeopardise their image, have developed a 'constructive' strategy. They concluded that the places where they met with the strongest resistance were those places where they had not informed the locals sufficiently in advance. Now they want to work together with the communities and engage them by asking them to help in finding the most appropriate places to erect the masts.

This is likely to be an even more difficult choice. Those wanting to protect children or the elderly may have to put up with masts on the roofs of the very schools and hospitals they want to protect. Why? Mobile phone masts function similarly to lighthouses; it is directly underneath that the rays are at their weakest.

This article is translated and abridged from one that first appeared in Der Spiegel.

with the full references by at least two individuals who gave evidence to the IEGMP, and curiously having had no difficulty in providing less significant papers from the same issue of the journal.

According to Hyland: 'If the same level of uncertainty and debate as currently surrounds the safety of human exposure to GSM radiation obtained in the case of a new drug or foodstuff they would most certainly never be licenced.'

Among the evidence of adverse health affects studied by Hyland, is the following:

- There is consistent empirical, anecdotal evidence from many countries that the health of some people is adversely affected in various ways when they are exposed to the type of radiation emitted by mobile phone masts, despite its intensity being well below existing safety limits. The anecdotal nature of many of the reported health problems – such as headache, sleep disruption, impairment of short-term memory, nosebleeds and, more seriously, an increase in the frequency of seizures in some children already suffering from epilepsy – does not constitute grounds for dismissing them out of hand. Given the lack of research on this relatively new technology, such reports are an indispensable source of information, Hyland argues.
- There is documented evidence that long-term (involuntary) exposure to microwave radiation of intensities between that realised near an active



phone and that found in the vicinity of a base-station does causes serious illness, such as leukaemia and lymphoma, in certain exposed people. This is the conclusion reached by a relatively recent re-analysis of the Lilienfeld report on the Moscow US Embassy irradiation during the 'cold' war, based on information that only became fully available following the Freedom of Information Act. This reveals that the original verdict of 'no serious health effects' was, in fact, a sanitised version of Lilienfeld's findings, in which his statements of concern had been deliberately removed by the State Department. Furthermore, children, Hyland explains, are at greatest risk for several good reasons, including:

- Absorption of microwaves of the frequency used in mobile telephony is greatest in an object about the size of a child's head – the so-called 'head

resonance' – whilst, in consequence of the thinner skull of a child, the penetration of the radiation into the brain is greater than in an adult.

- The still developing nervous system and associated brain-wave activity in a child (and particularly one that is epileptic) are more vulnerable to aggression by the pulses of microwaves used in mobile phone radiation than is the case with a mature adult.
- A child's immune system, whose efficiency is, in any case, degraded by radiation of the kind used in mobile telephony, is generally less robust than is that of an adult, so that the child less able to 'cope' with any adverse health effect provoked by (chronic) exposure to such radiation. Asking the question again: If you were the UK government, what would you do?

David Edwards is associate director of Medialens.org.

Inappropriate measures

Two years ago, in a landmark UK case, Roger Coghill brought an action under the Consumer Protection Act 1987, demanding that mobile phones carry warning labels, as do cigarettes. Now manufacturers are reluctantly beginning to label phones. The trouble is, argues Coghill, the industry is using the wrong figures to assess safety.

Within a few years there will be 1.3 billion people using mobile phones globally, according to Deutsche Bank forecasts. Mobile phones are by far the most radiative domestic appliances ever invented – with a power density twenty times more powerful than users' exposure to the microwave ovens that heat our food. Furthermore we use mobile phones by holding them against our brain, the most sensitive organ in our bodies. And around a quarter of mobile phone users are

under eighteen, with brains that are still developing.

Scientific concerns over the health implications of mobile phone handsets and masts continue to grow; even governments are beginning to take notice. Yet despite a \$10 million research programme in the US and a similar £7 million initiative by the UK Department of Health, neither will report for some years. In the meantime, who will watch over these guardians of our health?

The UK project was to be supervised by the DTI, but at the last minute the National Radiation Protection Board (NRPB) submitted an unrealistically low tender and snatched the contract. This is the same NRPB that was severely criticised in the Stewart Report of last year, which said: 'Despite the fact that the public is currently most concerned about mobile phones and base stations, NRPB resources are largely targeted in other areas. Only 10 per cent of the total NRPB budget is

allocated to non-ionising radiation, which includes work related to mobile phone technology, and the number of [NRPB] staff who have specialist knowledge in the mobile phone base station area is in single figures'.¹

Not surprisingly, no NRPB research is being presented, nor was there any NRPB presence at either the September 2001 European Bioelectromagnetics Association conference in Helsinki nor the Bioelectromagnetics Society's June 2001 annual meeting in St Paul, Minnesota, meaning that these two premier world fora for cutting edge mobile phone issues were both ignored by the so-called public radiation watchdog.

The white heat of the debate concerns the way mobile phones are to be labelled for safety in the US, UK and elsewhere. The chosen rating is the Specific Absorption Rate (SAR), which reflects the amount of thermal energy deposited by the 60 per cent or so of a phone's radiations entering the user's brain tissues. However, there are now over 100 studies showing that adverse bioeffects occur at levels of exposure far below that needed for thermal insult.

The core problem with relying on SAR is that at the frequencies used by mobile phones, the user's head is right in the near field of transmissions, and as a consequence hot spots are likely to occur deep inside the brain, which SAR cannot predict to within even one order of magnitude. However, a questionnaire study of some 1,600 Swedish cellphone users with brain tumours in June 2001 reported a near threefold increase in acoustic neurinomas on the same side of the head as the mobile phone was held² and an earlier US study led by Dr George Carlo had produced similar results. By contrast, two industry-funded studies appeared to deny adverse health risks, but they were looking at different tumour

types.^{3,4} The industry's response to Hardell's damning evidence was that 'the study is not yet peer review published'.

Likewise, the US study's findings were repressed, though this may now blow up in the industry's face (for more on the US issue see Call Charges, below).

Despite the doubts about the SAR metric, the world's mobile phone users will nevertheless soon be led to believe that a low SAR value label indicates a safe phone. But what is the alternative?

The answer is dimly emerging from the little independent research available. Nature, before last century never having to contend with artificial alternating fields, has used similar methods for cell growth and regulation. Our heart beats are mediated by electric fields, our energy in the form of adenosine triphosphate is synthesised using electric fields, and research shows that the body's endogenous electric fields are uniquely protective of the immune system's competence.⁵ All these processes are perturbed by mobile phone and related radiations according to the latest science. Damage to DNA, permeability of the blood/brain barrier, immune system dysfunction, and adverse effects on key enzymes are becoming commonplace findings by researchers in this field.

Unless there is an urgent paradigm shift, and the concept of SAR is re-assessed, the outcome of this scientific politicking will be that many people worldwide may succumb to irreversible and incapacitating disorders of the brain. Society cannot afford this global deception any longer ■

Roger Coghill is founder and director of Cogreslab, an independent laboratory researching the effects of bioelectromagnetics.

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Police suffer TETRA allergy

Especially alarming, according to the Police Federation, is the new TETRA system (Trans European Trunked Radio Access), destined for use by the police fire, ambulance services, some corporate networks and London Underground. TETRA uses not only a 420MHz signal (producing a wave form that maximises radiation absorption for 3-6-year-olds) but also produces a pulse at around 17Hz, which falls right inside the frequency band of the brain's own beta rhythm.

In fact 17Hz is uncomfortably close to the 16Hz frequency that the Stewart report recommended avoiding as being particularly harmful to the brain. Nonetheless there is a complete lack of research on TETRA's possible health effects.

The system is being trialled by Lancashire police. Officers there have been told to use their radios only under strictly controlled conditions when in hospital accident and emergency departments. Since the system interferes with equipment they must turn it off when conducting breath tests or when near airports.

Meanwhile BT-Airwave has begun applying for permission to build thousands of TETRA masts in the UK. The £2.5 billion system will require around 20,000 masts to cover the entire country.

For an in-depth report on TETRA, see the March issue of *Police* magazine, which can be found at www.polfed.org.

Mobiles on trial

In the normally business friendly USA the most dramatic of precedents may well be set as a result of the impending billion-dollar case against, amongst others, Verizon Wireless, in whom Vodafone has a 45 per cent stake, on behalf of brain cancer victims.

The case, the largest ever against the mobile phone industry, is being prosecuted by one of the US's most successful lawyers, Peter Angelos – famous for having recently won \$3 billion in damages from the tobacco industry in Maryland and on record as saying he does not take on a case unless he is 90 per cent sure of winning.



US TEST CASE

The claim alleges suppression of research findings, negligent design of phones, inadequate warnings, pressuring researchers, withdrawal of funding to prevent further, possibly embarrassing results, misrepresentation of health hazard information, aiding and abetting, and fraud.

The case will rely on information supplied by Dr George Carlo, who, from 1993–98 ran a \$25 million research programme funded by the industry itself. His findings are reported in *Cell Phones: Invisible Hazards in the Wireless Age: An Insider's Alarming Discoveries About Cancer and Genetic Damage* by Dr George Carlo and Martin Schram (Carroll & Graf, 2001, ISBN 0786708182, \$25).

Ringling the changes

Karen Barratt has been at the forefront of protests against the lack of consultation over the siting of mobile phone masts in her home town of Winchester. In July year she staged a 24-hour vigil at one proposed site.

Like most people I'd never thought of the implications of mobile phone masts until Orange was given permission to erect one at the top of our road. I suppose this looks like a not-in-my-back-yard reaction but I guess that it's perfectly normal for most people – especially as the real health implications are simply not discussed in the general media.

My real concern, however, is the implications of the Government's own guidelines to planning authorities. It seems quite wrong and undemocratic to me that our own government can tell local authority planners that they need not consider concerns about health as a relevant planning issue – when the vast majority of people who object to mobile phone masts near homes and schools do so on grounds of health.

As a mother and grandmother I believe I have a moral responsibility to voice my concerns about the potential health risks of long-term

exposure to mobile phone mast emissions. One of my comments throughout this campaign has been: 'Let's be wise before the event this time'.

There is a growing groundswell of concern across the country, which, if the government don't take care, could escalate into New Labour's 'poll tax'. Even if we're successful in stopping our particular mast we shall not give up the fight on behalf of all the other people threatened by masts.'

If you want to know what you can do, or want to find out more about the issues, a good starting point is MAST ACTION UK.

This pressure group was set up to support people's rights over their concerns about possible health hazards of mobile phone masts and where they are erected. Visit the website at www.mastaction.org, or write to: MAUK Head Office, PO Box 312, Hertfordshire EN7 5ZE.

A word in your ear

The following tips will help reduce the risks...

- Keep calls as short as possible.
- Ensure that the antenna is as far as possible from the head and hand. Even half an inch makes a huge difference in the strength of the magnetic field entering the body.
- When indoors, always use the phone near a window where signal strengths can be up to ten times greater (meaning the handset has to use less power to establish contact with the mast) and always have the handset on the window side (so that less of the signal passes through your head).
- Try to only use your phone when it is showing 4–5 bars of signal strength. The radiation produced varies up to 100-fold between good and bad reception areas.
- Avoid handsets with internal antennae as these tend to expose the head and hand to higher levels of radiation
- Hands-free kits, despite erroneous negative coverage, do reduce radiation to the head but care should be exercised as to where the phone is placed on the body.
- Use some form of protective device. There are two basic types – barrier devices that attempt to directly shield or dissipate the radiation from the phone to the head, and those that claim to boost a body's ability to withstand or neutralise the radiation. For a comparison of different devices, read Simon Best's article, *Mobile Phones: the pressure and the evidence continue to mount*, in *PROOF* magazine vol 5/1. Call +44 (0)20 8944 9555 to obtain a copy.



U HV BN WARMED

Hyland and Coghill are not alone in contradicting the received 'wisdom' of the UK government. For the last few years the body of evidence has continued to build up, suggesting that mobile phones may not be quite as safe as we are being led to believe.. A selection of this evidence is reported below.

- In January 2001, a study at the University of Essen showed a three-fold increase in uveal (eye) melanoma in mobile phone users.
- In 1998, a study of 11,000 users in Norway and Sweden took place. In Sweden, those using GSM phones for more than an hour were found to be 22 times more likely to report an increase in warmth behind the ear than those using them for less than two minutes. In Norway the equivalent increase was 16-fold.
- Research in Sweden has shown that radiation at mobile phone

frequency can change the chemistry of the blood/brain barrier, which normally allows certain chemicals across and not others. After only two minutes exposure to mobile phone intensities, rats displayed changes in the permeability of the blood-brain barrier.

- A Seattle study found increased strand breaks in the DNA in rats' brains after exposure to mobile phone frequencies.
- Nematode worms were exposed to microwaves from a Nokia 2110 phone in tests in Nottingham. Their cells produced high levels of 'heat shock proteins', which are produced whenever cells start to experience damage to the protein structure in DNA and RNA.
- A sample of 200 specially prepared mice, when exposed to pulsed 900 MHz radiation for one hour a day for 9–18 months in tests in Adelaide showed a highly significant doubling of B-cell lymphomas.

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with the shock of diagnosis?*

*Somewhere where you would be
able to learn how to help yourself?*

*Somewhere where you can feel
safe, calm and relaxed,
encouraging your body, mind and
spirit to work in harmony?*

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people with cancer.

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and I cannot see myself going back to my old
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healing, be mindful of how I treat my body
and to be more respectful of the universe and
the environment."*

A comment from someone who attended
our therapy programme.

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Many hands...

Angela Wood and Kees Biekart provide 10 reflections on the emerging 'global protest movement'.

As the dust settled after the G8 summit in Genoa, governments, the media and protesters licked their wounds and the global protest caravan moved on to Washington DC in September for the annual meeting of the World Bank and IMF. Perhaps it is time to consider what has been learned, what has been achieved and where the future lies for global protest.

1. Global protesters have achieved at least one major victory: they have shaken the ivory towers of neoliberalism.

As the *Financial Times* put it after Genoa: 'The protesters are winning. They are winning on the streets. Before too long they will be winning the argument. Globalisation is fast becoming a cause without credible champions. This week we saw the Washington consensus make way for Washington's retreat.'

A diffuse and limited set of highly influential global players, such as multinational corporations and multilateral institutions, is under attack. There is a growing consensus that institutions which are supposed to deal with poverty and economic instability, are in fact achieving the opposite. Their policies are paving the way for the growing dominance of MNCs. The impact of the protests has been to bring home to this elite that ordinary people are no longer willing to tolerate the negative effects of this concentration of power, such as rising social inequality and environmental degradation, and will no longer abide by a 'consensus' that does not include them. Their success has been their passion, which has caused others to question the logic of neoliberalism.

2. Global protest existed long before the 'battle of Seattle'. What is new are the growing link between highly diverse campaigns.

International campaigns against structural adjustment policies, environmental degradation, nuclear weapons and human rights abuses have a history stretching back decades. What is really new and powerful is that many of these initiatives have come together and are communicating with each other via the internet and on the streets during international meetings. A global forum has been created allowing discussion and expression of mutual concerns.

3. However, it would be incorrect to speak of an 'anti-globalisation movement' or even an 'anti-capitalist movement'.

There is a strong force amassing which is fuelled by a perception that the current economic model is already unsustainable. However, it has yet to find a clear direction. Whilst the 'anti-globalisation' label invented by observers has contributed to a sense of unity, it is meaningless. After all, global protest has been aided by the same tools that have brought about globalisation. Some have preferred the term 'anti-capitalist'; yet this still does not offer a sense of direction. There are no general agreements on solutions to world poverty or climate change. At most there is a set of general principles. These include increasing transparency, accountability and participation in

decision-making, reducing the power of multinational companies and multilateral institutions and making them more responsive to social and environmental needs. Global protest is not just about poverty 'out there': it is increasingly about the denial of democracy at home.

4. The main weakness of the movement is its apparent inability to articulate alternative proposals.

It is impossible and undesirable to come up with one coherent alternative proposal, given the complexity of the issues, cultural perspectives, and differences within and between countries. However, it is not sufficient to simply point out problems. The public already feels overwhelmed by these. They need to be inspired that there are solutions. They want some direction. The conscious choice by the 'movement' to seek no spokesperson and to make space for all voices is positive but confuses the media who thrive on soundbites. It also highlights the friction between those NGOs generating concrete proposals and willing to discuss these at the negotiation table, and those activists who accuse them of 'reformism' and betraying the movement by speaking in their name. NGO professionals and activists should find better ways to meet and reach common ground on alternatives. This is the crucial importance of initiatives such as the World Social Forum, held in Brazil in January this year (www.worldsocialforum.org) and umbrella campaigns such as Jubilee 2000 (www.jubileesouth.net) and Attac (www.attac.org).

5. The emergent 'global protest movement' includes more people and initiatives than just the thousands that have gathered at global summits.

One of the criticisms in the media after Genoa has been the white,

middle-class, Northern identity of global protesters. However, protest against undemocratic global decision-making is more lively and diverse than many are being led to believe. The struggle against imposed structural adjustment policies, such as the privatisation of public services, has a long history, notably in Latin America. In Argentina, Ecuador and Bolivia today, these protests have become massive, given greater urgency since the crises in the late 1990s, which wiped out years of gradual gain. A step backwards from all-out liberalisation in any one of these countries could be the vital catalyst for a more widespread retreat.

6. The potential of the 'global protest movement' lies in the enormous diversity of participants.

Diversity among global protesters, and the desire to maintain it, is one of the movement's main strengths. The fact that hundreds of thousands from Seattle to Genoa showed solidarity is amazing. The movement encompasses several generations, and is truly transnational. It builds on the heritage of the solidarity and peace movements of previous decades, but also on a broad array of environmental, consumer, and human rights campaigns. This diversity has been facilitated by the internet, making communication more open and spontaneous than ever before.

7. The movement has no leaders and questions the role of political parties; this is enabling the emergence of a 'global citizenship'.

A global civil society is emerging, in response to the uncontrolled power of global corporations which represent a minority of interests and views, and the failure of traditional political institutions to control them. As the Italian Tute Bianche or 'white overalls' have shown, global citizenship is not only exercised on the internet. In Mexico earlier this year they formed a human shield of a few hundred to help protect the peaceful march of the Zapatistas to the Mexican capital. Or the French farmers in Milau, who closed a McDonald's restaurant to protest at WTO measures against their cheese exports. For more examples visit www.indymedia.org.

8. Street marches during global summits have been an important tool, but new, creative means of expression need to be found.

As the organisers of international summits try to dodge the protesters by meeting in more inaccessible places (the next WTO meeting will be in Qatar, and the G8 summit will be in the mountains in northwest Canada), it is likely that demonstrations will have to focus again at the national level. It is essential that these remain coordinated internationally whilst bringing the arguments and the demands back to the homes of the G8 leaders where they can be held accountable. While the protests have helped connect those who are hungry for change, many do not have an appetite for street demonstrations. Connecting with, and inspiring, those who are sympathetic but still stand on the sidelines is challenging but vital. Putting messages across in incisive and humorous ways, such as pie-throwing and 'subvertising', can be extremely effective too.

9. The movement itself will have to show the capacity to develop new and more transparent, inclusive methods of decision-making as an alternative to 'representative' democracy.

As well as raising the political stakes, global protests have served the hugely important function of enabling people to share ideas and experiences and to put into practice new ways of organising. Efforts to increase the inclusiveness of decision-making, in often tense situations, have been very inspiring, if still imperfect. Lessons learned must be consolidated and put into practice at the local as well as the global level. It will be a challenge to develop inspiring and non-elitist ways of bringing people together to share ideas and to create new and inclusive forms and formats for global participation without replicating the style of those that are being criticised. This new culture of communication and interaction is

probably the area where genuine alternatives to current political practice will become viable in the longer term.

10. Change must happen at millions of different locations. Don't hesitate to become a global citizen yourself!

Unlike the summits, anybody can participate in activities to counter and question the unsustainable dynamics of neoliberalism. Taking to the streets is not the only way. You can participate in the great variety of inspiring debates blossoming on a multitude of internet websites (see below). Moreover, since we are all affected by corporate globalisation in one way or another, responsible global citizenship also requires an active attitude as a consumer, an employee, or as a local community member. The challenge is to put your local initiative or campaign into a global perspective. If we can mobilise all our creativity and solidarity to connect local struggles around the globe, we will be able to make a step towards a world with more social and economic justice. Global citizens: log on, act now, and reinvent your world! ■

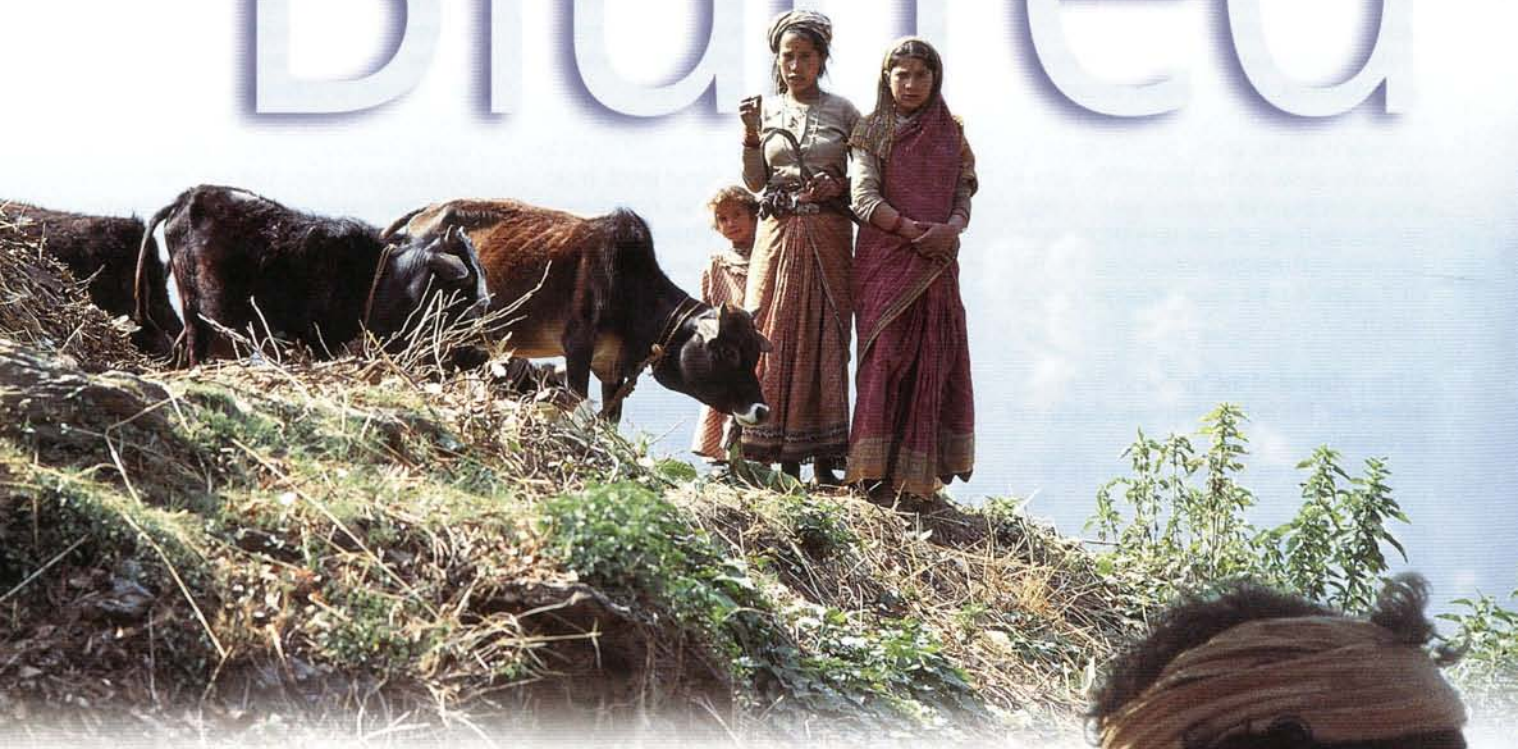
Angela Wood is a policy officer at the Bretton Woods Project in London, www.brettonwoodsproject.org. Kees Biekart is a research fellow at the Transnational Institute in Amsterdam, www.tni.org.

Other interesting websites on global protest and alternatives:

www.zmag.org,
www.opendemocracy.org
www.a16.org, www.focusweb.org,
www.corpwatch.org,
www.globalizethis.org,
www.50years.org, www.s30.org



Blurred



The story no longer matters. It was a small story, in a medium-sized newspaper, in a large country, many years ago. The story told of some photographs taken of country folk; they were pictures intended to represent the rural simplicities of agricultural life, yet, as the article revealed, they were deeply resented by the people they depicted. 'Patronising', said the people; 'an insult to the intelligence of the agricultural community', they protested; 'typical big city arrogance', they wailed. At the outset, the paper was even considering not running the story, feeling that it wasn't all that interesting to their readers. But the newspaper's chief sub-editor – who had clearly woken up on the bright side of his bed that morning and breakfasted on clever juice – took a look and scribbled a few words at the top; when the paper hit the stands, the story was published for all to see under the headline: 'Hicks nix sticks pics'. A journalistic legend was born.

It's the headline and copywriter's dream to come up with the perfect title, even if they have to fiddle the story to fit. And surely, the spirit of that early sub-editor must have been bobbing around when the creative geniuses behind a new programme to regenerate agricultural development in southern

India were searching for a title.

'Before we get down to details, what are we going to call it?'

'Well, it's about a vision of the future, a clear view of what can be achieved, and how we can achieve it.'

'Opticians call perfect sight 20/20 vision, you know.'

'Oh... Oh, that's perfect. Let's swap it around. Vision 2020. It says it all. Clear sightedness. A perfect view. And it gives the project a deadline, too.'

'I didn't know 2020 was the deadline?'

'It is now.'

On with the story
Vision 2020 is a planned, large-scale transformation away from dependence on small and medium-sized, predominantly subsistence farming in the state of Andhra Pradesh in southern India, towards an agribusiness model of intensive export-orientated agriculture. The plan will encourage farmers to plant GM

vision

Despite protests from the local farmers themselves, a British and World Bank sponsored agricultural development scheme in southern India – Vision 2020 – is still ploughing ahead. **Colin Hines** rubs his eyes in disbelief.

crops, including Bt cotton and vitamin A rice. In Andhra Pradesh, the plan's guinea pig state, Vision 2020 is setting up a 600 sq km 'genome valley', where biotechnology companies such as Monsanto will be invited to carry out trials. Given this information, it comes as no surprise to find that the momentum for Vision 2020 doesn't just come from the state government – the

plan is backed by a mighty loan from the World Bank, and even the UK's Department for International Development (DfID) can be heard buzzing around the honey-pot; minister Clare Short is donating a grant – £100 million – that represents 60 per cent of all DfID's aid budget to India this year.

Andhra Pradesh is a huge state with a population of around 75 million, yet despite these fundamental and

profound upheavals in the food system, there has been little or no involvement of small farmers and rural people in shaping this policy. Now, the region is faced with a plan that is likely to force around 20 million people from the countryside over the next 20 years. Do they like the idea? They do not.

Mass criticism

The most detailed critique of Vision 2020 has come from the 140 groups from all parts of the state that form the Andhra Pradesh Coalition in Defence of Diversity. They point out that the attempt to shift food production from semi-arid staples – such as millet and sorghum – to rice, in an effort to make the state's food exports more competitive in the world market, is a waste of time, seeing as large European and US farmers with their enormous subsidies and high-tech economies of scale will never allow Indian farmers to compete anyway. Furthermore, they point out that concentration on rice will require nearly 3 million more wells in a state which has recently experienced crippling droughts. It would also take place at the expense of other local dry land grains that provide food security for actual inhabitants of the state itself, and will seriously destabilise such agriculture, creating massive social upheaval.

They view as ludicrous the idea of introducing pest management via genetic engineering, particularly as India itself opposes the idea on social and environmental grounds, and potential European markets are showing increasing reluctance to buy GM products.

They raise suspicious eyebrows at the emphasis given in



➤ Vision 2020 to intercropping with soyabeans, viewing this contentious crop, currently eagerly promoted by companies such as Monsanto, as a vehicle to allow the entry of new genetically modified crops like Roundup Ready Soybean.

The criticism doesn't stop there. The coalition is strongly opposed to the proposal to switch food crops such as sorghum and millet that are at present used for human food, into poultry feed and a base for industrial alcohol. Since sorghum-based production systems involve ecologically sound mixed cropping and also produce pulses, this approach threatens both the nutrition and traditional agricultural patterns in Andhra Pradesh.

It's not as if the anger at the enforced regime of Vision 2020 has not been made clear. Last July, in the Government of India's Farmer Liaison Centre near Hyderabad, a Prajateerpu, or 'citizens' jury', was held to consider the food and farming future for Andhra Pradesh. Organised by the International Institute for Environment and Development (IIED), in conjunction with the University of Hyderabad, the Coalition and Sussex University's Institute for Development Studies (IDS), the jury, comprising 18 poor small and marginal farmers, and one urban middle-class consumer was presented with the details of Vision 2020. They

had an opportunity to cross-question a senior member of Andhra Pradesh's Department of Agriculture, Dr Partha Dasgupta of the biotech corporation Syngenta, and civil society organisations.

At the end of an exhaustive six days of deliberation, the Jury roundly rejected the food and agricultural policies espoused by 'Vision 2020'. Instead their 'vision' centred on food and farming for self reliance, and community control over resources. It was their view, they said, that Andhra Pradesh should 'maintain healthy soils, diverse crops, trees and livestock, and build on our indigenous knowledge, practical skills and local institutions.'

Presenting this outline for the future, an outline created by elected representatives of Andhra Pradesh's own agricultural and rural community, the jury demanded that the World Bank and DfID's 'foreign aid should follow this vision and benefit the poorest'.

Would Clare Short listen? Clues to the answer – if it hasn't been guessed already – lie in the reason for using Andhra Pradesh as a globalised agriculture guinea pig in the first place.

DfID, in its official aid document, considers that Andhra Pradesh has a 'reformist, progressive government'. Its aid for the Power Sector Restructuring Programme involves the 'progressive privatisation of the sector'.

Change of view

Alternatives to Vision 2020 recommended by the agricultural communities of Andhra Pradesh include:

- an enabling environment for small and marginal farmers to improve output whilst retaining control over their own production, ie food sovereignty, by growing a variety of food crops on their farms as they do today
- support for agriculture where small farmers, particularly women and minorities can build on the existing examples of regenerating wastelands
- support for community-developed and community-managed forests.

DfID has been challenged about its huge financial support for such a large-scale, export-oriented approach by parts of the British press. Yet Clare Short responded that UK aid was being spent on improving traditional crops and a rural livelihoods programme. Yet the latter, according to official documents 'supports Andhra Pradesh's ambitious "Vision 2020" agenda'.

The undeniable fact is that the money that has already gone to Andhra Pradesh, and the further huge sums planned, will pave the way for a pro-export, large-scale, business-backed development scheme. This is the kind



of 'development' implicitly endorsed by last December's heavily criticised second White Paper on International Development: 'Making Globalisation Work for the World's Poor'. This wholeheartedly embraced globalisation as a positive force for poverty eradication.

The White Paper asserts that globalisation creates unprecedented new opportunities for sustainable development and poverty reduction, as well as enabling faster achievement of international development targets.

Such an apolitical, over-simplistic analysis is only possible because Clare Short's department re-defined the very term 'globalisation'. Instead of the reality of neo-liberal economic policies, minimising the role of the state, and increasingly ensuring open and integrated economies, for DfID globalisation means 'the growing interdependence and inter-connectedness of the modern world.' This woolly, cosy definition allows Short to lump together the spread of democracy and human rights without understanding that these have very little to do with globalisation, as most of its victims and critics understand it.

Small wonder that the Mackinsey-drafted, World Bank-pro globalisation jargon found in Andhra Pradesh's 'Vision 2020' appeals to DfID, a government department whose world

picture is informed by such an inaccurate and simplistic definition of globalisation.

Signs of hope?

Yet not everyone in DfID is in favour of 'Vision 2020'. Grave reservations have been expressed in an internal document written last December by senior DfID officials based in New Delhi. It praised some of Vision 2020, but also complained of 'major failings' in the proposal, describing it as 'confused', 'unfocused,' and 'inconsistent', and saying that the implications of many of the changes have not been thought through.

'There is nothing about providing alternative income for those displaced,' it notes. It also remarks on the 'negative consequences on food security' for the poor if the state's programme of industrialisation is carried out.

Secondly, the money hasn't yet been officially allocated. DfID is currently facing a problem with the government of India, which technically does not allow for financial support flowing directly to a state government. After two rounds of talks with the Department of Economic Affairs, a decision should be made as to whether DfID can proceed with its funding in Andhra Pradesh or not. If the answer is negative, DfID's spending in India may be reduced.

What is required is not a reduction of funding *per se*, but funding of the five pages of detailed recommendations that the jury of poor farmers put together during their extended period of deliberation.

Finally, since the Andhra Pradesh jury, the case of Vision 2020 is beginning to be discussed by a range of development and environment NGOs. They want DfID to stop funding this damaging scheme and instead will insist that Clare Short should finally start listening to the rural people of India. The 'voices of the poor' are clearly rejecting her solution of major involvement in globalisation and instead want aid to help to achieve security in food and livelihood and sustain biodiversity via increased self-reliance.

Yet like that headline writer with a memorable title, Short, the World Bank and the state government of Andhra Pradesh are holding determinedly to their 'Vision 2020', and hoping grimly that the facts can still be made to fit the title. The only difference is that if they see it through, the final result will not become just another story lost among yesterday's news, but a harsh reality that would destroy the lives of many millions of Indian people ■

*Colin Hines is the author of **Localization – A Global Manifesto** (Earthscan).*



Ship of fools

Nuclear activity in Plymouth is about to increase dramatically, putting tens of thousands of people at increased danger from the likes of tritium and carbon-14. The Ministry of Defence, the Environment Agency and the corporation that owns the submarine base, however, are dismissive of any risks to health. **Jim Carey** wonders why.

There's no other place in the world that has nuclear bases and operations within 400 yards of schools and with 70,000 people living in the immediate "at risk" zone,' observes Ken Tucker.

As chairman of the board of governors at Barne Barton Primary and Infant School in Plymouth, Tucker oversees an establishment with 400 pupils and a nuclear alarm button. There are iodate tablets in the cupboard. 'Sometimes you feel you're banging your head against a brick wall,' he says of his outspoken opposition to Plymouth's nuclear dockyard, 'But I'd rather say to a coroner or a parent that I tried to do something. The MoD's strongest ally is apathy.'

An imminent escalation of Plymouth's involvement with nuclear operations is about to put that apathy to its most serious test. Firstly, the huge US corporation which now owns Britain's primary nuclear submarine base at Devonport in Plymouth wants to dramatically increase its disposal of radioactive substances into the local environment. Secondly, the Ministry of Defence is considering proposals to remove radioactive reactor chambers from decommissioned nuclear submarines at Plymouth, and store them on land. If the plans get the go-ahead, which looks increasingly likely, concerned residents argue it will confirm their city as the 'Sellafield of the southwest'.

In response, the once loyal natives of Plymouth are showing unusual signs of restlessness. During the four month Environment Agency 'consultation' period which ended in July, 200 local people blocked the Tamar Bridge, collecting 5,700 signatures in support of a public enquiry into the city's nuclear future. However, the corporate and military interests pushing further nuclear developments are proving powerful enough to relegate the local

consultation process to a *fait accompli*.

'Nothing I say here is intended to prejudice the Environment Agency's independent review of the issues,' claimed the then Armed Forces Minister, John Spellar, in January 2001, 'although I and my colleagues in the Department are wholly convinced of the benefits of continuing to develop the arrangements at Devonport.'

An internal report, written by an MoD agency and seen by *The Ecologist*, confirms his dismissive approach: 'Disapproval of the local population would be manageable,' it states. Not surprisingly, the consultation process is viewed with scorn by local residents: 'Whatever is economically expedient to do they will do, regardless of the population,' says Dr Sandy Mathews, an active local campaigner.

Plym position

Plymouth has an association with and dependence on the navy stretching back centuries. The ships which defeated the Spanish Armada sailed from the mouth of the River Plym in 1588, Sir Francis Drake was once the city's mayor, and the first naval base at Plymouth was established as far back as 1691. So when facilities to deal with nuclear-powered submarines were first installed in the 1970s, environmental concerns were engulfed by an overwhelming sense of loyalty to the navy. 'To be against nuclear weapons in Plymouth is like being against snow in Alaska,' says local resident and ex-dockyard employee, Ian Avant.

In 1987, management of the naval dockyard was privatised with control passing from the MoD to Devonport Management Ltd (DML). DML is majority-owned by Brown and Root Services, itself a business unit of Texas-based transnational corporation, Halliburton Company. Over the course of the next seven years employment in the dockyard fell by over 60 per cent,

from 13,500 to 5,500. The figure now stands at around 4,000.

Back in the early 1990s, DML were amongst the contract bidders when the UK government decided to concentrate nuclear submarine refitting and decommissioning at just one UK location. The ageing Vanguard class nuclear submarines which carry Britain's Trident nuclear warheads are long overdue for a refit, so the government went through a lengthy process of deciding whether refit operations would concentrate solely in Scotland or in Plymouth.

With Halliburton lobbying hard on behalf of DML, Plymouth was the perhaps surprising choice as the UK's primary nuclear port. 'If you were to undertake a similar venture for a civil nuclear plant then very certainly the accepted siting criteria just would not allow you to locate in a city with over 250,000 people,' observes nuclear consultant John Large.

In February 2002, the first of Britain's four Vanguard submarines will bring hundreds of gallons of tritium to Plymouth when it arrives for the start of the new refit programme. The question of what to do with all this tritium is the first bone of contention.

In May 2000, DML applied to the Environment Agency for a licence to increase tritium disposal into the local environment. Their original submission proposed a staggering 666 per cent increase in the limit put on tritium emissions into the River Tamar, and a 500 per cent increase in the limit on emissions into the atmosphere via a chimney. The Environment Agency, keen to be seen to be doing its regulatory job, suggested DML should temper its request. They proposed a hardly less staggering 583 per cent increase in the liquid emission limit and a 400 per cent increase in gaseous emissions.

At a public consultation meeting in

July 2000,
around 400
angry residents
told

representatives of
the MoD, the

Environment Agency and
DML that further nuclear developments
were not welcome.

The formal consultation process
lasted four months and ended in July
2001. Although the Environment
Agency has yet to announce its
decision, all intimations suggest DML's
application will be waved through.
Regardless of views in the locality, the
corporation has the full backing of both
the British navy and the UK
government and will commence
increased tritium dumping forthwith.

And yet the casual disposal of
tritium waste could be one of the
great social disasters of our

century if
an increasing
body of
scientific
evidence is to
be believed.

Tritium is a
radioactive
isotope of
hydrogen and
binds easily with
oxygen to form
'tritiated' water. It is
a waste product
produced in huge
quantities by
the nuclear
industry and
the casual

approach to its environmental
disposal is a national issue.

Tritium also builds up in water
used in reactor coolant systems on
nuclear submarines.

In older nuclear submarines this
tritiated water was flushed into the
ocean. However, in the newer
Vanguard submarines coolant water
is reused and is not flushed out at
sea. The MoD sometimes refers to

this process as 'recycling', but
in reality it helps submarines
to avoid leaving a 'nuclear
footprint'; a detectable
radioactive trace
revealing the
submarine's
location.

By the time
the submarine
reaches port,
however,
the



coolant water is super-tritiated. When DML begins refitting Vanguard submarines early next year the company wants to dispose of this extra

'The nuclear industry managed to get their stooges into the European Commission and slip a really dodgy appendix into this Euratom basic safety standard'

tritium into the local environment.

Dr Chris Busby is a chemical physics researcher, member of both the Royal Society of Chemistry and the International Society for Environmental Epidemiology. He is also one of the UK's most learned experts on the effects of low level radiation.

'The problem with tritium is that it is underestimated as a hazard,' he told *The Ecologist*. 'As a form of hydrogen it becomes very easily incorporated into biological molecules. But when tritium decays it becomes helium, so any molecule the tritium was located in will just collapse. This is a method of amplifying its affect within the body which is absolutely monumental.'

And here lies the potential for a failure of radiological protection which could indeed be of monumental proportions. The bio-hazard rating of radioactive material is based solely on external exposure to the energy of radioactive decay. It is the standard mechanism by which the National Radiological Protection Board determines whether nuclear pollution will affect both human beings and the ecosystem.

However, the danger of tritium is in its propensity to bind with organic material when ingested, inhaled or absorbed, and so produce an internal radiation. Increasing bodies of evidence suggest the current methods of risk assessment are fundamentally flawed. 'It's all about someone standing in front of a fire and warming themselves but as soon as you eat a hot coal the model falls down,' says Busby.

Tritium doesn't have much energy. The electron thrown out during its radioactive decay doesn't travel far. As such all the usual ways of measuring its potential as a bio-hazard register it as a low-level radioactive substance without

much bioconsequence. Using such criteria the nuclear industry and its political apologists dismiss the implications of tritium pollution by saying, 'you can't detect it therefore it's not harmful'.

When the then Armed Forces Minister, John Spellar, defended DML's application to increase tritium emissions, he claimed there was nothing to worry about because 'the resulting radiation exposure will be virtually indistinguishable from natural background radiation levels.'

But as Frank Barnaby, a nuclear physicist who previously worked at the Atomic Weapons Establishment at Aldermaston in Berkshire, told *The Ecologist*: 'It's a wee bit of a meaningless statement really because background radiation goes into your body from the outside – it's external radiation. The problem with tritium is that it may get into the body through ingestion or inhalation and, when in the body, the consequence may be quite serious... more serious than the authorities admit.'

What now seems clear from research on tritium is that its low energy decay

could in fact magnify rather than diminish its potential as a biohazard.

'The entire energy of the electron given off when tritium decays is absorbed in a very short distance,' explains Barnaby. 'Less distance than the diameter of a DNA molecule. Tritium, being hydrogen, may be taken up by the DNA and then the radiation it gives off could damage the DNA molecule and produce either a cancer in the individual or a genetic effect... DNA damage to genes or whole chromosomes may lead to diseases in future generations. Particularly worrying is the risk of permanently polluting the human gene pool.'

'You could argue that high energy radioactive decays are better because they kill the cell outright and you don't get cancer,' agrees Dr Chris Busby. 'Tritium has this tiny energy which will damage rather than kill the cell. We have been arguing for a very long time that the way in which the consequence of radiation exposure is assessed is wrong.'

Dr Busby and his research associates at the independent nuclear research organisation, Green Audit, conducted a study comparing the predicted and actual incidence of leukaemia in children exposed to Chernobyl fallout whilst in their mother's womb. In a paper



Residents fighting proposals to increase levels of nuclear waste emissions into the River Tamar stage a rally in Plymouth.

published in the scientific journal *Energy and Environment* in June 2000, they revealed that predictions made using current criteria of biohazard assessment proved wrong by a phenomenally significant factor of one to a hundred.

This research was enough to persuade the Secretary of State for the Environment, Michael Meacher, to endure consternation in Europe by opposing moves to raise the threshold at which tritium emission required official permission.

On paper

The Radioactive Substances Act 1993 requires permission to be sought by the nuclear industry if it intends to release more than 400 becquerels per kilogramme into the environment. However, an appendix to the 1957 Euratom Treaty, signed in 1996 and due to become law for European member states in May 2001, proposed raising the tritium emission threshold from 400 to a staggering 10 million becquerels per kilogramme; a 25,000 per cent increase in the amount of tritium the nuclear industry would be able to release into the environment without requiring an environmental licence or official permission.

'The nuclear industry managed to get their stooges into the European Commission and slip a really dodgy appendix into this Euratom basic safety standard,' says Busby. 'We had a go at Meacher and persuaded him that it was extremely dangerous to do this and he has decided to stick with the 400 becquerels per kilogramme. Now the nuclear industry are moaning like hell about this because their nuclear stuff is saturated with tritium and they can't get rid of it.'

Trust in the integrity of the UK's nuclear management, both government and corporate, was further undermined in January this year when it was discovered that radioactive waste streams from Devonport included carbon-14, a hitherto undeclared nuclear waste product. The Environment Agency's press release on the matter is remarkable in both its understatement and its diffusion of blame: 'Following a query by the Environment Agency site inspector, detailed measurements confirmed carbon-14 to be present in all the solid radioactive waste streams from Devonport... Until the end of 1998 DML had assumed that carbon-14 was not present in any of the waste streams

UK subs are cracking subs

A year of leaky submarines and Ministry of Defence panic.

Much to the embarrassment of the British navy, HMS *Tireless* languished in the Mediterranean for nearly a year. A major leak in the submarine's coolant system had forced the crew to shut down its nuclear reactor and limp into Gibraltar.

Thanks to a carefully worded MoD press release, the UK media reported that HMS *Tireless*, one of UK's seven Trafalgar-class nuclear subs, had dumped 90 litres of radioactive water coolant at sea before coming into harbour. However, *The Ecologist* has been reliably informed by consultants working on the sub's repair that the vessel had in fact leaked around 60 litres an hour for a whole day, and only had its reactor shut down when the crack developed through the pipe-work wall and the leak increased to 90 litres an hour.

Every stage of the subsequent repair process was first carried out on HMS *Torbay* in Plymouth before being applied to *Tireless* in Gibraltar. The work had never been done before.

Initially the navy insisted there was only one crack in the coolant system, but the discovery of a second crack prolonged the sub's repair time in Gibraltar by up to six months. The diplomatic protests stepped up and even the Gibraltar football team wore anti-*Tireless* messages on their shirts.

Embarrassment turned to panic when the navy then discovered cracked coolant systems were a generic fault in all twelve Trafalgar and Swiftsure-class submarines, and that they all

required immediate repair. This presented a major dilemma for the Ministry of Defence.

Vanguard-class subs carrying Trident nuclear warheads have to remain deep in the ocean to preserve their secret location, a key factor in nuclear deterrent strategy. However, the vessel lies so deep down it is no longer possible for communication equipment to reach naval command in the UK. Hence Vanguard-class submarines need at least one Trafalgar-class or Swiftsure-class sub to trail them wherever they go. The Trafalgars and Swiftsures dive deep to speak to the Vanguard subs, then surface miles away to communicate with the UK.

With all twelve subs suddenly needing urgent repair, Britain's £multi-billion nuclear deterrent strategy had become dysfunctional overnight.

Desperate to get one out to sea, however, the MoD announced that HMS *Triumph* was in fact fit to sail and ordered it out from Plymouth without repair to join a Vanguard-class submarine up on the Clyde in Scotland before going out to sea. Inexplicably, however, it was forced to return almost immediately for crash repairs after grounding itself on the way into the Clyde. The navy never explained how a submarine with such sophisticated sensory equipment had hit the bottom on a familiar run in to a naval dock. But it did mean an entire submarine crew did not have to go to sea in a leaky boat. HMS *Torbay* returned to Plymouth for both crash repairs and coolant system repairs.

When *The Ecologist* asked DML for a comment on the occurrences they denied knowledge of the vessel.

arising from the refitting of nuclear powered submarines.'

Carbon-14 is a radioactive by-product with a half life of 5,730 years. That DML had simply 'assumed' it wasn't present in its waste streams seems staggering. For obvious reasons the contents of nuclear waste streams have to be accurately recorded and tightly controlled. As John Large, formerly employed as a nuclear consultant at Devonport docks and now working on the ill-fated Russian nuclear submarine *Kursk*, told *The Ecologist*: 'It's fundamental to the whole approach to radiological management that you can account for each and every discharge. To say they "assumed" carbon-14 wasn't present is totally preposterous. If they chose not to account for carbon-14, then I've very little confidence in their radioactive management plan.'

Gross though such mismanagement

appears, DML have not been chastised in any way. Instead the corporation have simply amended their application to the Environment Agency and asked for carbon-14 to be added alongside tritium as a radioactive substance to be disposed of in the local environment.

Once again the likelihood is that the Environment Agency will grant them their request. However, they will still have to store some carbon-14 in the dockyard itself because of the large quantities produced in nuclear operations. In August this year, inspectors discovered 'significant quantities' of carbon 14 in drums of radioactive waste at Rosyth's naval dockyard in Scotland.

The Radioactive Waste Management Advisory Committee criticised Rosyth's corporate owners (Babcock International Group) for the complacency of its waste management

strategy and for the fact that some of the radioactive waste containers were beyond their 'design life' and needed replacing. Devonport, like Rosyth, is accumulating radioactive material at a rapid rate. And the complacency with which it is being managed – and mismanaged – is alarming.

The problem the nuclear dockyards face with low- and intermediate-level nuclear waste is that there is nowhere to put it. Some intermediate-level waste can be transported to British Nuclear Fuel Ltd's reprocessing plant at Drigg in Cumbria, but increasingly BNFL are storing only their own material there.

'All the radioactive waste now has to stay on the site of origin except for a bit that BNFL accepts at Drigg,' says John Large. 'Radioactive waste has been accumulating at Plymouth since about 1988, when the navy could no longer sea dump... All the intermediate- and low-level radioactive waste that comes off a submarine stays in Plymouth apart from a little bit that goes to Drigg. The high-level waste – like intensely radioactive old fuel rods – is held in Plymouth before being transported to Sellafield.'

The storage of intermediate- and high-level nuclear material in a city of 250,000 people is already a major issue in Plymouth. If DML gets its way, and proposals to dismantle decommissioned nuclear submarines are implemented in Plymouth, the amount of stored material will escalate rapidly.

When the Queen launched the first nuclear-powered submarine, HMS *Dreadnought*, in 1960 little thought was given to what would be done with them when they

were too old to operate. 'Until 1992, the navy's approach to decommissioning nuclear submarines was to take these boats to sea and dump them in the mid-

Atlantic,' says Large.

Taken out of active service in 1982, HMS *Dreadnought* now wallows in a nuclear knackers' yard with six other submarines at Rosyth in Scotland. Another four languish in Plymouth at an average storage cost of £50,000 a year each. The fuel rods from these decommissioned submarines have all been removed and taken to Sellafield but the highly radioactive reactor chambers which housed them remain locked inside their floating coffins.

The problem the navy faces is that the graveyard is getting full and, with more nuclear submarines due for decommissioning, storage space will run out by 2012. Furthermore, the cost of ensuring old submarines do not rust and leak radioactivity is phenomenal. Every 10 years the submarines are dry-docked and repainted at the cost of £3 million each, a process necessary to maintain the integrity of their ageing hulks.

So, in May 2000, the MoD announced proposals to dismantle decommissioned submarines and store their reactor chambers on land.

Risk business

Nuclear reactor compartments constitute intermediate-level nuclear waste. If stored on land, they represent a highly hazardous material requiring multiple risk assessments covering terrorist access, radioactive leakage and aircraft crash. The top and tail process of carving up an old submarine and removing its reactor chamber is also fraught with the danger of fire. Indeed the most common cause of submarine sinkage is fire.

As Large says: 'There's no point the navy saying there is no danger in decommissioning. That is flatulence to say the least. The risk is quite significant.'

Local MP Colin Breed was assured by minister John Spellar in early January 2001 that 'no specific sites had been recommended' for onland storage. Dr Lewis Moonie, Under Secretary of State for Defence, confirmed in March 2001: 'We currently have no plans to store nuclear reactor compartments from decommissioned nuclear submarines at Devonport Dockyard. Later this year we shall be inviting industry to put forward their land storage proposals.'

Contrary to these emphatic denials, however, the Ship's Support Agency – an MoD unit responsible for determining and

directing provision of material support to the navy – have surveyed specific sites for onland storage. In an internal report seen by *The Ecologist*, called the ISOLUS (Interim Storage of Laid Up Submarines) Investigation, the Agency examines four locations for inland storage. Every one of them is within Plymouth itself. Two of the sites, Western Mill and Southyard are within a few hundred yards of housing estates whilst a third site at Bull Point is just 400 yards from Barne Barton Primary School and nursery unit with its 400 pupils. Once onland storage is commenced, there could be as many as 30 reactor units stored for between 60–100 years in any of these four locations. After that, there are no plans for dealing with them.

An ongoing ISOLUS project is continuing at Lancaster University.

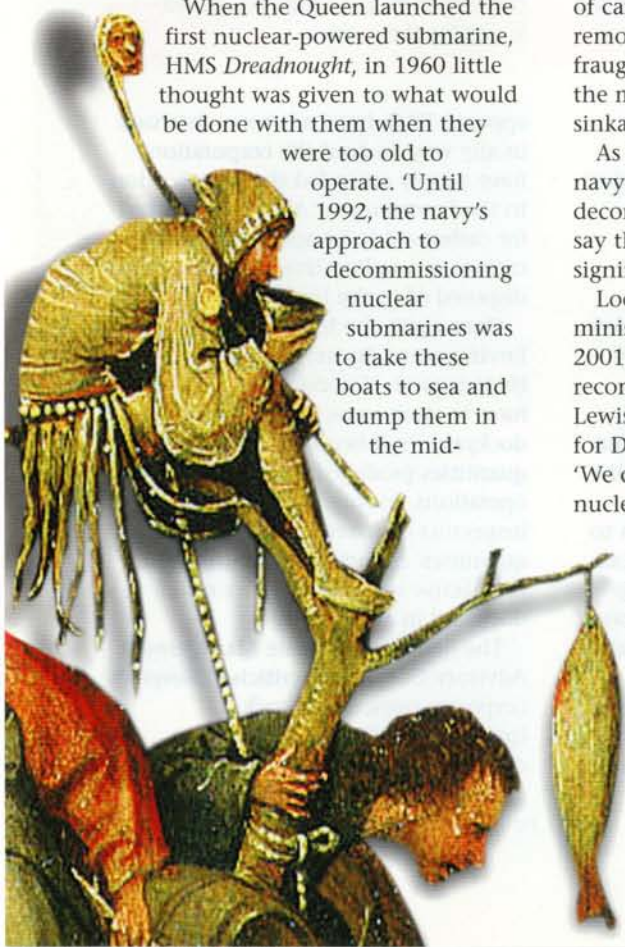
Although the MoD, the city council and DML argue that procedures for dealing with a nuclear accident are adequate, some local professionals are concerned about what would happen in an emergency.

'We've got our own nuclear alarm, our own nuclear warning signs and have a nuclear drill once a year,' says Ken Tucker, Chairman of Barne Barton's board of governors. Situated inside the 2km 'immediate risk' zone, the school already has a supply of potassium iodate tablets which provide partial protection against thyroid cancer if taken quickly after a nuclear accident.

'We had to fight to get them,' says Tucker. 'The health authority originally said that no-one could have them, that they had to be held and only distributed in the case of emergency. The MoD say they have enough people to distribute them but that is absolute nonsense. In the middle of an emergency what would they do? Put them through doors?'

Health centres in Plymouth also hold potassium iodate pills, although one senior nurse, who refused to be named, told *The Ecologist* that the only procedural instruction he'd received in the case of nuclear accident is one page of guidance notes sent with the tablets. The sparse instructions reveal the tablets are only highly effective if taken within two hours of exposure and that they 'are not effective for people in an area contaminated with radiation or those outdoors not taking shelter.'

Tucked away on the city council's website is advice on what to do in the event of a nuclear accident. Few local people know it's there, and even



residents close to the docks are not involved in emergency drill exercises. If they want potassium iodate tablets they have to write in for them.

The lengths to which the nuclear industry will go to cover up the health consequences of its disposal mechanisms know few bounds, and the increasing privatisation of the UK's nuclear submarine fleet is a further step along the road to loosening the requirement for public accountability.

'I would argue that the whole thing is driven by economics rather than public safety,' says physicist Frank Barnaby.

Call for review

In order to defend their city from imminent nuclear threat, a group of concerned Plymouth residents have formed an action group, CANSAR (Campaign Against Nuclear Storage and Radiation). CANSAR is currently supporting a judicial review of the consultation process, pursued on behalf of Plymouth resident Peter Kelly, who lives yards from the nuclear base. Kelly's brother died from cancer and his daughter Sarah developed cancer aged eight. The judicial review will challenge the Environment Agency and the Department for Environment, Food and Rural Affairs over its decision not to allow a full public enquiry into nuclear operations at Devonport and their possible biohazards. Both CANSAR and Peter Kelly believe that the scientific evidence for their concerns is irrefutable and should be aired in public.

'We require a full public enquiry which complies with the European convention on human rights... fair, public, independent and impartial,' says Kelly's lawyer Phil Shiner. 'At the moment all we will get is the Environment Agency making a decision behind closed doors and then putting the decision in writing.' The judicial review should be concluded by this month.

If their legal action fails, however, the MoD, British Navy and US corporation will steam right ahead into a full throttle nuclear future.

'You have to make sure that a future generation and its policy and regimes can handle what we are going to pass on to them,' says Large. 'I haven't seen anything in the thinking and the approach of the MoD so far to indicate that this is being done.' ■

Jim Carey is investigations editor for Red Pepper and political editor for Squall. Whilst the Environment Agency will decide

Sub contractors in the dock

How the Plymouth population became pawns in a nuclear corporate power-play.

Recently discovered declassified documents from 1964 reveal high-ranking government safety experts had serious reservations about ever putting a nuclear base at Devonport docks in Plymouth. Chairman of the Nuclear Warships Safety Committee and government chief scientist at the time, Sir Solly Zuckerman, wrote: 'The committee could not recommend Devonport as an acceptable site for a refitting yard for nuclear submarines.' Despite this, nuclear operations began in Plymouth in the late 1970s.

In the late 1980s the UK government decided to cut costs and concentrate all nuclear submarine servicing at one port. The two contenders were Devonport docks in Plymouth and Rosyth on the Clyde. Included in the new deal would be the refit of Britain's Trident-carrying Vanguard class subs, a contract worth £1 billion over 10 years. So began a north-south struggle, fruitlessly debated in parliament over several years, but ultimately decided in the corporate arena.

Gunning for the contract at Rosyth in Scotland was Babcock International, a relatively small UK-based transnational corporation with an annual turnover below £26 million. It had taken over management of Rosyth naval yard in 1987.

Lined up in competition was the gigantic Halliburton corporation, a US-based transnational with an annual consolidated revenue of \$14.9 billion and a host of well-oiled political connections. Until standing down last year in preparation to become vice-president of the US, Dick Cheney had been Halliburton's chief executive for five years. The corporation has fingers in a staggering variety of strategically vital global pies, from oil pipelines to defence, from road building to embassy security, from servicing armies to dismantling Russia's ballistic missiles. Halliburton's Brown and Root Services is the majority owner of Devonport Management Ltd, the company which took over management of the naval docks in Plymouth in 1987.

The declassified documents from 1964 reveal government advisors clearly viewed Rosyth as the safest of all considered locations to refit nuclear submarines.

In the early 1990s, the UK government made public commitments to choose Rosyth as the sole

nuclear refitting port and even initiated a £500 million pound building programme to scotch rumours that the deal was going to Plymouth. However, former defence procurement minister, Alan Clarke, stirred the disquiet when, as MP for Plymouth Sutton, he appeared on Plymouth Sound Radio during the decision-making process and brazenly announced it was Rosyth his government wanted to close. When the final decision was announced by the then secretary of state for defence, Malcolm Rifkind, in 1993, Scottish MPs were shocked. The contract was indeed given to DML in Plymouth. The building programme at Rosyth, which had already cost the taxpayer £125 million, was halted. The huge hole dug for the foundations filled in.

And yet just two years before taking over Devonport's management, Brown and Root Services had been forced to stump up \$750 million to settle a claim over their mismanagement of a nuclear project in Texas. As part of the Hunting BRAE consortium they were also responsible for managing the Atomic Weapons Establishment at Aldermaston. Until, that is, a farcical series of radioactive leaks and mishaps in the 1990s preceded the termination of their contract when it came up for renewal last year.

When *The Ecologist* asked Peter Whitehouse, DML's Director of Corporate Development, about his parent company's safety record, he insisted: 'The route to the assurance of safety is nothing to do with ownership. DML is a self-contained entity, an independent operation not affected in any shape or form by our corporate shareholders.' However, the truth is not that clear cut. DML's executive chairman, Tony Pryor, is also Brown and Root Services' Chief Operating Officer for Europe and Africa, and was previously a director at Hunting BRAE. Pryor was handed a CBE by Tony Blair in the last queen's birthday honours list, for 'services to the defence industry' while his colleague, Malcolm Sanders, DML's refit manager, received an MBE.

More bad business occurred when the UK government sold Rosyth and Devonport docks outright to Babcock and Halliburton in 1997. After paying the redundancy money for sacked workers and the fees for marketing the sale in the first place, the government sold the two assets and lost £9 million on the whole deal.

on the fate of the river Tamar, the MoD is responsible for where the nuclear reactor units will be stored. Please write letters to both outlining your concerns. Devonport Management Ltd, c/o Environment Agency, Freeport SWB 30329, Exminster House, Miller Way, Exminster, EX6 8ZZ, email: dml@environment-agency.gov.uk. The Rt

Hon Geoffery Hoon MP Secretary of State for Defence, The Ministerial Correspondence Unit, Room 6140, main Building, London SW1A 2HB, email: public@ministers.mod.uk. Please copy your letters to CANSAR, 60 Royal Navy Ave, Keyham, PL22AQ and visit www.westcountrylinks.co.uk/cansar.

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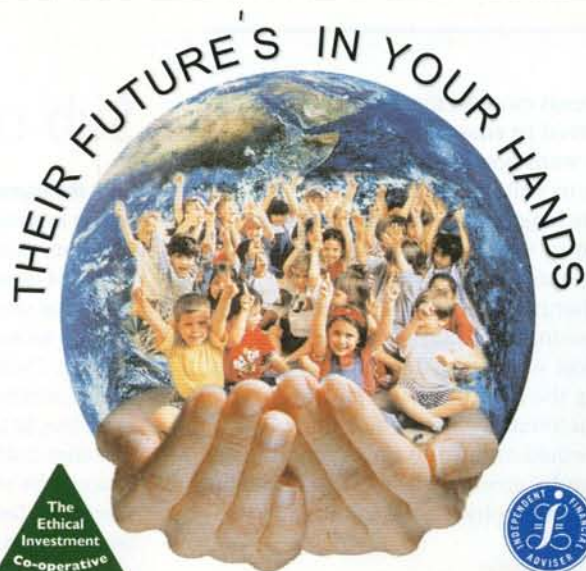
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FISHING FOR COMPLIMENTS

PETA's anti-angling campaign is founded on ecological ignorance, says **Nick Fisher**. It's the anglers who really care about fish.

We love to kill the thing we love. It's a paradox. Fishermen love fish. Do all they can to help, protect and promote fish. Yet we also love to kill them. At least I do.

Of course, there are many fishermen who never kill fish. There are trout fishermen who practice 'catch and release', letting their quarry slip safely back into the dappled brook. There are coarse fishermen who'd never dream of introducing their silver-sided beauties to a sizzling skillet. And then there are the carp boys...

To an omnivorous fish-munching angler like myself, carp men seem strange. They are demonically devoted to carp. Syndicates of besotted carp anglers all around the country spend hours, and fortunes, ensuring the wellbeing of the fish the Romans introduced to Britain, to give their armies something civilised to scoff.

But the modern day carp angler would no sooner eat a carp than he would eat a Dachshund. Great care is taken to provide them with perfect habitat to live and spawn. The bait serious carp men use is free of additives, based on high proteins laced with natural flavours.

And when a carp is caught, every moment it is out of the water, it is treated with such reverence that it makes fishermen look like frustrated Florence Nightingales. The carp is laid on a padded unhooking mat. The barbless hook is painlessly removed and then even the hole it leaves in the fish's mouth is swabbed with a specially formulated antiseptic, designed to prevent any possibility of infection to the tiny puncture wound.

Then, the carp is lovingly photographed before being returned to the water, safe and sound. Fighting fit. In perfect condition to be caught again some other day.

Carp men aren't alone in the obsessive protection of 'their' species. The Wild Trout Society is a collection of intelligent anglers, the sole purpose of whose

piscatorial life is the promotion and protection of the indigenous populations of wild brown trout. They don't kill or grill. Instead, they spend huge amounts of cash and time renovating rivers.

This is a tough task. It involves blocking access and erecting fences across farmland to stop cattle from drinking in the river and eroding the banks. A crumbling bank means a

'No one, apart from anglers, really gives a toss about fish'

change in the natural course of the river and excessive mud and silt dissolving into the clear water, which will clog a trout's sensitive gills. It involves clearing silted spawning gravels, building 'groynes' and 'faggots' to speed the flow of the water, keeping the bed clean and healthy. And these guys don't even want to eat the fish. They just want to relish the river, rather than surrender it to water abstraction, nitrate pollution and neglect.

Neglect is what fish suffer from most. No one, apart from anglers really gives a toss about fish. Sure enough, PETA (People for the Ethical Treatment of Animals) are enjoying a campaign against the alleged 'cruelty' of fishing. This gives them an axe to grind and a chance to attract press attention. But they don't care about fish and they don't know anything at all about them.

To most humans, fish seem slimy, slippery and unattractive. You only have to look at the seal versus cod, or seal versus salmon debate, to see how little chance fish have of winning any real emotional support.

A seal has big eyes, big whiskers and cute babies. Seals could eat all the cod and salmon from the seas around the British Isles. They could help eradicate most aquatic species, and still your

average punter would seem them as cheeky little pups.

Anglers are, therefore, the only true conservators of fish. Salmon would be extinct if it weren't for anglers buying-off the commercial netmen, patrolling rivers to stop poachers, protecting immature smolts from predators or fighting to erect salmon ladders, to give adult salmon a route to the spawning beds up river.

What non-angler has even heard of the Dollaghan trout? A legacy of the last Ice Age, it was left stranded in a handful of rivers above Lough Neagh, in Northern Ireland. And a few years ago, it was all but extinct. The river tributaries had been blocked and polluted by farmers. The fish were ignored and neglected. So they died. Out of five rivers there was only one left with a few fish surviving. They too would have met their end within one season, two at the most. And no-one would have been any the wiser, if it hadn't been for a small team of... anglers.

The anglers not only dragged the garbage out of the rivers, rebuilt the spawning grounds and banks. They also took the last fish from the river, stripped them of their eggs and bred from the last few remaining Dollaghan. They built hatcheries to grow new fish fry, begged vats from a cheese factory, held raffles, competitions, processions – anything to raise cash. Now they have created a breeding facility visited by parties of tourists and schoolchildren. They have given life back to a dying river system and preserved a species. Why? Because they love fish.

I'd just like to know what business PETA have to call fishermen cruel. Without them there would scarcely be any fish left, nor any rivers fit for them to live in.

*Nick Fisher is the aptly-named fishing correspondent for **Shooting Times** and presents 'Dirty Tackle' on BBC Radio 5 Live.*



WELCOME TO THE HIGH-TECH YEOMAN

Richard Body argues that technology could encourage the English back to the land, which, given our historic tradition of conservation, could bring hope for us all.

In my recent book, *England for the English*, I speak of the English people in cultural as opposed to racial terms. I look for those aspects of the historic English character and experience that can be usefully applied to modern politics, including the green movement. I seek to show, too, that England will become a very different country from that which she is now as the 'electronic revolution' gathers momentum. Inevitably, this offers us opportunities as well as dangers.

Ecologists are naturally wary of technology – they fear its dehumanising effects. It is, however, ultimately futile to be a neo-Luddite. As ecologists, we must accept that technological change will happen and help turn that change in a humane direction. There are some technologies that might prove inherently dangerous or harmful. These must be cast aside.

In general, the green movement should favour 'soft' technologies, especially those that can free millions of men and women from the drudgery of the modern workplace. Used wisely, computer technology can enhance individual freedom. At the same time, it can be used to build stronger local communities and boost the local economy. This is why I believe that ecologists should be 'pro' rather than 'anti' technology. For if we are anti, technology will fall into the wrong hands and all our worst nightmares will come true.

Technology could, as Greens now fear, contribute to globalisation's worst excesses. It could increase concentrations of wealth and power, destroy traditional craftsmanship and stamp out cultural diversity. Alternatively, it could be used to decentralise the economy, protect the environment, encourage local variety and nurture individual talent. With an ecological underpinning, technological change might allow us to live and work in a quite different way, one that

although high-tech could have echoes of our pre-industrial past.

Much has already been said about 'teleworking'. The stereotypical scenario of millions flying away from the sink schools and crime-infested cities to tap the keys beside the Tuscan pool might not be quite what is in store, but undoubtedly millions more will be able, if they so choose, to do their work in the countryside.

Needless to say, only a proportion, probably a small proportion, will make that choice. However it seems to me that they will be likely to spurn the blandishments of the agri-chemical predators when they grow their own crops and rear their own animals. Having another income and enjoying the pleasure of eating what their own land and work have yielded, they will be content to farm organically. In returning to the land, they can draw upon a distinctively English tradition of conservation that has survived beneath those dark satanic mills, despite England's early industrialisation.

The end of civilisation

Can we expect anyone living their whole life in our conurbations to understand how an urbanised life is having devastating effects upon the natural world? Perhaps it is an unfair question, for the craziness of thousands of cars and other vehicles circulating around their streets must give them something to ponder. Even so, the divorce from the natural world has become so great that it is a wonder that so many of the city-bound are alert to what is happening.

Civilisation is the formation of cities and the process by which they attract a population away from 'primitive' life on the land to towns that generate more wealth and growing prosperity. This tempts still more people to abandon the land for a more congenial and ultimately a cultured life – a civilised life, as we choose to call it. Eventually,

only the most dedicated of farmers stay behind, assisted by those who either cannot or will not go elsewhere.

The outcome ought to be obvious. It has come many times before to civilisations from India to Mexico. When an entire population is engaged in producing the bare essentials of existence – food, fuel and shelter – there is no absolute guarantee that everyone will have enough to eat, but there is a process of self-regulation at work. Over the years the size of the population is regulated by the amount of food that sustains one generation to the next.

Once an ever-decreasing minority has to feed an ever-increasing majority, there comes the problem of how to increase productivity. The hard-working men and women 'left behind' will sweat away in the fields to find the extra food for their urban cousins, but they will never sweat enough to provide those needs until they start providing it by different means.

We know that in the case of later civilisations, arable crops alternated with cattle, sheep and goats grazing on the land, manuring the soil and resting it before it was planted again. The rotation was then abandoned – demand for wheat was so great that the same soil had to yield a crop year after year. Meanwhile, the hard-pressed farmers corralled livestock in yards, giving them straw and whatever leftovers came back from the cities. None of these civilisations survived, it seems, for more than five centuries. In each case, they collapsed because of starvation and disease brought on by malnutrition. Put simply, life became unsustainable.

As a participant in agriculture for over half a century, I have little doubt that the five centuries of civilisation known in western Europe are reaching a climax. A few figures will illustrate how the journey to collapse is accelerating. Fifty years ago, there were 500,000 farmers in the UK, about the same number as there were at the time of the 1821 census, before the

Industrial Revolution really took off, when our cities were still modest towns and Birmingham little more than a village. Today, the number has fallen to about 120,000. The National Farmers' Union, which purports to represent farmers' interests, proclaims this as showing how 'efficient' their members are, increasing productivity four-fold. They are talking garbage.

A hundred years ago there were some 2 million people in the UK producing food, there being nearly 1.5 million farm workers to add to the number of farmers. The number in food production today is the same. The difference is that in 1901 virtually all those 2 million were producing food that could go directly to the consumer. A century later farmers have become producers of raw materials for the food manufacturing industries, making their role something quite different from what it used to be. Manufacturers employ many thousands to process, package and adulterate what reaches them, adding questionable ingredients to a de-natured, vitamin-less and often toxic product. There are thousands more driving juggernauts the 'food miles' to the factories and from the factories to the supermarkets.

But before the 21st-century farmer begins his day's work, he has to be supplied or serviced by a huge number of other people. The man on the oilrig is helping to provide fertilisers to replace the farmyard manure, the man in Coventry (or maybe Cologne) is making his tractor to replace old Boxer in the stable, whilst the rubber for the tyres might hail from Malaysia. In fact, the total number is probably in excess of 2 million. And, apart from the decreasing number left on the land, they are all deemed civilised.

Most readers will be aware that our food is being de-natured, deprived of vitamins and increasingly lacking the essential minerals needed to protect our immune system and our health generally, because artificial fertilisers cannot replace them. In fact, our food is becoming positively injurious, with the addition of hormones, antibiotics, nitrates, phosphates and a multiplicity of pesticides.

Pride without prejudice

For the English, all this is a tragedy. It was they who came as the original asylum seekers from the plains of northern Europe, ravaged by the Goths, Huns and others, to find freedom to farm their own land in their own way. Their values and beliefs evolved into a distinctive culture hitherto unknown in Europe. Each family owned its own piece of land, called a 'hide', which consisted of enough acres to support it in food and fuel. This meant that the English had the freedom, then denied to the other peoples of Europe, including the Celtic regions, to live, work and behave just as they chose, provided only that they did no harm to their fellow-countrymen.

Unlike the Celts, whose lands were held by tribes and who lived more nomadically, dependent upon livestock for most of what they ate, the Anglo-

'By harnessing new technologies to create a more human-scale economy, England could once more become a force for good'

Saxons favoured arable crops. As the land they tilled was their own, and had to sustain a family, they learned to farm in a sustainable way. What has happened is tragic because a tradition of good husbandry going back some 15 centuries is now in danger of being lost forever.

The ordinary farmers who have survived until today have had to work a system imposed upon them by their masters in Whitehall and Brussels, aided and abetted by the banks and the moguls of the expanding 'agri-business' sector. There are, however, the extraordinary agrarians – a small band of organic farmers, once dismissed as cranks, but who now see a definite hope for the future. Sadly, too many of them have already fallen by the wayside, unable to compete in a hostile market, wilfully discriminated against by a series of governments.

Instinct, however, is a powerful force, perhaps the most potent of all nature's gifts to man and beast. Even in our cities, and certainly in every suburb and village, we can see with our own eyes the English instinct to grow something with the help of nature. The window box in Hackney is almost certainly evidence of that Englishness, as is the allotment a few miles away. Immigrants from across the world have adopted with enthusiasm these quintessentially English pastimes, in the same way as the 'native' English now enjoy their food and music. Thus conservation helps to create an inclusive, or non-racial, definition of Englishness. Of course, like any other generalisations, there are exceptions, but the fact is that, given half a chance, the English are a nation of gardeners in the way other Europeans – including the Celts – are not. What is more, it is an instinct that can give us hope.

The English tradition of conservation is a resource. In a quiet way, it has helped to humanise our politics and society, holding extremist or intolerant impulses in check, creating a basis of stability, kindness and concern for the natural world. During this century, our conservationist instincts and our inventive tradition will give us some distinct advantages. By harnessing new technologies to create a more human-scale economy, allowing those who wish to return to the land to do so, England could once more become a force for good in the world.

Let us envisage that some of those 'liberated' teleworkers will be the new yeomen of England: men and women who will use the latest technical advances to reclaim their benign Saxon heritage. In this way, the green movement's insights, coupled with our history, will humanise technological power. This vision is more appealing, surely, than apocalyptic green predictions of doom. It enables English greens to reclaim their Englishness and wear it with pride, not prejudice.

Sir Richard Body was Conservative MP for Holland with Boston from 1966–1997 and Boston and Skegness from 1997–2001. He is the author of four books on farming.



UNNATURAL UNIONS

From crisis-ridden Nigeria, **Dele Oguntimoju** offers a cautionary tale on the consequences of political unification, with disturbing parallels for Europe.

The Danes, when asked, said 'No' to the euro. The Irish said 'No' to the Treaty of Nice. As far as the designers of the European Union were concerned, both nations were simply 'wrong'.

I have no doubt that had the more than 250 nations that make up Nigeria been asked if they wanted political union, they would have politely but firmly declined. But then again, nobody asked them. This omission is confirmed in a letter, by Sir Peter Smithers, former General Secretary of the Council of Europe, published in the London *Times* on 15 July 1998:

'Sir, During the negotiations for the independence of Nigeria the view of the Secretary of State at that time, with which I agreed, was that in Nigeria we should attempt to put together a large and powerful state with ample material resources, which would play a leading part in the affairs of the continent and the world. This was attractive but it involved forcing several different ethnic and cultural groups into a single political structure.

The negotiations were complex and very difficult, the chief problem as I remember relating, significantly, to the control of the police and the military.

'In the retrospect of 40 years it is clear that this was a grave mistake which has cost many lives and will probably continue to do so. It would have been better to establish several smaller states in a free-trade area.

'...We did not then have the examples of the collapse of Yugoslavia and of the Soviet Union before our eyes. It should now be clear... that it is extremely dangerous to force diverse racial and social entities into a single rigid structure such as that which is being built upon the foundation of the Maastricht treaty. Recent history suggests that it would be best to complete the development of the Common Market and to call a halt to political integration in Europe.'

One positive outcome of the EU move to ever-closer union has been a better

understanding of the Nigerian people's tribulations. Hitherto, few in Europe understood that Nigeria, like Europe, is not a nation in the sense of a people with a common origin, tradition and language. 'Nigeria' is nothing more than 'Niger-area' – a geographical expression for the surrounds of the river Niger. It is a super-state, assembled without regard for the integrity of ancient nations.

Before political union, the nations of Nigeria had little in common besides skin colour, geographical proximity and trade. Whilst the nations of Europe can look to Christianity as a foundation for shared values, the nations of Nigeria had and still have no common faith. The nations of the south have largely embraced western Christianity, whilst most in the north embrace Islam from the east. Worse still, the Christian half of the country has embraced western education, but the Islamic half looks to Arabic instruction. Nigeria appears like Dr Dolittle's push-me-pull-you, with one body and two heads: one facing east, the other west.

In fact, it is more like the mythical hydra with 250 heads, each writhing, contorting, and snarling at each other. As soon as one head is cut off in the name of political union, it sprouts again. The Igbo, silenced temporarily by the Biafran War, are raising their voices again in anger. The Ogoni, decapitated by General Abacha when he executed Ken Saro-Wiwa, are back – demanding control over the exploitation of their oil, which is polluting their rivers and farms.

Super-states like Nigeria and the EU are put together because small communities and small nations are a nuisance to global commerce. The architects of these unnatural unions are never concerned about the human dimension to this political equivalent of genetic engineering. People are reduced to mere economic units, without history.

All too often, men of commerce fail to understand that their priorities may conflict with our needs as social

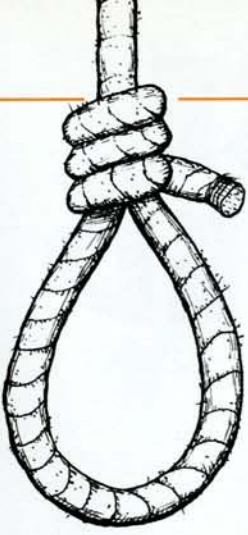
creatures. 'Social man' sees the world in all its colours and variations. 'Business man' sees the world as one. Profit is profit, after all, whether measured in pounds, francs, lire – or euro. Profit is maximised through standardisation. The Holy Grail of business is therefore the single market: one currency, one language and uniform laws.

Super-states like the present EU and Nigeria are put together and held together less by popular consent, the glue of all natural unions, and more by the desire of the business community for larger, standardised markets. The corporate mentality believes in mergers because it assumes that 'big is best'. This axiom cannot work with real human beings. A nation, like an ecosystem, must evolve organically. The British Empire, the Soviet Union and Yugoslavia all fell apart because they were not organic units. Even the United States can seem at times like a society divided against itself.

Supporters of the super-state ideal talk loftily of 'regionalism'. This is a strategy of divide and rule, whereby the most critical powers are sucked upwards from the national to the supranational level. Residual powers are distributed, crumb-like, throughout the 'regions'. In this way, the 'nation' is deemed redundant as a political unit and focus of popular allegiance. Through this process, 36 states have been created in Nigeria, many containing mixed nationalities, under the guise of promoting 'local democracy'. At the regional level, where there is representation, there is no real power. At the supra-national level – Abuja or Brussels – there is power but no real representation.

Nigeria's experience tells us that when distinctive nations are locked together in unnatural unions, it is the ordinary folk who always come off worst.

Dele Oguntimoju is Director of Publicity for the Movement for National Reformation of Nigeria.



BY GEORGE!

Give some writers enough rope, and they'll hang themselves. We start our occasional column of opinions from the gallows with a selection of the writings of George Melloan, deputy editor, international, of the *Wall Street Journal*.

8 November 1999

On the then forthcoming Seattle conference

There will be obscure groups like the 'Rainforest Action Network' and 'Art and Revolution' manning the barricades. But some groups are not at all obscure. Ralph Nader's Public Citizen lobby takes credit for scragging the MAI negotiations by mobilising an international campaign via the Internet. Never underestimate the organisational talents of a man who has managed to indoctrinate millions of college students with his wacky ideas over the years, getting support for the effort from college fees paid by mostly unsuspecting middle-class parents.

But while the international left weeps publicly about the wretched of the earth, it isn't much inclined toward practical ways of helping them. Indeed, rather the contrary. The folks who will descend on Seattle en masse are the types who plump for 'global warming' measures that would idle marginal factories in Third World nations. They fight bio-technology, a science that can provide poor farmers with plants and livestock more resistant to disease, particularly in tropical areas.

The reason they totally neglect the interests of the world's poor is very simple: most of them have never been poor themselves and they hate the private, multinational corporations that deliver jobs and technology to the nether reaches of the world. That hatred shows up in their literature and is also the reason why they will be in Seattle to try to trash the next round of trade liberalisation.

19 Sep 2000

On the European Union

The biggest [aim] of all is the goal of enlarging the union to as many as 27 member countries from the present 15 over the next several years, and then going beyond that to an even larger grouping. European Commission President Romano Prodi assured *Journal* editors this month that further steps

toward enlargement will be taken on schedule at the EU summit in Nice in December. Problems of cohesion will be addressed by reducing the number of areas in which new policies must be approved unanimously.

3 April 2001

On Kyoto

What's causing all of this deep concern among politicians is not the fear that the earth will be incinerated next July, but the prospect that the 'environmental movement' may finally be fizzling out as a political constituency. It has made itself a powerful political force by stirring up public fears of mostly imaginary dangers, such as global warming or genetically modified organisms (GMOs). The UN got by in the 1980s with the costly and scientifically dubious Montreal Protocol, which outlawed Freon as a threat to the ozone layer. Enviros pretty much killed off nuclear energy with regulatory delays that forced up the cost of new construction. But Kyoto may have been a bridge too far.

One of the many problems with Kyoto is that it targeted Mother Nature herself. In some theoretical models, it was alleged that increasingly abundant 'greenhouse' gases, principally carbon dioxide and methane, would trap heat and raise the temperature on earth. It was thus deduced that industrial emissions of greenhouse gases must be regulated and somehow curtailed.

The first problem with this theory was that there was no empirical evidence to support it. Measuring the temperature of the earth is no easy matter, but measurements showed that most of the barely noticeable temperature rise of the past 100 years occurred before 1940, when the globe was far less industrialised than today. Serious scientists also pointed out that the greenhouse gases are a fundamental part of the biosphere, necessary to all life, and that industrial activity generates

less than 5 per cent of them, if that.

Despite all the scientific doubts, the UN political bandwagon rolled on toward the goal of taxing carbon dioxide emissions. Developing countries got an exemption because of their quite plausible claim that a carbon tax would retard their development. A system of tradable permits was proposed so that countries that have suffered industrial decline, like Russia, could sell emission rights to industries with emissions over the target limits. No one has figured out how to make this ill-defined scheme work, but there already is a budding market in 'emission rights' in Europe, as alert traders sense there might be money in the UN's folly.

What stopped George Bush and Congress was the estimate of what the UN project would cost the US. Al Gore agreed at Kyoto in 1997 that by 2012 the US would reduce its carbon emissions to 7 per cent below 1990 levels. The only way to cut carbon dioxide emissions is to replace carbon-intensive fuels, which rules out cheap fuels, like coal. The US Department of Energy estimated that implementation of the Gore promise would have meant a \$397 billion lower GNP in 2010 than if the US opted out. Kyoto would boost electricity prices by 86.4 per cent and other energy costs accordingly.

Mr Bush no doubt concluded that an American president would be out of his mind to commit to something like this while the economy is slowing and California is starving itself to death with price controls on electric energy. Besides, all the American enviros had voted for Al Gore or, more likely, the man who is responsible for a lot of this nonsense, Ralph Nader.

One of the delightful things about the American economy, of course, is its ability to absorb shocks through its sheer size and adaptability. Kyoto has had one salutary effect, reviving interest in nuclear power. Despite all the abuse it has taken from the Naderites, nuclear power had its best year ever in 2000.

HER EGGS ARE BEING POACHED



...SO, WHAT CAN YOU DO ABOUT IT?

In many places people kill turtles for meat; in Malaysia it's the green turtles' eggs that are the target and harvesting from beach nesting sites has reduced their population by 60% in the last 50 years.

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NO SMOKE WITHOUT A LIAR

WHERE INCINERATORS ARE CONCERNED, WRITES **RALPH RYDER**, THE ONLY THING REALLY DISPOSED OF IS THE TRUTH.

In 1959 Dr Friedrich Hoffman, a chemical warfare specialist and chief of the United States Army Chemical Corps' Agents Research Branch at the Edgewood Arsenal, was sent to Europe to scout for potential chemical warfare agents. In his trip report Dr Hoffman noted that he had received 'startling information' about the toxicity of dioxin, including the fact that it had been linked to severe and sometimes fatal liver damage. Dr Hoffman reportedly told the army that 'dioxin was TOO DEADLY to be used for CHEMICAL WARFARE purposes'.¹

Forty two years later, on 3 July 2001, BBC's *Newsnight* featured a report on the use of a mixture of highly contaminated incinerator fly ash and bottom ash on the allotments at Byker, Newcastle, and in breeze block type buildings and road aggregate at the Edmonton incinerator in London. This mixture contained a number of toxins including: arsenic, cadmium, mercury, lead, zinc, nickel, copper and Polychlorinated Dibenzodioxin, more commonly known as dioxin.

Dioxin is perhaps best known as a contaminate of the herbicide Agent Orange, used in the Vietnam War to kill foliage. It is a recognised carcinogen causing cancer in every species every tested. The United States Environmental Protection Agency believes it is responsible for 100 cancer deaths every day in the US. It causes Vitamin K deficiency in babies, disrupts the immune system, mimics hormone function, and interrupts the thyroid, which in turn causes developmental and neurological problems in children. It has been calculated that up to 8,000 cancer cases will result in Belgium due to the dioxin food contamination that took place there in 1999.^{2,3} And now, in the UK we are building roads and houses with it and spreading it on our vegetable patches.

After watching the programme, concerned citizens swamped building block companies with calls for information.⁴ But few people were aware that the operators of the Edmonton plant had been mixing fly and bottom ash for approximately 30 years. They continued this practice despite being informed in 1977, along with the rest of the incinerator industry and the regulatory bodies of the UK, that incinerator fly ash is heavily contaminated with heavy metals and dioxin.⁵

At last, communities around the country are waking up to the failings of the Environment Agency (EA) to protect public health from the dubious practices of the waste industry, despite claims that 'incinerators... are the most regulated industrial process in the UK'.⁶ In particular, two appalling failures of the EA to protect public health are the Byker and Edmonton incinerator ash scandals, both discovered and made public by concerned citizens.

At Byker the EA, the Health and Safety Executive, and Newcastle and North Tyneside Health Authority, were all blissfully unaware of the use of highly contaminated ash from the Byker incinerator on allotments, farms, school playing fields, bridle paths etc, for seven years. While the EA may not have known what was going on at Byker, the evidence is that at



HARTMUT SCHWARZBACH/STILL PICTURES

Edmonton the EA knew full well of the extremely high levels of dioxin in its mixed ash, yet still did not stop the company from 'recycling' it.

The EA claims it is not its job to monitor the ash produced by incinerators, but rather 'the plant operator has a duty of care under the environment protection Act 1990 to ensure that the waste is transferred to a suitable disposal contractor. [This] contractor in turn has a duty of care under the Environment Protection Act 1990 to ensure it disposes of waste at a suitably licensed landfill'.⁷

Amazingly, while gathering evidence to prosecute the operators of the Byker plant and Newcastle City Council for spreading contaminated ash around Newcastle, the EA was simultaneously sitting on a working Ash Group working hand in hand and encouraging the use of similar mixed ash as road aggregate and in breeze block type building bricks at Edmonton.

David York, managing director of Ballast Phoenix, the company that handles the 150,000 tonnes of ash generated at Edmonton each year, admitted on *Newsnight* that tens of thousands of tonnes of the finer (fly) ash containing 'higher levels of dioxin' [than bottom ash] had been used in masonry blocks that went into houses. However, he dismissed the possibility of this presenting a health hazard when a house owner drilled into a block saying it will be 'a short, one-off exposure.'

You think that's bad? When asked about the toxicity of dioxin concentrations in the mixed Edmonton ash, environment minister Michael Meacher replied: 'The Environment Agency has no information on the toxicity of dioxin concentration in ash mixed before that date [August 2000].'⁸ But evidence shows that the EA had plenty of data on the levels of dioxin in Edmonton ash well before August 2000.

During the recent court action by North London Waste Ltd against activists of Greenpeace, a fax dated 24 July 1998 from Henry Cheung to Peter Montgomery, the Environment Agency

■ inspector responsible for regulating the Edmonton plant since 1996, was produced as evidence. This showed a lab analysis of the dioxin and furan levels in Edmonton's electrostatic precipitator (ESP) fly ash measured at 10,800ng/kg I-TEQ (nanograms per kilogram international toxic equivalent). The handwritten note reports a 14 to 1 ratio of bottom to fly ash produced and has a set of calculations showing the final levels of dioxins in the mixed ash as being 771ng/kg I-TEQ. These levels are much higher than the 'background levels' spoken of by minister Michael Meacher when he said 'the Agency was informed by the operator that test results showed the dioxin levels of mixed ash to be close to background levels' (ie those found in normal urban soil).⁹

Furthermore, tests conducted in 1996 on ESP fly ash from UK plants were in the region of 6,600 and 31,100ng/kg TEQ (Cains et al 1996). Commissioned for a study by the EA itself in 1997 and 1999, AEA Technology wrote: 'For this study we use the range 6,600-31,100ng/kg TEQ to cover the variability found in UK plants'.

In other words, apart from any documentation on the public register such as the fax, the EA itself had indeed commissioned and published measurements from UK incinerators showing the extremely high levels of dioxins in ESP fly ash long before August 2000. This data has been available from 1996 – but, if we look at the public register at Edmonton we find it contains a 1993 ESP fly ash dioxin analysis, showing 3,600ng I-TEQ/kg levels.¹⁰

So Edmonton was mixing fly ash with bottom ash knowing full well it contained as much as 3,600ng/kg to 10,800ng/kg of dioxins. Tests conducted by *Newsnight* on a sample block made from 30 per cent Edmonton ash showed 343ng/kg. Therefore the level of dioxin contamination in this fine mixed ash would be in excess of 1100ng/kg, significantly higher than the 200ng/kg (peaking at 900ng/kg) left as a result of Agent Orange in Vietnam, where they are still reporting birth defects and elevated dioxin levels in human tissue 30 years on.

Yet with all this knowledge, the EA not only didn't stop the practice but more amazingly granted Ballast Phoenix, the company using the mixed ash, a waste licensing exemption. And all this from the supposed regulatory body! In addition, workers who handled the ash at Edmonton for Ballast Phoenix were not given any warning as to the toxicity of its contents or provided with protective clothing. Nor have any ever been tested for dioxin body levels.

Although the operators of EfW incinerators are given the overall responsibility of monitoring themselves and presenting the data to the EA, sometimes an independent company is entrusted with the task of conducting or checking some of the data. Conveniently, a number of these independent companies also appear to be subsidiaries of the very companies they are supposed to be checking. For example the Teesside site is managed by SITA. Its ash is tested by EUS Laboratories Ltd and AES Ltd. The air emissions are tested by AES Ltd, which is owned by Suez Lyonnaise des Eaux – which owns SITA.¹¹

It is highly probable that there were more companies than just Ballast Phoenix using mixed Edmonton ash. We know a seminar was held by Aggregate Industries (owners of Bardon Aggregates, who promoted the event) and hosted by Ballast Phoenix at the Edmonton incinerator in May 2000. There an official from the Department of the Environment, Transport & Regions (DETR) was proudly showing people around the ash storage facility proclaiming that as well as Edmonton, ash from the incinerators at South East London Combined Heat & Power

plant (SELCHP), Tyseley (Birmingham), Dudley (Birmingham), Stoke and Cleveland (Teesside) had all been used in 'recycling'.

So why was York so reluctant to tell *Newsnight* where the ash had been used, when it was obviously done with the approval of the DETR? Could it be that, given the data on the level of dioxin concentrations in the ash from the AEA Technology study, along with the company's own ash-testing data, York could be aware that perhaps the ash contains much higher levels of dioxin than he cares to admit – perhaps higher than his friends at EA would find acceptable? Whatever the reason, we know that incinerator ash has been used in Waltham Abbey by-pass with the approval of Essex County Council; car parks at Ford's Dagenham plant; Netherend Lane, Cradley Heath in Birmingham; and in roads in Stoke, Dudley, and Essex.

Incineration advocate Malcolm Chilton has claimed: 'Processed ash entering the construction market has dioxin concentrations of between 20-50 ng/kg, which falls within the range of 'naturally occurring soils.' Yet the reality is the dioxin level in soil is *not naturally occurring at all*. It is there as a result of emissions from past supposedly state-of-the-art incinerators. Even the UK government acknowledges that up to 85 per cent of the country's present dioxin contamination comes from incinerators.¹²

The operators of Edmonton no longer officially recycle fly ash. They claim they stopped doing this in August 2000 – conveniently just before the EA was to give evidence to a House of Commons Committee who had been informed of the mixed ash 'recycling' methods employed by SITA and London Waste Ltd, by a representative of the Public Interest Consultants.

However, there were plans to recycle nearly 60,000 tonnes of ash as 'assorted grades of aggregate every year' at SITA's Teesside plant, 'with support from Ballast Phoenix'.¹³ This is worrying because when asked if they had tested the bottom ash for dioxin [before its use as building material] Jon Garvey, former regional director of SITA based at the SITA plant in Cleveland, replied: 'We haven't tested for dioxins, because they are assumed not to be there...'¹⁴

Wherever these ashes have been used, be they roads, paths, playing fields, landfills, building blocks or anywhere else, can justifiably be considered a reservoir of dioxin that could be released at any time. This could take five, 10, 25 or 50 years – no human containment method lasts forever. It could even be released next year when a house holder begins a bit of DIY or unsuspecting workmen dig up the road to lay or repair cables or pipes and release clouds of dioxin/metal-containing dust when cutting through the roads surface.

Furthermore, it is clear that there are people working in the incineration industry who, in order to reduce companies' costs, have no qualms about spreading a compound estimated to be 167,000 times more toxic than cyanide on areas where children play and in people's homes.

What is bewildering is that the government requires the industry to spend millions of pounds on fitting anti-pollution devices to capture the most deadly toxins known to man – and then allows them to spread these toxins around the open environment in roads and houses – and has two departments, the EA and DEFRA, actively encouraging them to do so – while the government itself subsidises the practice with hundreds of millions of pounds' worth of taxpayers' money.

Ralph Ryder is co-ordinator of Communities Against Toxics. For more on this issue, see pages 14 and 17. References on page 66.

IN HEALTH AND IN SICKNESS

THE DIRECTORS OF GLAXOSMITHKLINE, THE WORLD'S SECOND LARGEST HEALTH FIRM, ALSO RUN COMPANIES RESPONSIBLE FOR SICKNESS AND EVEN DEATH, WRITES **SOLOMON HUGHES**.

Starting at the top – Sir Richard Sykes, Glaxo's chairman, is also a director of mining and minerals giant Rio Tinto, whose appalling record for pollution includes responsibility for the Capper Pass tin smelting works in Hull, England. Capper Pass workers and local residents exposed to arsenic, lead, cadmium and radioactive polonium-210 from the factory, which closed in 1991, have been fighting Rio Tinto for compensation ever since. They accuse Rio Tinto of responsibility for cancers and other illnesses among company employees and local children. At first, Rio Tinto denied the claims and even refused to release occupational health records of Capper Pass workers to the solicitor of the TGWU union, which was suing the firm. However, in a sudden turnaround last June, Rio Tinto wrote to the TGWU solicitor David Russell stating that it 'will not contest' the negligence claims and was 'very concerned' about the issue. It has now agreed to pay compensation to over 200 claimants under an agreed tribunal scheme.

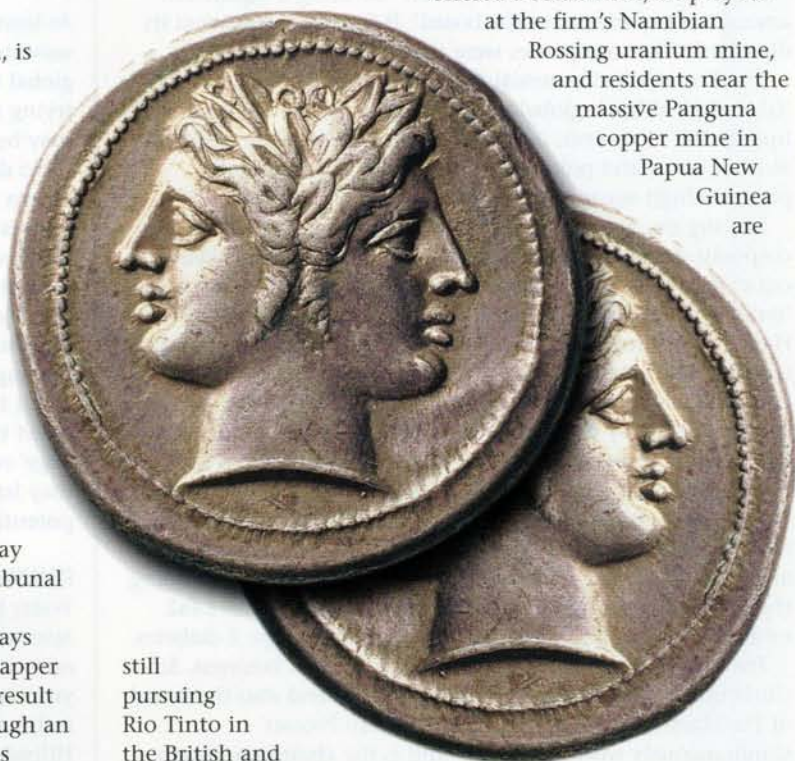
Coincidentally, the firm's change of heart came just days before Russell was due to release a damning report on Capper Pass built from official and company information. As a result of the settlement, the dossier will not be released, although an early summary described workers' exposure to poisons as 'extensive' or 'regular', and discharges into the Humber river as at 'dumping levels'. The Ministry of Agriculture found that Humber fish had the highest arsenic contamination of any in UK coastal waters.

The dossier also pointed to a

government cover up. Rio Tinto were not prosecuted, but the then Government Medical Officer said publicity would cause 'public alarm should the facts become generally known'.

While Rio Tinto's offer has been welcomed by campaigners, it came too late to help Arthur Gray. Gray died last November from the cancer he had battled since 1993. A former Capper Pass worker, he was prominent in the battle against Rio Tinto. At his funeral, his son Michael said: 'His courage and determination never faltered even during his illness and he never complained or wallowed in self-pity, he was an example to all of us.'

While workers at Capper Pass have been offered a settlement, employees at the firm's Namibian Rossing uranium mine, and residents near the massive Panguna copper mine in Papua New Guinea are



still pursuing Rio Tinto in the British and American courts. To

recap, Richard Sykes sits on the board of Rio Tinto, a firm accused by campaigners of causing cancers and respiratory diseases. He simultaneously chairs Glaxo, which sells £3,191,000,000 of drugs aimed at the cancer and respiratory market a year. They include a lung cancer treatment, Hycamtin, and a number of respiratory treatments including Flixotide, Serevent, Seretide, Ventolin. The firm also sells two antibiotics aimed at respiratory illnesses, Augmentin and Zinnat.

Sykes is joined on the Glaxo board by Paul Allaire, who is also a director of food giant Sara Lee. While Glaxo's 'mission statement' includes 'enabling people to do more, feel better and live longer', Sara Lee pleaded guilty this June for selling bad meat that killed 15 people and caused six miscarriages. Sara Lee sold these listeria-infected hot dogs in 1998 from its Bill Mar plant in Michigan, US. The firm recalled 15 million lbs of hot dogs after the outbreak, but this was too late for the elderly and vulnerable victims of the tainted food. Inspectors who visited the plant found hygiene poor and foodstuffs contaminated with faeces. Sara Lee paid \$4.4 million to settle with American federal prosecutors although victims were enraged that the firm was allowed to plead guilty to a misdemeanour and avoid the more serious charge of a felony. ❖



WATER, WATER EVERYWHERE

DR ADHITYAN APPAN SUGGESTS THAT THE SOLUTIONS TO SOLVING THE WORLD'S WATER PROBLEMS MAY ACTUALLY HAVE BEEN FOUND A LONG TIME AGO.

At least the ancient mariner had an excuse. You can't drink seawater. But as the think-tanks of the west warn of impending global water shortages and bash their collective heads together trying to come up with big solutions to a big problem, they may be missing the most simple of answers. Rain.

No doubt their fears are justified, and when Worldwatch claims that by the year 2025, '40 per cent of the world's population could be living in countries suffering from chronic water shortages', it is probably right. Nor does anyone deny the validity of a UN study, published in 1997, which indicated that by the same time, as much as 'two-thirds of the world's population will be affected by moderate-to-severe water shortages'.

But the depths of these fears, coupled with an arrogant belief that it is only they, with their vast resources and 'cutting edge' research studies who can solve the world's problems, may have caused them to ignore the most simple and potentially most effective of solutions.

RAINWATER HARVESTING

Water being essential for life, the history of the collection of rainwater is as old as the history of mankind. The use of rainwater-collection systems is known to have existed 4,000 years ago, in the semi-arid and arid regions of the Negev desert in Israel, which receives less than 15 cm of rainfall a year. Hillsides were cleared to increase runoff, and contour ditches helped collect water for crop irrigation. Underground storage volumes of up to 300 cubic metres, enough for 10 families and their flock for a year, have also been reported.

In the Mediterranean region, rainwater collected from roofs and stored in cisterns constituted the principal source of water during Phoenician, Carthaginian and early Roman times, from the sixth century BC onwards.

In India, it has been reported that in the early Buddhist era, monks living in mountainous areas, such as the Elephanta caves around Bombay and the Udayagiri and Candagiri caves in Orissa, carved an intricate series of gutters and water cisterns into the rock faces, which provided the community's domestic water supply throughout the year. Likewise, temples such as the one at Madurai have huge water tanks on which the surrounding communities once depended for their domestic water needs.

In Thailand, the existence of rainwater harvesting and storage systems goes back more than 2,000 years. In the Indonesian Kalimantan region, because the surface water and groundwater are brackish, rainwater has been collected over several centuries. In the Philippines, rainwater is still being used in the provinces as it is traditionally believed to be safer than river water for household and human consumption.

In Africa, where rainwater catchment systems have been in

Ironically, Sara Lee's corporate slogan is 'winning through integrity'.

Incredibly, until his retirement at this year's Annual General Meeting in May, tobacco boss Derek Bonham sat on Glaxo's board. Bonham is a director of Imperial Tobacco, makers of Lambert & Butler cigarettes and other famous smoking brands. Alongside its cancer and respiratory drugs, Glaxo sells three products specifically aimed at smokers. The firm makes £472 million annually selling its two over-the-counter 'stop smoking' aids, Nicorette and Nicoderm, and its new prescription-only anti-cigarette concoction Zyban.

Challenged about its business records, Glaxo's spokesman told *The Ecologist* that these directors 'do bring a significant amount of experience to the board'. It further argued that its directors' other companies were 'all leading businesses'.

The firm opens its annual report with the declaration that 'GlaxoSmithKline's global mission is to improve the quality of human life'. However, its board is dominated by directors of alcohol, arms and polluting firms, and companies that promote high sugar and fat diets.

Moving on. Donald McHenry, a director for the Coca-Cola corporation also sits on Glaxo's board. Coca-Cola has been criticised for its high sugar drinks. Poor diet and obesity cause 'type 2' or late onset diabetes. German regional politician Hans-Joseff Brinkmann is currently trying to sue the Coca-Cola Corporation for causing his type 2 diabetes. Glaxo director Paul Allaire's company Sara Lee is also regularly criticised for selling unhealthy foods. The Washington Centre for Science in the Public Interest in particular has described some of Sara Lee's advertising as 'food porn' for its promotion of fatty and sugary foods. Both Coca-Cola and Sara Lee support industrial food group the Grocery Manufacturers of America, which has attacked the Centre for Science in the Public Interest, deriding them as 'food police'. At the same time, Glaxo makes £462 million a year selling Avandia, a treatment for type 2 diabetes.

Two Glaxo board members are in the alcohol business. Sir Christopher Hogg is on the board of Glaxo and also the board of Tia Maria maker Allied Domecq. Sir Ian Prosser simultaneously works for Glaxo and is the chairman of pub owner Bass. Glaxo is enthusiastically trying to sell its drug Zofran as a treatment for alcoholism.

Three Glaxo board members work for firms known for their pollution records. Sir Roger Hurn, Glaxo's deputy chairman, is also a director of ICI, who was number one in the Environment Agency's 1999 'hall of shame' league table of polluters. Sir Ian Prosser is also deputy chairman of BP Amoco, and Glaxo director John Young also sits on the Chevron board. BP and Chevron are both oil producers with an international record for pollution. Not to be left out, Glaxo's chief executive Dr Jean Pierre Garnier makes his own contribution to 'the quality of human life' by also sitting on the board of arms manufacturer United Technologies, the maker of the Blackhawk helicopter and other warplanes.

The Ecologist asked Glaxo whether the extraordinary interests of its executives showed they were more interested in making money than making people healthy. The firm's spokesman replied that 'directors do have responsibilities to their shareholders'.

Solomon Hughes is a freelance journalist. He writes regularly for Private Eye, The Observer and Red Pepper. He has also written for The Express, Independent, Guardian and America's In These Times.

place for at least 2,000 years, rainwater was collected from thatched roofs in open jars.

Despite the worldwide prevalence of these methods in the past, their potential to solve future problems is now not being tapped to the extent that it could. However, as the following three examples from three different countries show, the implementation of simple systems that can be harnessed by local communities has, and can continue to, provide workable solutions to global problems.

STILL PICTURES



THAILAND

One programme that was very successfully developed and implemented was run by the Population and Community Development Association (PDA), a non-profit development organisation in 1982. The crux of the plan involved the selection of participants, to ensure that they played a part in the village development programmes. The identification of areas that needed water most, low repayments and an appropriate collection system were integral parts of the scheme. Under the programme, villagers trained by the PDA carried out construction work for the entire village, the necessary labour being provided by other villagers.

The success of this programme, and the interest it generated among the rural population, in the dry areas, proved instrumental in spurring research into building materials, both conventional and unconventional. Building materials like plastic, steel, bamboo, bricks, interlocking mortar and ferro-cement were tried out. Water-quality studies were also undertaken to ascertain the constituents of rainwater in the open air, runoff from different roofing materials and quality after storage in various types of tanks. From these studies it appeared that rainwater kept in storage was clean enough for drinking, provided the cisterns are well-maintained.

INDONESIA

When the local NGO Dian Desa began its involvement in the Ginning Kidul area, it adhered to the following guiding principles:

- 1 Local community participation in the development of technical skills.
 - 2 Consideration to local lifestyle, tradition and local opinions on water consumption.
 - 3 Project schedules that matched local time constraints.
 - 4 Transfer of technical skills and maintenance know-how.
- First, areas where such roofwater collection systems were

most effective and feasible were identified. Great emphasis was placed on the mixing of Dian Desa's field officers with the villagers. Surveys were carried out and discussions held to determine the type of technological changes that were feasible and most appropriate for each village. Furthermore, the chosen recipients were identified as being the poorest of the poor in the region.

Rarely could the axiom that necessity is the mother of invention have been better proved than in the method by which the scheme was funded. Two she-goats were lent to the family that needed the Roof Water Collection System and when these bore (normally) four young ones, two of them were returned to the owner while the borrower kept the other two. He (the borrower) looked after the two young goats and when they grew older he used them as payment for his water tanks!

THE PHILIPPINES

The first step involved choosing the most appropriate location, in this case the province of Capiz, on Panay island, in the southern half of the Philippines, where only brackish water was to be found. The province, which receives an average rainfall of 1,700 mm, supports a population of 490,000. Its total area is 2,633 km. Three pilot locations were selected, which together represented 30 per cent of the province. In each location 10 ferro-cement tanks were installed, and the rainfall, water-use patterns and quality of rainwater were

monitored.

The tremendous potential for establishing such collection tanks in Capiz, and the proposed large numbers that would ultimately be built, warranted a design that would not only be easy to construct, economical and durable but which would also be constructed employing locally available or trained skills and, preferably, local building materials. Accordingly, two sizes were selected, analysed, constructed and tested. The relevant construction methods and details were made available to the tank's potential user and, to ensure proper transfer of technology, two project officers received the necessary training from the designers.

During the actual construction, the project team lived within the site area so as to establish better rapport with the tanks' recipients and also obtain their active support. Following the construction of the 30 tanks, constant monitoring was carried out with respect to rainfall patterns and water quality. Health education was imparted to ensure that water-use was not abused and that the quality of water was not affected by poor collection methods.

The procedures used in the construction of the 30 tanks proved so adaptable that a number of villagers constructed their own tanks. Thus, a total of 600 additional tanks were built.

What unites these three projects is their simplicity, awareness of local concerns, and resulting efficacy. It is a lesson that the decision-makers in the West could well afford to learn.

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This article first appeared in Humanscape January 2001 and is available from Third World Network.

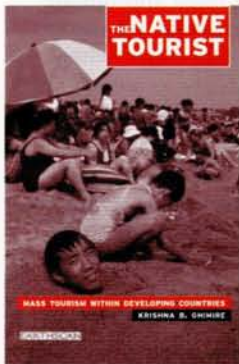
Reviews

Send your suggestions for *Ecologist* reviews to
Jeremy Smith at jeremy@theecologist.org

Under review this month: **The Native Tourist** Krishna Ghimire • **AAAS Atlas of Population & Environment** American Association for the Advancement of Science • **A Darker Ribbon** Ellen Leopold • **All Hands that are Ready... Seize the Day** (CD) • **The Video Activist Handbook** Thomas Harding

THE NATIVE TOURIST

Edited by Krishna Ghimire
EARTHSCAN 2001/£17.95
ISBN: 1 853838047



The first time I visited Nainital in the Himalayan foothills, I was surprised by the numbers who had travelled all the way from West Bengal to walk round the glassy polluted lake-water and to stay in the mouldering chambers of ancient hill-station hotels surrounded by the flowers of an English summer. I saw only a degraded landscape; they saw a refuge from the oppression of Kolkata in August.

While the pressure of international tourism – especially sex tourism – has become a matter of concern to local communities transformed by it, the more dramatic impact of domestic tourism within countries has received less attention. This book is the first to address the issue.

Tourism is now the biggest single industry in the world: in 2001 there will be almost 700 million international arrivals, generating some 500 billion dollars. But this is only a fraction of the total number of annual movements of people. This book shows how traditional purposeful journeyings – pilgrimages, festivals and fairs and celebrations – are mutating into the distractions of the leisure industry.

The imposition on almost every country in the world of the market economy has a common cultural outcome. Governments, obsessed with maximising foreign

exchange, and marketing to rich foreigners their scenery, heritage and culture, have not hesitated to evict existing communities from coastal areas, forests and national parks, for the sake of five-star hotels. In the haste to earn dollars they have overlooked a second consequence of globalisation – the travel demands of a rapidly expanding middle class, and even of workers who now have paid holidays. These developments have added to growing internal mobility in countries as diverse as Brazil, India and Nigeria. Almost everywhere, planning is non-existent or influenced by nepotism and corruption. Environmental assessments have rarely been made. The land of indigenous peoples, subsistence farmers and fishing people has been expropriated, and they have become custodians of trinket-stalls or security guards for second homes locked up for much of the year. Sometimes they become actors in embalmed cultural rituals, or worse, artificially generated festivals to amuse urban tourists visiting remote or ethnic areas in their own country. Local people are often considered too ill-educated even to work in the servile occupations provided by hotels, and have accordingly gone to squat in city slums.

The rise of an economically powerful middle class has also generated a considerable outbound tourism – a drain on foreign exchange, which may cancel the gains made by free-spending incomers. Recognising this, the Thai government sought to redirect its people to areas within their own country; with the result that the carrying capacity of both infrastructure and environment is being overwhelmed. In a tribute to the triumph of appearances over reality, the response to this was an expensive public relations exercise – the Amazing Thailand campaign of 1998-99, intended to attract 17 million foreign visitors to the country.

Domestic tourism may be numerically and economically more significant than international tourism, but the phenomenon remains an exotic import; for

which the governments of India, Mexico or Brazil, and above all, local people, must bear the costs. Tourism is the perfect paradigm of the globalising imperative. It prioritises the most attractive areas of a country, placing great pressure on particular regions; and when the advantages of these are used up, the tourists move on. This has happened to the island of Penang in Malaysia, where tourists are abandoning the spoiled beaches and transferring to the (already degraded) island of Langkawi and elsewhere.

Governments often set up bodies to control domestic tourism; but the upsurge in domestic tourism has been in response to a free market economy, which has deregulation at its core. The story everywhere is of chaotic development, lack of facilities, evictions and the ruin of traditional livelihoods.

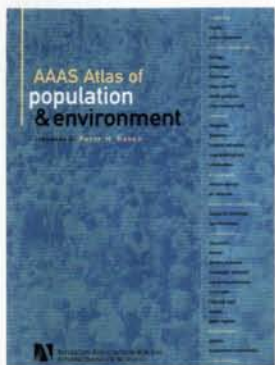
This book discusses India, China, Brazil, Mexico, South Africa, Thailand, Nigeria, but it treats what is overwhelmingly a moral issue as though it were yet another branch of academic discipline. Tourism is presented as an industry generating 'tourism products'. It argues for greater research, although it is hard to see what research is going to do to stem the frenzied mobility brought to 'developing' countries by a future already inscribed in the iconography of the Western way of wealth. Tourism, domestic and international, is a weight which the world can scarcely bear, not only in the ruin of the places that people go to see, but equally, in the skewed distribution of rewards to the winners and losers in the economic activity it generates.

The authors try hard to find examples of good small-scale social and ecological tourism, often organised in co-operatives by local people themselves; but these, by their very nature, can never be the site of mass destinations. The question remains: how shall we reclaim purposeful and significant journeys to the places where others live from the brutal invasiveness of industrialised travel?

Jeremy Seabrook

AAAS ATLAS OF POPULATION & ENVIRONMENT

2001 American Association for the Advancement of Science
CALIFORNIA PRESS 2001/\$29.95
ISBN: 0520230841



If a picture is worth a thousand words, this ambitious and all-encompassing presentation of the environmental impact of human activity is worth at least a million. The American Association for the Advancement of Science (AAAS) is the world's largest federation of scientists and engineers, with 300 affiliate organisations and more than 140,000 members worldwide, initiating programmes to expand international scientific cooperation on global issues and shape policy on related subjects.

Painstakingly compiled by the AAAS, the text, maps, and graphs that make up the atlas give a detailed and comprehensive overview of just about every aspect of human interaction with the physical environment. From natural resources, land and water use, biodiversity and ecosystems, to industrial and agricultural chemicals, climate change and air pollution, urbanisation and globalisation, it's all here. As the authors point out in their chapter on international trade:

'Reconciling open trade with environmental protection is a central dilemma for the world in the 21st century. Trade issues go to the heart of whether increased wealth is good or bad for the environment.' With world trade tripling to US\$7 trillion just in the last two decades, they ask the rhetorical question of whether globalisation can take ecological concerns into account, or merely encourages excessive consumption, pollution and resource-depleting activities. Their answer to the first part of the question seems to be an unqualified 'No'.

In a chapter on population and ecosystems, the authors point out that [it is only] in the last century and a half

Sick Century



Excuse me, mind if I pick your brains?

EDUARDO GONCALVES REVEALS THE HORRORS OF THE WORRYINGLY RECENT PAST

The terrifying experiments the nuclear-military-industrial complex has conducted on thousands of live humans is one of the darkest secrets of the 20th century. The victims have usually been marginalised or vulnerable members of society, such as babies, black women or prison inmates. The US Cold War machine saw no national boundaries when it came to finding new subjects for its horrific programmes, whether they be South African Bantu tribespeople or hospital patients in Cairo.

Indeed, some of the worst were deliberately conducted away from US shores, far from the scrutiny of the media or politicians there. For example, it emerged recently that the US military conducted radiation experiments on mentally ill people in Norway. Patients unlucky enough to have been interned at institutions in Oslo were used as human guinea-pigs by US government scientists to test the biological and genetic effects of radiation: 'The retarded and insane were used, among other things, in trials for X-ray castration, a method used by German Nazi doctors during World War II in the Auschwitz and Ravensbrunn concentration camps.'

Yet even this pales in comparison with the gruesome trials carried out on the residents of a prestigious care home in Bristol, England. The Burden Neurological Institute – best-known for its recent pioneering work with sufferers of epilepsy – was a privately-run residential facility for 30 people with a variety of neurological conditions. In the 1950s and 1960s, the US Office for Naval Research (ONR) – which ran a number of radiation experiment programmes on humans – paid British doctors there to drill holes at random through the skulls and into the brains of the institute's patients. Steel electrodes, which had been coated with a radioactive chemical, were then sent deep into the brain via these holes, and electrical shocks pumped through them.

Next, the victims were herded onto an US military C-47 aircraft equipped with

sophisticated electronic equipment so that further tests could be carried out on them before they arrived at their final destination, a university research laboratory at Uppsala in Sweden. Here, some of the patients had tumours deliberately induced in their brains. The names of the Swedish scientists who took part are deleted from the records, although documents suggest that one doctor there was a Czech neurophysiologist noted for his 'method of producing temporary decortication with a drop of KCl.'

An official report into the experiments noted that the research at Bristol had been kept quiet even from other branches of the US nuclear establishment: 'Probably the reason we have not heard of this current use of experiment human subjects is that ONR has carefully avoided any publicity on the subject.' Similar experiments had been planned in the US, at Tulane University, but here 'questions were asked... as to the ethics of such human experimentation.'

The experiments at Bristol, as at Tulane, tried to discover whether people's behaviour could be altered. In the wake of the riots that followed the assassination of Martin Luther King, government-paid researchers stepped up efforts to learn how to control 'anti-social' behaviour, and further experiments were conducted, this time on black prison inmates in California.

Nazi doctors who carried out similar experiments were tried at Nuremberg – some were even executed. But no US scientist has ever been punished, in spite of the fact that government records show that hundreds and perhaps thousands of experiments were carried out on human subjects during the Cold War. The Office for Naval Research, meanwhile, still maintains a branch office in London...

Eduardo Goncalves is a Portuguese investigative journalist.

References on page 66.

[that] the burning of fossil fuels has had a major impact on ecosystems, causing widespread pollution and, more recently, climate change. With 50 per cent of human population occupying less than 10 per cent of earth's land area, the extent of ecosystem degradation is closely related to

population density and standard of living. Thus the US, with less than 5 per cent of the earth's population, consumes 25 per cent of its finite resources and generates an equal proportion of its pollutants.

Similarly, at least half of the world's

Magazine Rack

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The bi-monthly magazine of the World Watch Institute treks key indicators of the earth's well-being. From the editorial to the features, essays and updates, the May/June issue is packed with vital information and further food for thought.

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Third World Network's monthly magazine also has regular in-depth focus double issues. Nos 129-30 look at The Free Trade Area of the Americas. The general themes feature trade and economics, human rights, culture and ecology – and predominantly from a third world perspective.

Third World Network, 228 Macalister Rd, 10400 Penang, Malaysia, fax: +604 226 4505 or visit www.twinside.org.sg



ELECTROMAGNETIC HAZARD & THERAPY

You'd be wrong to think that this quarterly might be too dense or dry to pick for a read. On the contrary – it's well-written and explosive with hard hitting facts on electromagnetic fields, powerlines, microwaves, safety guidelines and much more.

Makes one wonder why mobile phones and pre-requisite masts still have a chance of survival... must be politics. Electromagnetic Hazard & Therapy, c/o Information Production Services, OP Box 2039, Shoreham by Sea, BN43 5JD, UK. Its website is www.em-hazard-therapy.com or you can call the premium rate helpline (£1.50/min) on 0906 401 0237.



forests have disappeared – most of this destruction taking place in the past century. (On the bright side they recognise that wealth can also provide the resources for a revitalisation of the environment. Examples are the recent clean-up of many European rivers and planting of a 'national forest' in the heart of the UK's Midlands mining and industrial zone.) Just as widespread is the destruction of coastal mangroves, due to steadily increasing population pressure. While mangroves are essential as breeding grounds and a source of nutrients for marine life, more than 1 million hectares have been lost – mostly to shrimp farms and rice paddies – just in the last forty years. Prompted by shortsighted greed, this rapacious behaviour is especially unfortunate, as a single hectare of pristine mangrove can yield 400kg of fish a year, and help nourish an equal quantity of fish, plus 75kg of shrimp, that mature elsewhere.

Equally severe is the wholesale destruction of freshwater wetlands, the ecological benefits of which have only recently been recognised. Thus the US has already lost about 60 per cent of its original wetlands, with the arid and heavily populated state of California losing 91 per cent.

Along the flood-prone Mississippi, wetlands could once store 60 days of the river's floodwater; because of damming and drainage they can now absorb but one fifth of that amount. So it goes: wherever man's heavy hand upsets the delicate balance of nature, disaster is quick to follow – whether in the oceans which cover 70 per cent of the earth and contain 90 per cent of its life forms, or in the rivers and lakes that are the very lifeblood of our terrestrial existence. To end this litany with one more case history. About 20 years ago an Atlantic jellyfish was accidentally released into the badly disrupted ecosystem of the Black Sea – once the prize of Persian and Byzantine empires. Within one decade, this single invader had multiplied to a biomass of 900 million tonnes, triggering a 90 per cent decline in indigenous fish stocks, at a cost of hundreds of millions.

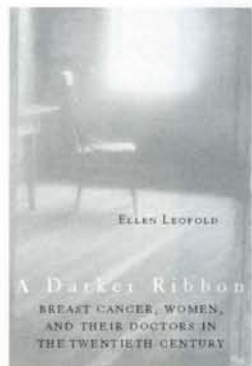
Far from being a dry academic tract, the comprehensive maps and graphs that illustrate each chapter of the Atlas make it eminently appealing and easily accessible to the reader – whether expert or novice in the field of ecology. For anyone the least bit concerned with the survival of the human race and the future of our planet, it is an invaluable reference guide to every aspect of the earth's ecology.

Gard Binney

A DARKER RIBBON

BREAST CANCER, WOMEN, AND THEIR DOCTORS IN THE TWENTIETH CENTURY

by Ellen Leopold
BEACON PRESS 1999/\$29.95
ISBN: 0807065129



Published two years ago in the US, this book has yet to find a UK publisher, even though October is International Breast Cancer Awareness Month.

Ellen Leopold's book is about the dissolution of medical hegemony. It charts the change from the autocratic and paternalistic surgical approach to women with breast cancer to the conscious involvement of many women in their own treatment.

Although the book is about a particularly female area of medicine, it is replete with important current arguments about the nature of medicine. In the first chapter, Leopold says:

'The standard historical texts on breast cancer, written almost universally by medical men, tend to distil the story they are telling into a pitch battle between a hero (surgeon or scientist) and a deadly enemy (pathogen or virus).'

Compare this with the following from the preface of *Magic Mineral to Killer Dust*, Geoffrey Tweedale's book discussing the critical lacuna, which existed between 1930 and 1980, over asbestos production and public health:

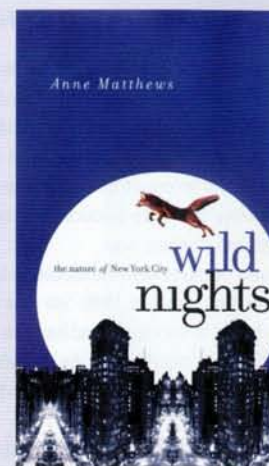
'Medical and social historians have shown little interest in [asbestos and health] preferring instead to chronicle the triumphs over infectious diseases and the heroic exploits of great physicians.'

These two passages remind us of the important background to medical history writing. Historical writings about professions and professionals, often by powerful actors within those professions, have in the past played an important part in perpetuating professional power

also worth a look...

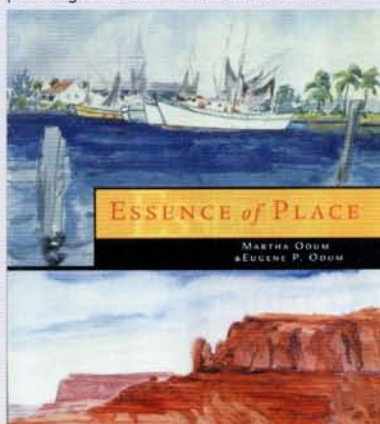
One sentence early on in **Wild Nights – The Nature of New York City** by Anne Matthews (Flamingo £14.99, ISBN 0 007123337) sums up the unique nature of this book.

'World Trade victims are usually discovered in the margins and the shadows, fatally baffled by stone, steel and glass.' No doubt the first half of the sentence has been written many times in many different ways, but the second half is perhaps a little more – baffling. The point is that Matthews is not talking about the human victims of world trade, but of the scarlet tanagers, black-throated blue warblers and other songbirds that have flown to their deaths trying to reach trees reflected in the building's windows. For this is a book about how, generally unnoticed, birds and a multitude of other animals respond to the urban space of New York. It sets out to redress our anthropocentric view, by presenting the world's preeminent city from the eyes of its many animal inhabitants. As Matthews says, 'As the continent's dominant species we tend to forget how closely other creatures observe our works and days: our high speed roads, our mystifying preference for sunlight, our delectable garbage.' In the course of the book's 200-odd pages she goes some way to redressing this balance, and without moralising reminds us quite poetically of our real position in the order of things.



Essence of Place, by Martha & Eugene Odum (University of Georgia, \$10, ISBN 0 915977397) is again not what one might first expect. Eugene Odum's ground-breaking 1953 book *The Fundamentals of Ecology* established him as one of the preeminent ecologists of the last century and he is often called 'the father of modern ecosystem ecology'.

Essence of Place, however, is both a deeply personal book and one whose appeal is universal. It presents 73 water-colours by Martha Odum, records of places around the world that she and her husband visited over the course of their life together. Alongside each one Eugene offers us what he terms 'an environmental vignette', a short reflection upon an ecological issue invoked in the painting. A view from the Hotel Trietern in Norway leads him into a reminiscence of their journey across Scandinavia, through which he articulates the concept of the 'ecological footprint'. A washed-out sketch of Lake Windermere in the English Lake District allows him to introduce the concept of the 'P/R ratio', the relationship between energy produced and energy consumed. A group of brown pelicans reminds him that the world almost lost this bird to the ravages of DDT.



In balancing the creative work of one individual with mankind's often destructive effect on the world the book captures not only the essence of the places depicted, but also the essence of Odum's philosophy. It too can help us all rethink our place in the world.

structures. Since the late 60s simple narrative writing about such power structures has thankfully been overtaken by deeper analysis of the nature of the relationships themselves. The advent of deconstructive writing about power has in turn ushered individuals from outside the professions into the very heart of a multi-disciplinary discourse about hegemony.

In Tweedale's book, the asbestos worker is granted a memorial and the medical epidemiologist and public health expert exposed as an industry quiescent professional. In *A Darker Ribbon*, to a great extent, women with breast cancer reclaim their breasts which male surgeons and scientists had historically colonised.

Leopold's book sets out to chart the change in women's consciousness towards breast cancer prevention and treatment, by looking primarily at the relationship between women with breast cancer and their doctors. The gender-specific nature of breast cancer and the fact that the author herself has been treated for it, together with her commitment to the cause of women, makes this relationship an ideal subject for an analysis of medical power relations.

Unlike many contemporary books dealing with cancer, which tend towards self help, *A Darker Ribbon* is an intellectual *tour de force*, a book of women's history overflowing with facts which illustrate the constant erasure of the female physical identity by male doctors. Leopold talks, for example, about how the power of male doctors in the nineteenth century resulted in the map of the female anatomy being marked out with the names of male 'discoverers'; Fallopian tubes, for instance, were named after Gabriele Falloppio.

The subjective narrative of the book is supplied by two detailed case histories, reconstructed from correspondence during the periods 1917 to 1922 and 1960 to 1964. The relationships of these two women to the surgeons who carried out their mastectomies outlines effectively and comprehensively the changing expectations and consciousness of women with breast cancer. The subject of the second case history is Rachel Carson, who died of cancer not long after the publication of her ground-breaking book *Silent Spring*.

The last part of *A Darker Ribbon* pursues an underlying question present from the beginning of the book: if women have become more deeply involved in their own breast cancer care, why is the incidence of breast cancer not

declining. Leopold's answer to this question overrides the consistent feminist critique of the book, pointing a finger at the cancer research industry. This industry, which enforces our perception of cancer in developed society, is not only dominated by men but is also driven by big science and the capitalist economy. This is a world where 'alternative', 'community', 'prevention' and 'empowerment', are subversive words.

The book argues convincingly and succinctly in favour of prevention as the

first point of a woman's involvement in the question of cancer. In the main, this preventative work centres upon the environmental and especially chemical causes of cancer. Until we have a democratic structure, not only of diagnosis and treatment but also of preventative research, with the will to act upon such studies as the recent survey of breast cancer clusters by the Women's Environmental Network, none of us can truly say that we are in control of our community's cancer care.

Martin J Walker

FARMERS' MARKETS. TASTE TV, STARTING 1 OCTOBER, PRESENTED BY NINA PLANCK

In the wake of the foot and mouth epidemic, farmers' markets have never seemed more necessary or appropriate. In a world where most people's encounters with the food they eat begin in the striplint aisles of an out-of-town superstore, farmers' markets serve to reunite producer and consumer in a human and localised way.

Farmers' markets were introduced to London by American Nina Planck in 1999. She now runs eight such ventures in the capital and has also led the farmers' market movement in the UK, where there are now some 300 markets in towns and cities across the country.

Their success is a reflection of the public's growing concern over how its food is produced and sold. In a farmers' market, urbanites who may never have seen a farm meet the growers of the food they eat, face to face.

Hoping to bring the concept to a wider audience, Planck is now fronting a series of TV programmes based in farmers markets around the country. Unfortunately the series is being broadcast on cable channel Taste TV, so the audience will never be as wide as it might, but otherwise the concept is laudable.

Each programme will come from a different



market across the country, focussing on one particular farmer. On the farm, Planck and the respective farmer will discuss the food that is about to be taken to market and how it's produced. Viewers will see first-hand how farms and farmers work today, in the wake of BSE, foot and mouth, falling margins, and intense global competition. Furthermore, each programme will highlight a relevant food or farming issue.

Of course, in the end, this is just a TV programme, and if viewers feel that the vicarious experience it provides is enough, it has failed. What matters more is that we go out and change the way we buy our food. For more on farmers markets, or to find your nearest one, look on the National Association of Farmers' Markets website at www.farmersmarkets.net or call +44(0)1225 787914.

ALL HANDS THAT ARE READY... Seize the day

CD AVAILABLE FROM: PO BOX 23, HIGH STREET, GLASTONBURY BA6 9DP, UK
£12-15 depending on income + 60p postage and packing



My first visit to Twyford Down, before the M3 had destroyed much of it, was made all the easier by the warmth that the singing and drumming around the fire gave to the night. There was one voice that stood out, someone who was extraordinarily good. And since then I have kept bumping into the owner of the voice, Theo Simon, at various protests where his beautiful music can help calm or rouse as needed.

Theo teamed up with Shannon Smy at the Newbury anti-bypass protest to form the nucleus of Seize the Day, whose latest CD *All hands that are ready...* is further proof that few can compare with them for their combination of conviction and sheer musical skill.

There are very few people who can write songs about serious political issues without sounding worthy and dull. Seize the Day are an exception and their agenda encompasses the full gamut of environmental and social justice issues

One song, WTO, brings the chants from the Seattle protests into a dance of power and celebration. It sums up what separates Seize the Day from conventional musicians. The band get their inspiration not from reports of what is going on around the world, but from actually being a part of what is going on.

Whether it is in the midst of protest in Seattle, or pulling up genetically engineered crops, Seize the Day are there at the front line.

In a world of regurgitated love ballads sung by those too young to know, Seize the Day are a definite force for a good, honest and committed future.

Hugh Warwick

EcoKids

Living in a polluted city such as London, it is all too easy for children to have next to no contact with nature. Through its website, which has just gone back online after an extended spell off, and through a book and a musical, Bulbworld aims to make such contact both possible and attractive.

The book, *Bulbworld – plant the planet, save the world* was created to teach children the benefits of getting back into the garden and learning about the cycle of nature. The idea is to give, within the Year of Literacy, a clean air message to children at an early age, and to teach them a little about horticulture. It hopes to get children exploring these areas further with adults and is designed to compliment the National Curriculum on basic literacy and

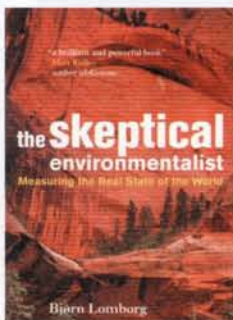
biology. Anyone interested in learning more should call

Paula McQueen on +44 (0)208 983 0631 or visit www.bulbworld.co.uk



THE SKEPTICAL ENVIRONMENTALIST MEASURING THE REAL STATE OF THE WORLD

by Bjørn Lomborg
CUP 2001/£17.95, ISBN: 521010683



All the necessary ammunition to rebut the arguments in this book was provided in seven articles by Lomborg's own colleagues at Aarhus University between 1998-99, when his book first appeared in Danish. Their criticisms can now be read in English at www.au.dk/cesam.

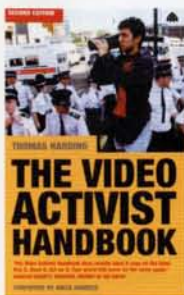
To give any more space to this book would be to fan the flames of a contrarian's debate, and provide him with more than his 15 minutes.

Case closed.



THE VIDEO ACTIVIST HANDBOOK

by Thomas Harding
PLUTO PRESS 2001/£13.99
ISBN: 0745317707



Rewind to the 1980s and television was full of burning rainforests and pot-bellied African children. Heartstrings may have been pulled, but little was offered in the way of radical solutions. A decade on, and reporters were too busy discussing the hairstyles of 'ecowarriors' to investigate the reasons behind the direct action. Fast forward to this century and reporters have relegated the outrage surrounding the summits of the IMF, World Bank and the G8 leaders to a binary battle of anarchists and paramilitary police.

One broadcast journalist who turned his back on the shallow and uninformed reporting of the mainstream media was Thomas Harding, whose motivation for writing *The Video Activist Handbook* grew from questioning his own role in the television industry. He asked, 'where was the social change that so many documentary makers talked about?'

This 280-page volume offers up the know-how anyone needs to pick up a video camera with the aim of promoting social justice and environmental protection. The opening chapters chronicle inspiring and diverse uses of camcorders by Brazilian unions, Danish anarchists, Kenyan human rights campaigners, Tibetan dissidents, Czech miners and British eco-activists.

Harding explores the various methods of recording and disseminating video images and, more importantly, targeting specific audiences to achieve the chosen goal.

Possibly the most important chapter highlights the aspect of training as a way of nurturing these growing seeds of video activism. Challenging and changing the gender imbalance in the broadcast media is seen as integral as is reinforcing the philosophy of why people actually have cameras in their hands. Nor does Harding shy away from questioning his own medium. He asks whether tapes should roll when campaigners are trashing fields of genetically modified crops or dismantling an earthmover, as the same images that could stop destructive practices for good may also be used to imprison people for criminal damage if they fall into the wrong hands. This handbook offers valuable lessons in the strategic use of the technology, which, if heeded, could slice through the growing sea of lenses dominating demonstrations and give a fresh take on how video can be used to protect our ailing planet.

Paul O' Connor

'OH SAY, CAN YOU SEE...'
WHAT WE'VE DONE TO THE SEA?

When my librarian confirmed that it has been fifty years since Rachel Carson published *The Sea Around Us* – the first in a series of books by the prize-winning author alerting her fellow humans to their destructive impact on the environment – I was struck by a sobering thought: more than half of the 6 billion people crowding our planet today were born since then! One obvious conclusion to be drawn from this is that the human impact on the environment has also doubled in the same time span – a mere blink of an eye in geophysical terms. Unfortunately it also means that the two generations of humans born since its publication in 1951 are woefully ignorant of its compelling message, that it is high time for us humans to stop abusing the once abundant, but fast dissipating, riches which a bountiful nature has provided for our sustenance.

Many of these riches are hidden in the depth of the oceans, which cover 71 per cent of the earth's surface and contain an estimated 90 per cent of all life forms. Oceans also absorb greater amounts of carbon dioxide than the vanishing rain forests – thus exerting decisive control over climate. Yet the oceans are imperiled as never before, plagued by over-fishing, 'development' and pollution – 32 billion gallons of agricultural and industrial runoff every day in the US alone. So says the author of *Blue Frontier*, David Helvarg, an environmental activist and producer of television documentaries, who – coincidentally – was born in 1951, and who has eloquently articulated Carson's cause. Somewhat optimistically subtitled *Saving America's Living Seas*, his book has been described by Robert F Kennedy Jr, president of Water Keeper Alliance, as 'an infuriating portrayal of mankind's most breathtaking crime.'

In the half-century since Rachel Carson sounded her clarion call, almost two-thirds of the world's coral reefs have lost their ability to regenerate, and (surprise!) those near human development are at the greatest risk of dying. And no reef line is as close to urban sprawl as the one in the Florida Keys – only a tiny fraction of it protected from destructive human activity. Further up the Atlantic coast, cheek by jowl with a busy seaport and in the flight path of one of the state's busiest airports, is the John U Lloyd State Park, one of just two remaining Florida sanctuaries for sea turtles, all of them endangered – with one exception. The leatherback, which can grow to 1200 lbs and dive to a depth of 2000 feet, is facing imminent extinction. When I learn that, out of more than 200 nests along a 2-mile beach, only one was built by a leatherback (she can be identified by her tracks in the sand), and that just one out of 1,000 hatchlings will ever reach maturity, it is not hard to

understand why. Long gone are the days when Columbus' ships were stalled in the Caribbean by a massive mob of migrating turtles.

Meanwhile, in seaside resorts from Tampico to Torquay, souvenir shops do a brisk trade in coral rocks, exotic sea-shells, and tortoise shell ornaments – all of which are totally unrelated to that particular tourist locale. Odds are that they hail from the 17,000 islands of Indonesia, whose once abundant reefs are now being systematically plundered for loot to lure the unenlightened landlubber. According to *Vital Signs 2001*, published by the Worldwatch Institute, which records our perverse pillage and pollution of the environment, as of late 2000 about one third of the world's coral reefs were severely damaged – almost three times as many as a decade earlier. While these reefs cover just 0.2 per cent of ocean area, they provide the habitat for as many as 1 million species. More than a third of this damage is the direct result of human activity, but the greatest threat to coral reefs today is global warming. An increase in temperature of as little as 1°C can kill the microscopic, symbiotic plants that inhabit the corals and provide them with nourishment and colour. Such coral bleaching has increased in frequency and intensity of late, the worst episode (1997-8) adversely impacting reefs in at least 60 countries – including the US, whose blinkered president is still in blissful denial of global warming.

Even Jonathan Swift could get lost in the murky maze of Brobdingnagian bureaucracy surrounding the creation of NOAA, the apt acronym for USA's National Oceanic and Atmospheric Administration. In its 30-year existence, this stepchild of the benighted Nixon presidency has been shuttled from one government agency to another, finally finding a hostile home in the Department of Commerce, which is dominated by commercial interests incapable of objectivity on ecological issues. Thus the pilots of NOAA's ark have taken great pains to avoid plotting a course which might cause their ship to collide with business interests. But, as Aldous Huxley noted: 'Facts do not cease to exist because they are ignored.'

If the Soviets had opted for exploring the depths of the oceans instead of sending Sputnik into space, Uncle Sam might not have felt compelled to beat his arch-enemy to the punch by taking the first buggy ride on the moon and searching for signs of alien life on Mars. The billions expended on this exercise in chauvinistic one-upmanship would have been better spent on protecting life on Planet Earth. For stewardship, like charity, begins at home.

Gard E Binney

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

Your Used Stamps = Money for Kids! Save the Children's Stamp Department raised over £20,000 last year selling your old stamps. Please send to: The Stamp Department, Save the Children, 17 Grove Lane, London SE5 8RD.

SaveOurSheep Appeal Fund. Raising funds to take case to High Courts to stop slaughter of healthy sheep. We need £30,000 in order to proceed. Donations accepted at any branch of Nationwide Building Society, or send cheques to "Save Our Sheep Appeal Fund", Laurels Cottage, Churchstoke, Montgomery, Powys, SY15 6SR.

The first and only **organic mango farm** in Chiapas, Mexico, needs help! We have lost our funding. Your donation of £20 will support a unique organic teaching farm and help pay for organic certification. For information, email: organicmangos@yahoo.com.

DONATE your Tax Rebate! If you are a US taxpayer, you can be truly patriotic: heed President Bush's call to spend your tax rebate by funding CorpWatch's work to counter corporatized globalisation. www.corpwatch.org/news

The Sustainability Unit at National University of **East Timor** urgently needs **publications for its new library**. Please send to Carrie Deutsch, UNTIL Research Centre, PO Box 344, Dili, East Timor, or email cdeutsch@metz.une.edu.au.

Center for Rural Affairs is committed to building communities standing for social justice, economic opportunity and environmental stewardship. We need your help. For more information on our work, write to us at PO Box 406, Wallthill, Nebraska 68067, USA.

CALL FOR PAPERS

The Buckmaster Institute is looking for contributions for the book **Traffic Life**. Poems, stories, cartoons, satires etc. about the problems of traffic. For details visit: www.buckmaster.ca/trafficlife

Contributions for special issue of **Greener Management International** which will provide both researchers and practitioners with information in green supply chain management. For more information, contact Professor Joseph Sarkis, Tel: +1 508 793 7659; Fax: +1 508 793 8822; email: jsarkis@clarku.edu.

Prayers and liturgies wanted for anthology of Christian spirituality in respect of caring for the Earth and its people. If you, your parish or school has any good, relevant material, penitential or celebratory, for private or public use, email: Ecoteal@cs.com.

Institute of Wastes Management, 18-21 June 2002, Devon, UK. Deadline for Abstracts: 31 August. More details at: www.iwm.co.uk.

CAMPAIGNS

'Conservation through education – protecting **whales, dolphins** and the world's oceans for future generations'. For details of our campaigns, visit www.marineconnection.org.

International Coalition to Protect the Polish Countryside. We are collecting signatures to present to the Polish government. For more information, contact ICPPC, Sir Julian Rose, Hardwick Estate, Whitchurch-on-Thames, Reading, RG8 7RB; tel: +44 118 984 2955; fax: +44 118 984 2968; email: jrose.hardwickestate@talk21.com.

Communities Against Toxics is the central source of information for a coalition of long-suffering communities in the UK and Ireland living with incinerators, toxic landfill, chemical plants and other unsafe, polluting, industrial facilities. PO Box 29, Ellesmere Port, Cheshire CH66 3TX; tel/fax: +44(0)151 339 5473; email: ralph.ryder@communities-against-toxics.org.uk

Promote local food. Stickers for use in food stores: 'Don't buy this! Buy local! This product comes from 100s or 1000s of miles away. Support our UK farmers. Cut pollution. Cut climate change.' Make your own or order from: Birmingham Friends of the Earth, 54-7 Allison Street, Digbeth, Birmingham B5 5TH; Tel: 0121 632 6909; email beep@dial.pipex.com. Small donations requested to cover costs.

Please save the whales before it's too late. See the following site www.seashepherd.org then click 'RMS, the plot to kill the Whaling Ban'.

COURSES

Raja Yoga Meditation Correspondence Course. Eight interesting lessons, 18 colour pictures. Apply an ancient art to the modern world. For further information, write to: 40 Cherington Road, Selly Oak, Birmingham B29 7SS.

25-6 October 2001. Wise Ways with Conservation. Fordingbridge, Hampshire, UK. Course designed for rangers, wardens, farmers, foresters, land agents and conservation advisors. For more information, call Liz Scott on +44(0)1425 651013, or email lscott@gct.org.uk

Living with Climate Change. Stafford College, Earl Street, Stafford, UK. Daytime and evening classes. For details of dates and times, call +44(0)1785 223800 or +44(0)7818 417228. Courses in Newcastle-under-Lyme planned for 2002 – telephone +44(0)1782 297567.

Permaculture Design Course Online, starting 14 October. Running for 6 months. Course includes reading assignments, weekly posts of lectures, email discussion and student reports. For details, visit barkingfrogspc.tripod.com.

Friendship Across Frontiers is a British organisation campaigning to lift UN sanctions on Iraq, and aims to raise awareness of the human suffering by Iraqi civilians. For more details visit our website www.fafgb.org.uk or call +44 (0)208 398 3266.

Highland Red Squirrel Group. Raising awareness of red squirrel conservation. To get involved, or to record squirrel sightings in your area, contact Ian on +44 (0)1349 862144; email ian.collier@forestry.gst.gov.uk.

New global trade rules threaten to place basic services like water, education and health under the control of big business. Join the World Development Movement's campaign to stop the General Agreement on Trade in Services at www.wdm.org.uk/campaign/GATS.htm or telephone +44(0) 7737 6215.

DIARY DATES

Farmers' Markets provide fresh, safe, natural, nutritious food along with a lively and entertaining shopping experience. They also help create a healthier environment, a strong sense of community, more jobs and a much needed boost to local economies. For events, visit www.farmersmarkets.net.

Visit the **Green Events** website for news of all upcoming events. www.greenevents.fsnet.co.uk

29 September, London, UK
Cannabis March & Rally. Meet 12 noon, Speakers Corner, Hyde Park. Departs 2pm for Trafalgar Square. Bring humour, banners and drums. A peaceful demonstration and celebration. Web: www.cannabiscoalition.org.

29-30 September, UK
Washington Alternatives – themed debt actions around World Bank/IMF Annual Meetings, throughout UK. Message: 'You can't wash your hands of the debt'. Contact WDM, tel: +44 (0)20 7737 6215, or email: wdm@wdm.org.uk for details.

29 September-4 October, Istanbul, TURKEY
European Vegetarian Union Congress. All aspects of vegetarian lifestyle covered by international experts. For details, visit www.evu2001istanbul.org

1-2 October, London, UK
Royal Institute of International Affairs **Delivering Kyoto: Could Europe Do It?** Contact Philippa Challen, RIIA, tel: +44 (0)20 7957 5700, fax: +44 (0)20 7321 2045, web: www.riia.org.

1-2 October, Illinois, USA
The Four Seasons Hotel, Chicago.
BioEngineered Products Liability and Insurance Coverage Conference. The legal implications for liability and loss that may arise

from the widespread use of new forms of life created through genetic manipulation are just beginning to surface – look who's getting worried! Contact Mealeys Publications, Inc., tel: +1 610 768 7800 or visit www.mealeys.com/sem_agen.html#BIO

1-5 October, Nairobi, KENYA
Second Meeting of The Intergovernmental Committee For The Cartagena Protocol. Contact CBD Secretariat, Montreal, Canada, tel: +1 514 288 2220, fax: +1 514 288 6588, email: secretariat@biodiv.org; web: www.biodiv.org

1-5 October, Madrid, SPAIN
First World Conference for Conservation Agriculture. An initiative of the UN Food and Agricultural Organisation (FAO) and the European Conservation Agriculture Federation (ECAAF). Contact Armando Martinez-Vilela, ECAAF Congress Secretariat, tel: +34 957 760 797, fax: +34 957 760 797, email: conservation.agriculture@ecaf.org; web: www.ecaf.org/English/Congress.htm

2 October, London, UK
Bridging the Gap. Leveraging shareholder value from environmental and social responsibility conference. Prudential, Laurence Pountney Hill, EC4. For more information, contact Dr Belinda Howell, Business in the Environment, tel: +44 (0)20 7566 8702.

2-3 October, Birmingham, UK
National Time Banking Conference. Using time as resource to involve people as equal participants in regeneration, health, learning, mutual support and building community. For information, visit www.timebanks.co.uk or call Karen Smith on +44 (0)20 7089 2849

3-4 October, Washington DC, USA
Hilton Washington & Towers. **BIO VentureForum 2001.** Our particular friends at the 'The Biotechnology Industry Organization (BIO)' are hosting their first annual BIO VentureForum to introduce biotechnology firms to the financial networks and resources essential to long-term success. Give them a warm welcome! Visit www.bio.org or email: wtriplett@bio.org.

6 October, London, UK
Permaculture Association AGM, Voices for Change – the Live Debate, Workshops, Stalls, Buffet. Kingsley Hall, Powis Road, E3 3HJ from 10am. Details at: www.permaculture.org.uk.

6 October, Cwmbran, WALES
Environmental Justice: our right to a fair and decent environment. A free conference organised by Friends of the Earth Cymru and Torfaen Friends of the Earth. Congress Theatre, Cwmbran, 9.30 am. For more information and a booking form, email juliel@foe.co.uk, or call +44 (0)29 2022 9577.

7-11 October, Prague, CZECH REPUBLIC.
10th International Anti-Corruption Conference Contact Michael Burian, Klimentovská 30, 110 15 Prague, Czech Republic, Tel: +42 02 21 61 71 37, email: burian@transparency.cz.

8-10 October, Algiers, ALGERIA.
Southern NGO Summit. Preparation for World Summit on Sustainable Development. Contact Esmeralda Brown, tel: +1 212 682 3633, fax: +1 212 682 5354, email: ebrown@qbgm-umc.org.

9-10 October, Kalmar, SWEDEN.
UNEP/GEF Global International Waters Assessment (GIWA) General Assembly. Contact GIWA Coordination Office, Kalmar, tel: +46 480 447350, fax: +46 480 44 73 55, web: www.giwa.net.

9-10 October, London, UK
Organex 2001, Grand Hall, Olympia. The UK's premier exhibition for food and drink industry. Organex brings together manufacturers, suppliers and buyers from all sectors of the mainstream retail, catering and food processing industries. Contact Amanda Newell, tel: +44 (0)1494 511 525, email: amanda@organex.net, or visit: www.organex.net.

13 October, Global
International Day of Protest to Stop the Militarization of Space. Global Network against Weapons & Nuclear Power in Space, PO Box 90083, Gainesville, FL 32607, USA. Tel: +1 352 337 9274, email: globainet@mindspring.com, or visit www.space4peace.com.

13 October, Brighton, UK
Conscience annual event. 10am, Friends Meeting House, Ship Street. Speakers, workshops and peace dances on theme of non-military security. Event is free, buffet lunch available for small fee. Contact Jackie Hoskins, telephone +44 (0)870 777 3223 or email lobby@conscienceonline.org.uk.

13-14 October, New York, USA
A workshop with Professor Johan Galtung, the founder of the discipline of peace research and director of **TRANSCEND**, a global peace and development network, on 'Peaceful Conflict Transformation and Reconciliation: the Transcend Approach' at Pace University, New York. Visit www.transcend.org.

13-18 October, London, UK
Turning Tide: The People, Principles & Strategies Creating an Ecological Balance Contact Maggie Owen, Ashoka UK Trust, 1. Curtain Rd., London EC2A 3JX, tel: +44(0) 207 375 3989, email: ashoka_uk@compuserve.com.

15 October, Cambridge, UK
Bath House, Gwydir St. Genes, **Instinct and Identity**. Lecture given by Prof P Bateson, Provost Kings College, Cambridge Call +44 (0)1223 311828 or visit www.ivu.org/ape.

15-19 October, Berlin, GERMANY
IWA 2001 - World Water Congress. 'Water - Mirror Of The World' will discuss water economics and politics. Visit www.environmental-center.com/events/iwa2001-berlin/iwa2001-berlin.htm or call +49 30 3038 2085.

15-19 October, Colombo, SRI LANKA.
13th Meeting of the Parties to the 1987

Montreal Protocol. Contact Michael Graber, Deputy Executive Secretary, Ozone Secretariat, Nairobi, tel: +254 2 623851, fax: +254 2 623913, email: Ozoneinfo@unep.org or visit www.unep.org/ozone.

15-17 October, Alexandria, EGYPT.
International Conference on Biotechnology & Sustainable Development. 'Impartial' debate on scientific, ethical, and safety issues as well as the regulatory, Intellectual Property Right and trade and economic issues in the biotechnology debate. Highlights a Southern perspective. Contact: Ismail Serageldin, Program Committee Chair, International Center for Agricultural Research in the Dry Areas (ICARDA) Cairo office, tel: +20 2 572 4358, email: icarda-cairo@cgiar.org, web: www.egyptbiotech2001.com

15-21 October, UK
How can I get involved with the Soil Association's Organic Week? Visit www.organicweek.org for a comprehensive listing of national and regional events.

16 October, Global
Day of action to mark **World Food Day**. Contact McLibel Support Campaign, 5 Caledonian Rd, London N1; telephone: +44 (0)207 713 1269 or visit www.mcspotlight.org.

16-18 October, Brighton, UK
British Wind Energy Association annual conference. 'Turning things around' - focuses on the issues related to integrating increasing amounts of electricity from wind power into the UK electricity supply system. For more information, visit www.bwea.com or telephone +44 (0)20 7402 7122.

16-18 October, Kalgoorlie, AUSTRALIA
Goldfields Mining Expo 2001. Contact Canadian Association of Mining Equipment and Services for Export - need I say more? Suite 101, 345 Renfrew Drive, Markham Ontario, L3R 9S9, Canada, tel: +1 905 513 0046, fax: +1 905 513 1834, email: minesupply@camec.org.

17-20 October, Shanghai, CHINA
13th APEC Ministerial Meeting and CEO Summit Asia-Pacific Economic Cooperation (APEC) was established in 1989 in response to the growing interdependence among Asia-Pacific economies. Begun as an informal dialogue group, APEC has since become the primary regional vehicle for promoting free trade. Contact: APEC Secretariat, 438 Alexandra Road, #14-00, Alexandra Point, Singapore 119958, tel: +65 276 1880 or email: info@mail.apecsec.org.sg.

19-21 October, San Rafael, California, USA.
Bioneers Conference. Gathering of visionaries with practical solutions for restoring the Earth. Visit www.bioneers.org or email info@bioneers.org.

21 October, UK
Apple Day. Events from Cornwall to Scotland to celebrate apples and their beautiful orchards. For event details send a large sae. to Common Ground, Gold Hill House, 21 High Street, Shaftesbury, Dorset, SP7 8JE, or visit www.commonground.org.uk.

21-25 October, Buenos Aires, ARGENTINA.
18th World Energy Congress. Check out how they envision the future of world energy. World

Energy Council, tel: +44 (0)20 7734 5996, fax: +44 (0)20 7734 5926, website: www.mbendi.co.za/wec/contact.htm.

22 October, Faslane, UK.
Blockade of Faslane. Organised by Scotland CND and Trident Ploughshares. Call CND on +44 (0)141 4231 222 or Trident on +44 (0)1324 469 296

22-26 October, Munich, GERMANY
17th European Photo-Voltaic Solar Energy Conference And Exhibition. Contact: WIP, tel: +49 89 720 1235, fax: +49 89 720 1291, email: wip@wip-munich.de, web: www.wipmunich.de/conferences/pv/munich_h_2001/munich.html

23 October, London, UK
Conference exploring development in science

and technology which will have an impact on design of **ultra-low energy buildings**. Further information and application form at www.architecture.com 10am Jarvis Hall, RIBA, Portland Place, London.

23 October, HUNGARY.
45th Birthday of the 1956 revolution, crushed by the Red Army.

25-27 October, Rovaniemi, FINLAND.
International Symposium On Arctic Feedbacks To Global Change. Features a summary of Global Climate Model results for the Arctic, including in relation to the marine sector, terrestrial ecosystems, freshwater ecosystems and icecaps/glaciers. Contact Peter Kuhry, tel: +358 16 341 2758, email: peter.kuhry@urova.fi.

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.

Last month Nils Norman asked...

I have been looking into using either straight veg oil or Biodiesel as a fuel for my vehicle and was wondering if someone knows anywhere in the UK where old diesel engines can be prepared for such a change in fuel?

...and here's an answer, provided by Marie-Anna Vischer of NEF Renewables.

Most diesel engines should not need to be converted in order to run biodiesel. If any modifications are necessary it's likely that this is in the case that an element in the biodiesel may corrode some plastics or piping. The first thing to do is to contact the manufacturers of the vehicle and query them about it. Unfortunately it is not as straightforward as taking the engine somewhere to be prepared for the fuel change as each manufacturer uses different materials and the source/content of the biodiesel will differ. In many cases, however, no modifications will be necessary.

And J Cullen wondered what happened to the non-aspartame sweetener Stevia, which mysteriously disappeared from the shelves. Seems you weren't alone...

I, too, bought some Stevia a couple of years ago from a firm whose name I have lost, but I know their premises are in Brighton, or Portslade. Mine was made by United American Industries, Inc., Arizona. Some months ago I received a letter from the English company stating that the EU had banned the sale of Stevia in the UK! I would like to know why they are able to do this, and also whether it can be obtained direct from United American Industries. Mary Hawkins, Surrey, UK

And this month's eco-enquiries are...

I am currently a university student at Griffith University. I am currently looking for any information relating to the victims of Sellafield. I am looking for any information relating to the evidence that their illnesses (especially cancer) are enhanced by their exposure to radiation, and the types of illnesses they are suffering. Meredith Anderson, via email

I am planning to build a self-composting toilet on my smallholding. Are there any chemicals currently on the market that I will be able to use in this before using the resulting sludge to fertilise vegetables? J Dangarm, via email

26 October, London, UK
The Earthwatch Balloon Debate. Royal Geographical Society, Kensington Gore. Leading scientists take up the cause of 7 species to battle it out for a fictional £10 million grant. Audience members decide the result. Debate free, but admission by ticket only. Followed by buffet dinner, tickets £27.50 (Earthwatch members £17.50). Telephone: +44 (0)1865 318 813; website: www.earthwatch.org/europe.

27 October, Amherst, MA, USA
Twenty-first Annual E F Schumacher Lecture. Amory Lovins on Natural Capitalism, John Todd on Ecological Design and Alanna Hartzok on land rights and tax reform. Contact: Heather Davidson, E.F. Schumacher Society, 140 Jug End Road, Great Barrington, Massachusetts 01230. Tel: +1 413 528 1737, email: efssociety@aol.com, website: www.smallisbeautiful.org.

29 October, London, UK
 7pm, Friends House, Euston Road, London, NW1.
The Globalisation of Capital versus the Globalisation of Spirit – a new strategy for radical social transformation. First UK public lecture by leading US eco-spiritual visionary Rabbi Michael Lerner on the growing 'Politics of Meaning' movement. Entry charge: donations. If you'd like to attend please contact politicsofmeaning@yahoo.co.uk or telephone: +44 (0)7957 787 847.

29 October – 9 November, Marrakech, MOROCCO

Seventh Conference of the Parties To The UN Framework Convention On Climate Change. Stay tuned in to this one. Contact: the UNFCCC Secretariat, tel: +49 228 815 1000, email: secretariat@unfccc.int, web: www.unfccc.int/.

30 October, Dorset, UK
 Wessex Organic Movement are holding an **Organic and Local Food Fair.** 6.30pm, Blandford Corn Exchange. Good selection of local food for sale, and cookery demonstration by local author of cookery books. For further details or to book a table, demonstrate or advertise your wares, contact Joan on +44 (0)1747 811 900.

31 October, Bristol, UK
Joined up Eating. A national conference for policy makers and practitioners to explore real solutions to the development of sustainable local food economies. Visit www.localfood.org.uk or call 0845 458 9525.

1-3 November, MACAU
International Conference and Exhibition on Sustainable Development and Green Enterprises. For more information, visit www.macaugreen.org.mo

3 November, London, UK
Trade Justice Carnival. Huge carnival procession and major speakers (including Naomi Klein) calling for world trade to work for the whole world. Imperial War Museum, 12.30 pm, finishing Trafalgar Square. Be there. It's the start

of something big. For details, visit www.tradejusticemovement.org.uk.

5-9 November, Rome, ITALY.
World Food Summit – Realising the Dream of a World without Hunger. At the World Food Summit in 1996, representatives of 185 nations and the EU pledged to work towards eradicating hunger. As a first step, they set a target of reducing the number of hungry people by half by 2015. At this year's World Food Summit: five years later, participants will review the progress made towards that goal. Visit www.fao.org/worldfoodsummit or call +39 06 57 05 36 25.

10 November, Oxford, UK
One World Fair, Oxford Town Hall. To book a stall, please contact Tina Fawcett, 31b Fairlie Road, Oxford or email tinafawcett@hotmail.com Deadline 26th October.

13-15 November, San Francisco, USA
Industrial Ecology Summit, Marconi Conference Center. For information, contact Nikole Wilson, telephone +1 (510) 681 4191.

13 November, Sheffield, UK
 Conference convened by Derwent Rural Counselling Service. Cliff College, Calver, Hope Valley. Enabling **health professionals and others working in rural communities** to meet and share ideas and information. To book a place, or for more information, contact: Yvonne Bunting, telephone +44 (0)1629 812 710.

15 November, London, UK
Earthwatch Lecture: Turtles in Crisis, by Dr Mark Hamann (University of Queensland) at the Royal Geographical Society, Kensington Gore. Lecture is free, but admission is by ticket only. Telephone: +44 (0)1865 318 813; website: www.earthwatch.org/europe.

FOR SALE

On market plaza in Borja, medieval hill town, (between Madrid and Barcelona). **Large house** on 5 levels, suitable for ecological language school, hotel or similar. Built 1756, but with modern plumbing, wiring etc. \$425,000. For information, email iodominguez@terra.es.

Seaside holiday home. 4-bedroomed house with annex and 1 acre grounds set in Area of Outstanding Natural Beauty and Site of Special Scientific Interest. Near Dorset Coastal path. 2 1/2 hours London. www.primelocation.com Ref BH20 or telephone 01929 480732.

HOLIDAYS

Neal's Yard Agency **Holiday and Events Guide.** To receive regularly, 4 times a year, inform us of your address or preferably your email to help save paper and trees. Tel: 0870 444 2702, email: info@nealsyardagency.com.

PROJECTS

Do you wish to start, or already own an ethical/ecological business? We are two businesses in Dorset and Hampshire wishing to attract other interested parties to a great new project. For further details, please call Sana on +44 (0)1425 674 372 or email us on enquiries@greenchefs.com.

New concept, plus capital appreciation. **Holiday on farms** for members, enjoy natural habitat in countryside, producing food for farmers' markets. Prospectus from Mr Keeley, 6 Fairfield, Herstmonceux, Sussex, BN27 4NE; tel: +44 (0)1323 832 660; email farmersprideuk@yahoo.com or visit www.geocities.com/farmersprideuk/fp1.html

The Ways and Means Trust Limited, a charity offering real life work-based training, rehabilitation to people with learning disabilities and mental health problems with the aim of rebuilding their skills and confidence. We offer NVQ and NPTC in Commercial Horticulture. For more details, contact Caroline Grantham, tel: +44(0)118 948 1944 or visit our website www.caverill.co.uk.

Concept: a co-housing rest home/organic small holding to enable active, fulfilling retirement. Do you have the enthusiasm to help me develop this into a viable social enterprise? Please email me your wish with interest to m.robinson@can-online.org.uk.

PUBLICATIONS

A limited number of copies of *Proceedings of the International Symposium on GIS in Fishery Science* is now available. For more information and order details, visit www.els.co.jp/Sympo/sympo7_2.htm

Black Star Green Room is a new WTO & Africa documentary, based on investigations in Ghana and Switzerland. It is an 'On the Line' project. For further details, call +(0)1352 711 416 or visit www.onthelineorg.uk.

Simply the Best! Practical guide outlining principles of environmental care and social/cultural participation in event planning and implementation. £12.50 statutory/business sector, £7.50 community sector. Sustainable Wales/Cymru Gynhaliol, 41 John Street, First Floor, Porthcawl, CF36 3AP, tel: 01656 783 405, email: suswals@globalnet.co.uk.

Organic Food and Farming - Myth and Reality. Organic food and farming is under the spotlight. This booklet, produced by The Soil Association and Sustain, examines some of the key issues around organic food and its production. Price £10. For more information, telephone 0117 929 0661 or 020 7837 1228 or visit www.sustainweb.org

CARtoons – the perfect book on transportation for comic book fanatics. 100 pages of cartoons by Andy Singer. Also available CD-ROM of all graphics for free, non-commercial use. To order, contact CAR Busters, Krátká 26, 100 00 Praha 10, Czech Republic, tel: +420 2 7481 08 49, fax: +420 2 7481 67 27, email: carbusters@ecn.cz, web: www.carbusters.ecn.cz.

Light on Medical Fraud. The Cancer Business. Vaccination, AIDS virus. Fluoride. Animal research. Books, leaflets, info sheets, videos. For list, telephone +44 (0)1246 230474 or write to Nemesis, PO Box 73, Chesterfield, S41 0HH.

Animals and Men – The Journal of the Centre for Fortean Zoology. Issue 25 available now. £2 single issue, £8 subscription. Cheques payable to Jonathan Downes, 15 Holne Court, Exwick, Exeter, EX4 2NA. Visit www.eclipse.co.uk/cfz

PHOENIX ECONOMICS: THE GREEN PARTY IN A GLOBAL ECONOMY CONFERENCE AT MANCHESTER YOUTH HOSTEL OCTOBER 20TH AND 21ST, 2001

How can we stem the destructive growth of the global economy's money-fed cancer and develop a sustainable, fairer, less stressful world? Lectures, workshops and discussions will aim to explore how the present money system works, how it might be changed and what the Green Party should be doing to help the world change direction.

SPEAKERS INCLUDE PETE LANG, TONY GOSLING AND OTHERS

Conference fee: £20

Further details from Mercy Harmer, Regent House, Church Road, Shelfanger, Diss, Norfolk, IP22 2DG. Telephone: 01379 643468

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RESOURCES

Renewable Energy for the Home. For free and impartial advice and information on solar, wind, hydro, biomass, geothermal and green electricity tariffs, telephone free on +44 (0)800 138 0889 or visit www.greenenergy.org.uk. Operated by registered charity The National Energy Foundation.

Channel View Publications are to offer free institutional subscriptions to developing countries for all their journals. Titles include Journal of Agricultural Sustainability, Journal of Sustainable Transport and Journal of Sustainable Tourism. Contact: info@channelviewpublications.com.

Personal and Global Change. 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 877 228, email: michael@eaglemeare.org.

Natural Friends. The introduction agency for non-smoking, environmentally-friendly and socially-conscious singles everywhere. Free details on telephone 0800 281 933 or visit www.natural-friends.com.

SITUATIONS VACANT

International Transport Co-ordinator, CEE Bankwatch Network. We are looking for someone who has sound knowledge of transport issues; campaigning and research experience; fluent English (knowledge of Russian conversation an advantage). For further information, visit www.bankwatch.org, tel/fax +48 12 429 1101, email: tomaszt@bankwatch.org

SITUATIONS WANTED

Harvard Biochemist/Freelance Science Writer seeks journalistic opportunities. Would like to write current science news stories for your publication. Interested in reconciling modern science/technology with a sustainable future. Contact Sean Lawler, PhD. Call +1 617 724 2579 or email seanyboyoboy@hotmail.com.

VISIT

Gaia Energy Centre, Delabole, North Cornwall. New centre demonstrating harnessing of wind, water, solar, geothermal and crops. Includes resource centre, library, lecture theatre, classrooms, shop, café. For more, visit www.gaiaenergy.co.uk.

The Intermediate Technology Bookshop, 103 Southampton Row, London, has over 4000 titles on development, aid, agriculture, water and sanitation, natural resources, population, health, energy, human rights and much more. Telephone: +44 (0)20 7436 9761 or visit itdgpublishing.org.uk.

VOLUNTEERS

Funded Activist Opportunities Abroad. One-year positions available for people under 26 and from Europe. Places include Athens, Poland, Prague, Limerick and Amsterdam. All positions start in February 2002. Look at www.eyfa.org for more details.

Amaudo UK are looking for volunteers to work on a maintenance project in Nigeria. We need skilled **carpenters, mechanics, electricians, masons, decorators and an erosion control**

advisor. Placements are for a minimum of two months and are running up until the end of 2002. Please contact Kate Lumley on +44 (0)20 8776 7363 for more details.

Froglife is a small charity dedicated to the conservation of reptiles and amphibians. We would love someone with educational experience to help us develop a teaching pack. Want to help? Email froglife@froglife.org or telephone: +44 (0)1986 873 733.

Help us to work for more ethical tourism.

Three volunteers are needed in our north London office: a marketing worker for The Community Tourism Guide; an assistant organiser/PR person, and a data entry helper. Email michael@tourismconcern.org.uk, or call +44 (0)20 7753 3330.

Wanted. Three non-greedy individuals to accept the roles of **Chairman, Secretary and Treasurer** to a national registered charity I am establishing for the raising of funds for training of therapists required to treat the victims of global warming. Please write for more details to Tim Brassil, 34 Southey Street, Bootle, Liverpool, L20 4LL.

The Centre for Fortean Zoology needs your help. Find out more at our website www.eclipse.co.uk/cfz or write to 15 Holne Court, Exwick, Exeter, EX4 2NA.

WEBSITES

www.earthroots.org
Earthroots is a non-profit, grassroots, environmental organisation dedicated to protecting wilderness, wildlife and watersheds through research, education and action. Earthroots was founded in 1989 and has 12,000 supporters in Canada.

IN THE KNOW ON THE NGO!

By our intern *Sabina Tayabali*.
If you are interested joining our intern team, contact *Malcolm Tait*, editorial@theecologist.org, for more details.

Take interest in your account

Does your bank finance projects that destroy the environment? Is it preventing Third World countries from rising out of the state of poverty? Does it own World Bank bonds, or is it involved in currency speculation leading to economic instability and sky-high inflation? How far is your bank down the pipe with GATS? Care to know? Just look at *Bank Notes, Ethical Consumer*, August/September 2001 on www.ethicalconsumer.org/ECnewsite/page_s/online.htm or call +44 (0)161 226 2929.

Know thine enemy

In-depth profiles of major corporations, giving details of their activities, directors, locations of operations, history and 'corporate crimes', are now available free on the Corporate Watch website at www.corporatewatch.org.uk. Launched with a small number of profiles, covering corporations in the oil, biotech, food retail and pharmaceuticals industries, new profiles will be going up every week as research continues.

Cut the Crop

First-class argument ammunition against the GM apologists from **Five Year Freeze**: *'Feeding or Fooling the World - Can GM Crops Really Feed*

the Hungry?', *'GM Crops and the Governments Record'*. Visit www.fiveyearfreeze.org.

Poor response

Christian Aid are due to publish a report critiquing the level and quality of people's participation in the Poverty Reduction Strategy Papers. For details call Jennie Richmond on +44 (0)20 7523 2204.

Out of Sight - Out of Mind

WWF has released a new report highlighting the UK Government's failure to recognise the scale of nutrient pollution. www.wwf-uk.org/orca.

Global Network News provides regular, concise updates on major events related to globalisation happening in Scotland, and around the world. Subscribers will receive a short, weekly email. Links will be provided to the full text and to the original source. And it's free to subscribe.

www.wdmscotland.org.uk/globalnetwork

Work from the mighty pen of George Monbiot, one of the UK's finest eco-crusaders, collected online at long last.

www.monbiot.com

Go MAD next year

In November we are publishing **GO M.A.D (Go Make A Difference)** a pocket-sized guide packed with 365 practical and useful tips on how we can all take one daily action that will benefit our environment, ecology and community.

Through **Go Make A Difference** we are looking to narrow the gap between the principle and practice of ecological living. We aim to educate, enthuse and entertain people with our shared message; that change is easy, enjoyable and a 'must'.

Each tip focuses on an action that we can take to enhance our local or global ecology or an action that we can avoid which will prevent a damaging impact on our ecology. At *The Ecologist* we've got 30 years of archived material to work from, but we desperately want to hear your ideas and tips.

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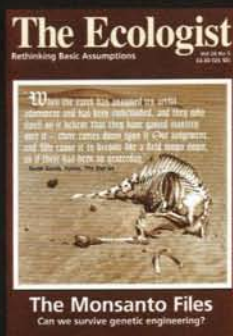
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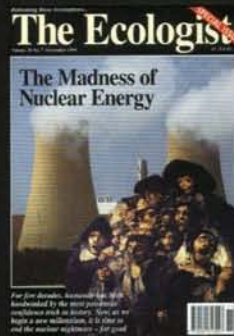
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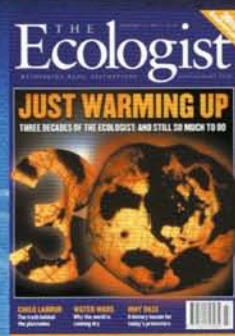
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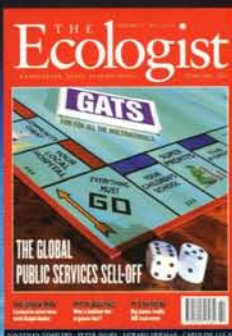
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