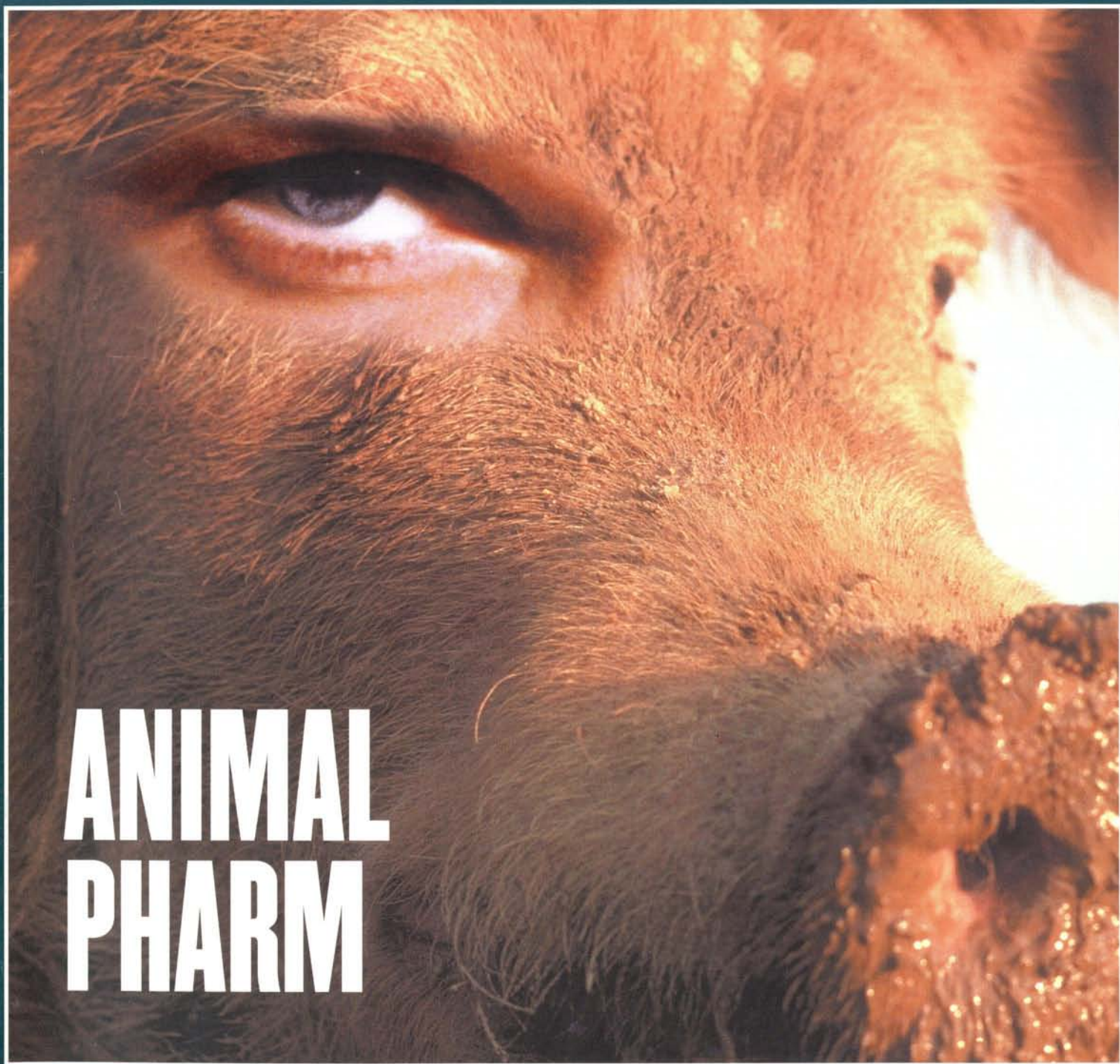


THE **Ecologist**
VOLUME 30 NO 9 £3.50
RETHINKING BASIC ASSUMPTIONS DEC 2000/JAN 2001



ANIMAL PHARM

POWER FAILURE
Why Clare Short is a
disappointing date

WALL STREET 2
Just when you
thought it was safe...

SMALL HOLDING UP
Sustainable agriculture
is really working



optimistic

outraged

daring

stubborn

activist

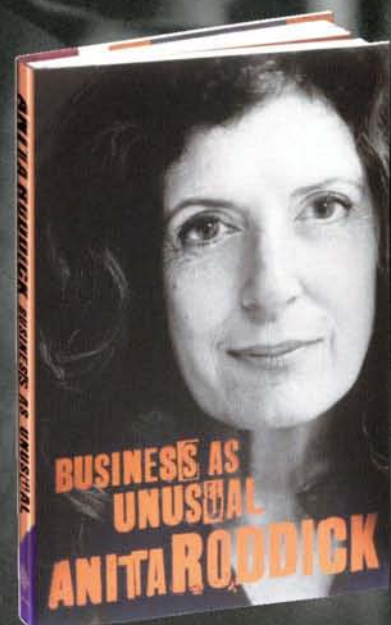
visionary

angry

enterprising

passionate

engaging



AT MAJOR BOOKSTORES AND  THE BODY SHOP.



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WHO WON? WHO CARES?

I fell asleep on US election night in the knowledge that Al Gore was president. I awoke a few hours later to hear that George Bush had won. In the morning I learned that in fact the world's number one 'democracy' had gotten itself into one fine predicament. No one had won.

The events could not have been more entertaining, but I couldn't escape the feeling that I was watching a mediocre wrestling match whose outcome was already obvious. For while at the time of writing the results are unknown, for anyone concerned with the true state of the planet, the campaign was a chronicle of a victory foretold; a victory for big business, and for a global economic system whose number should have been up long ago.

The two main candidates were backed by larger war chests than at any other time in history; More than \$300 million was spent in total – and that's not taking into account the hundreds of millions of 'soft money' dollars. Corporations were falling over themselves to purchase policy. And policy they will get – whoever ends up at 116 Pennsylvania Avenue.

Our friends at Monsanto have already stated that 'agricultural biotechnology will find a supporter occupying the White House next year, regardless of which candidate wins the election in November'. The oil and chemical giants have their plans too. 'In Texas,' according to Sustainable Energy and Economic Development Coalition, 'Bush more or less allowed industry heavyweights, including Exxon Corp, to write their own lax rules about oil and chemical plant pollution'. Why should this change in the White House? Meanwhile Gore's long-established links with oil money, as well as their contributions to his campaign, will certainly further their already considerable access to decision-makers.

On the bigger picture – the global system of 'free' trade, corporate rule and economic globalisation – the two candidates are also reading from the same script. According to a Bush aide: 'The best way to improve conditions for labour and the environment is to have the economic growth that is produced by free trade.' The Clinton-Gore administration, meanwhile, ratified NAFTA and threw its weight behind WTO agreements. Spot the difference? I can't.

The truth is, both candidates are minimally different sides to the same coin. Neither have paid more than lip service to really pressing issues. Gore is supposed to be the great green, but his track record is hopeless. They say the question now in America is not whether Gore wrote his book, *Earth in the Balance*, but whether he in fact read it. He has been caught out on too many issues, from global warming to incineration, to be taken seriously. Bush, in a characteristic-

ly disingenuous remark, has said that 'every environmental issue confronts us with a duty to be good stewards'. With his home state of Texas ranking number one in every negative department, from toxic waste, cancer-causing chemical contamination and so on, we can safely deposit that little number in the bin.

With citizens of 'the world's only super-power' being asked to choose between Tweedledee and Tweedledum(b), you might think that the candidacy of a third party, with a different set of values, would be met with excitement. Enter Ralph Nader's Green party. Nader appeared on the scene ready to tackle exactly those issues religiously ignored by Bush and Gore. As he put it, 'the two parties just campaign by hurling 30-second television ads against one another after indenturing themselves to the corporate interests by raising tens of millions of dollars from them in return for future favours'. Here was someone willing to talk openly about corporate domination, campaign finance reform and an environmental crisis that puts us all at risk. Result? The establishment tried to block his way and then turned their guns on him.

What Ralph Nader was embarking on, wrote the *New York Times*, was 'a self-indulgent crusade'. And as if to demonstrate their ignorance of important issues, they explained: 'Whichever side one favours, the Texas governor and the vice president offer as stark a choice on the environment as was ever put on view in a presidential contest.' The same message was repeated on all sides of the establishment, even from some Greens: Nader is a 'spoiler'. Following signs that Nader may have cost Gore victory, the Democrats began pointing fingers at him. Rather than wonder why many Democratic voters were willing to hand Bush the presidency in order to voice their fears, the Gore camp blustered. 'He cost us the Presidency and he's never going to be forgiven for that', said one.

Yet the campaign was a great success for Nader. He achieved what he set out to, and demonstrated that there is a new movement in the US, which is not about to go away. Nader never set out to win the race, only the arguments. And if only one argument has been won, it is that the corporate-financed two-horse race doesn't work.

'Corporations now reward politicians,' says Nader, 'who can deliver environmental votes and opinion without seriously deterring their goals with burdensome environmental constraints.'

'Go for the lesser of two evils,' he said, in the most important soundbite of the election, 'and you will end up always with evil.' By the time this magazine is printed, we will no doubt have the clear results. But except out of sheer curiosity, I will not be switching on.

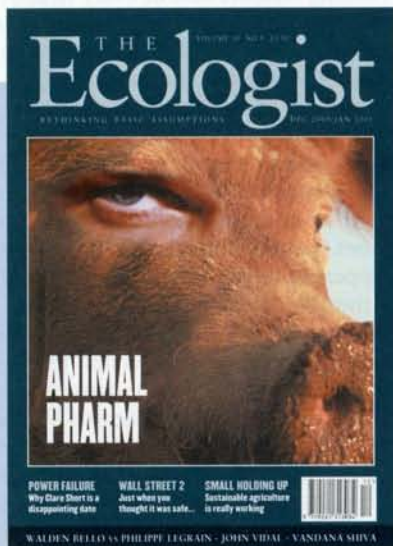
ZAC GOLDSMITH



RICHARD WILLSON

THE Ecologist *contents*

VOLUME 30 NO 9, DEC 2000 / JAN 2001



COVER STORY

Scientists, doctors and seers of the future are getting very excited about xenotransplantation – the transfer of organs from animals to humans. This could, they say, lead to a revolution in medicine; even an extension of our lifespans. What we are not told about is the risks. For the story behind xenotransplantation is a frightening one. It is a story of falsified reports and compromised science. It risks the potential introduction of new diseases to humans – with possibly catastrophic results. And, although xenotransplantation has been worked on by scientists for almost 100 years, it so far boasts not one single success story. Alix Fano explains the truth behind the hype and the dangers we face. Page 34.

Cover photograph: Image Bank/Tony Stone

FEATURES

26 Wall Street 2

The world economy today is worryingly similar to that of 1929 – just before the catastrophic Wall Street Crash. David Boyle wonders whether it could all happen again.

30 Brecon reckoning

The big supermarkets have achieved dominance in Britain by perverting the market and buying up officials. The consequences for communities have been disastrous; as George Monbiot discovered when he visited the Welsh town of Brecon.

34 One man's meat

Alix Fano explores the unpleasant truth behind xenotransplantation.

40 Small holding up

With farming in crisis, we desperately need to find a sustainable alternative form of agriculture. But could it ever work? Yes, says John Zarb; in many places around the world, it already is.



COMMENT

46 Malcolm Tait

Cloning extinct or endangered animals is not the future of conservation – it is merely an excuse to carry on our destructive ways.

48 Simon Retallack

A recent meeting with Clare Short revealed how politicians can become compromised by power.

49 Melford Ita

Western-inspired international agreements are not the way to help the 'developing' world.

50 James Wilson

The media's representation of tribal groups is doing them a disservice.

51 Vandana Shiva

Rice, for the 'Third World', is more than just a food – it is culture and history. Now it is under threat.



The Ecologist special issues

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PROFILE

24 **The Good, the Bad and the Ugly**

Continuing our series which takes a questioning look at the heroes and villains of our time. This month: scientist James Lovelock and environmental naysayer Richard D North.



REGULARS

6 **Letters**

Your chance to air your views.

8 **News**

The latest events and stories from around the world.

16 **Campaigns**

Find out what's going on, where, when, and how to get involved. Plus, bone up on the latest, and best, Internet-based campaigns.

20 **Debate**

The WTO: a rules-based force for fairer trade or a tool for the global dominance of Western corporations? Economist Walden Bello and WTO special adviser Philippe Legrain go head to head.



V



REPORTS



54 **Payout or payoff?**

Peter Bunyard examines how the activities of the insurance industry can tell us a lot about the real effects of climate change.

56 **Death of a legend**

David Brower, America's foremost environmentalist, has died aged 88. We look back on his groundbreaking career.

57 **Resistance takes root**

The anti-GM movement in the US is catching up with its counterpart in Europe, reports Jonathan Querling; as evidenced by the growth of crop-pulling actions.

58 **Gauling behaviour**

France is drawing up its new 'cancer policy'. But, as Thierry Jaccaud reports, its focus on cure rather than prevention bodes ill for the future.



53 **Doctor's handwriting**

Lynne McTaggart says that gall bladder operations cure nothing, except the conscience of the surgeon involved.

60 **Reviews**

A roundup of some of the best environmental reading around.

65 **References**

Further reading and resources.



66 **The Crow**

A take on the possible effects of Chinese attempts at population control.

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LETTERS

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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.

VIOLENT RESPONSE

Reading your curious debate on whether violence is ever permissible (Vol 30 No 8), two points surfaced in my head. One: if you press any principle as far as you can go, you generally end up in absurdity.

Two: a principle is a lazy-minded man's device for saving himself the trouble of making up his mind on a particular issue.

What was odd about the debate was the total absence of any reference to the scale on which events are orchestrated. Was it not Gandhi who declared 'You cannot have morality without community'? Obviously if you live in a human-scale community such as a village, then any resort to violence to settle general problems is simply irrelevant; violence itself becomes just another problem to be resolved. Even here, if a psychotic individual is running around with a gun intent on murder, somebody has to decide to shoot him first or give him a kick in the balls, if worse is not to ensue. To adhere rigidly to some abstract principle that precludes effective action in such circumstances is simply absurd.

This is more to the point when we live, as we do, in mass societies. The very nature and structure of any mass society is a denial of the value of human relationships, and of human moral judgements stemming from them. In the mass society you are not dealing with your neighbour; you are dealing with vast impersonal forces of greed for money and power; to these forces, morality, whether of non-violence or any other principle, is a tool to be used for their ends, or discarded if not.

By all means let us accept the imperatives of non-violence where we can, if only because it is a morally superior stance and has its own way of winning friends and influencing people; but to deny the legitimacy of violence, if only to resist evil when practised on a mass, impersonal scale which is threatening the very existence of civilisation, is simply to swan along in a mist of otiose unreality.

JOHN PAPWORTH *Fourth World Review, UK*

STILL SOMETHING FISHY

Ed Metcalfe, in his commentary (*Fishing Wrongs* Vol 30 No 6), rebukes vegetarians who still choose to eat fish, because the world's fish stocks are crashing. However,

ON THE WRONG SIDE?

At times, we find one of our enemies on our side in battling another. It is exactly at such instances that one's ideology is put to the test.

In your news section (*We, the Corporations*, Vol 30 No 7), I was surprised to see *The Ecologist* attacking the WTO for criticising a US corporate hand-out. Congress had passed a bill giving export corporations a break on their profit taxes – a classic scheme of reducing the taxes for the richest corporations. The WTO rightly ruled that this was an inappropriate measure, as all it does was to give a hidden export subsidy to large US firms.

Incidentally, the WTO did what *The Ecologist* has always called for in its edito-

rial pages: reduced the power of a far-away corporation to penetrate foreign markets through government largesse. Yet *The Ecologist*, apparently inspired by its dislike for everything remotely associated with the WTO, sided with US law over the common-sense approach that (for once) prevailed in this WTO ruling.

I understand and share your dislike of the WTO. I will not praise the WTO for doing the right thing once in a while. But it strikes me that defending corporate handouts and hidden subsidies for globalised trade just to stick it to the WTO again isn't a wise policy in the long run.

THOMAS JANDL

Bellona, Washington, DC.

if his implication is that farmed fish is an ecologically-friendly alternative, then this is a dangerous idea.

Naylor et al (*Nature* Vol 405:1017-1024) explain why. In many cases, aquaculture threatens wild fisheries through habitat destruction, extraction of seed stock, and overfishing of small fish to feed farmed carnivorous species. Specific reports on such problems are becoming commonplace. For example, as revealed in *Something Fishy* in the same issue of *The Ecologist*, pollution from UK fish farms probably contributes to heightened levels of toxic algal blooms.

In the northeast Pacific, escaped Atlantic salmon from seapens pose potentially serious risks to the health of wild Pacific salmon stocks. Hundreds of thousands of farmed Atlantic salmon have escaped from pens, adults in spawning condition are caught regularly in commercial fisheries and have been discovered in several streams in British Columbia, Canada, and juveniles have been discovered in two BC streams (indicating that spawning occurred). In addition to adults competing for spawning habitat, juvenile Atlantic salmon may be tough competition for native juvenile salmon, especially endangered steelhead rainbow trout. Other risks to wild Pacific salmon, such as disease transmission, are not well-studied.

I agree that many wild fisheries (includ-

ing Pacific salmon) are in serious jeopardy due to overfishing and overconsumption. Unfortunately, fish farming is not a viable solution and will not relieve pressure on wild stocks. Everyone needs to choose their food carefully and consider how their purchases will impact our natural resources, regardless of whether they are derived from farming or from wild fisheries.

YOLANDA MORBEY *Vancouver, Canada*

DIET: THE CANCER KEY

In his article *Your money and your life?* (Vol 30 No 7), Martin J Walker writes how cancer sufferers are increasingly being expected to take the blame for causing their illnesses through one or more kinds of unhealthy lifestyle. Harsh though it may sound, and while it in no way detracts from the responsibilities which companies have for what they produce and sell, people owe it to themselves to take more responsibility for their own health and that of their children. If they did, rates of cancer, heart disease and other dangerous and potentially fatal illnesses would plummet.

As a result of the BSE scandal, nearly everyone came to recognise that feeding animals an unnatural diet is bad for their health. It should be equally obvious that if humans eat an unnatural diet, their health is also likely to suffer. Animal flesh is not

the natural diet of the human animal, so even if meat is not from an animal that has been pumped full of a cocktail of chemicals, hormones, etc, it is still bad for us.

Dairy products are also very bad for our health, and are one of the main causes of heart disease, along with smoking. Fortunately a growing number of doctors are coming to realise this although, unfortunately they appear to be in a minority. More information about the health dangers of dairy products and other animal by-products can be obtained from the Vegan Society.

Go vegan – it's still not too late to become civilised!

SANDRA BUSELL *Edinburgh, UK*

CANADIAN CANCERS

I read with great interest your article *Your money and your life?* (Vol 30 No 7). Here in Canada, a parallel situation exists. I first became aware of it when I went to talk to one of the top scientists at the University of Toronto about the relationship between diet and colon cancer. Surprisingly, his knowledge of past research in his field of expertise was less inclusive than my own (I am an interior designer by trade). Nevertheless, he gave me access to books and journals recording all of the registered scientific research going on at the time and for several years past. After spending time going through these journals, I have yet to find anything meaningful in the way of research concerning the relationship between diet and cancer. When I asked him his thoughts on the subject he summed them up by describing his profession as 'pigs at the trough'.

When asked why there was no research being done, his response was that the money was not available. I asked him how much money would be required to do a meaningful study. His reply was \$3,000,000. In the general scheme of scientific research, 3 million dollars is a tiny amount of money. However, not one cent appears to be available from the funding sources that could make a difference to the cancer bottom line.

Cancer fraud does not end with the medical and scientific communities. The other major 'player' is the food industry, particularly the dairy industry. Combine dairy products with sugar, refined food, red meat and alcohol and it is only a matter of time before something serious from cancer to MS goes seriously wrong with you. Add prolonged stress and drugs to the equation and your chances of serious health problems are virtually 100 per cent unless you get run over by a bus first.

Looking at the picture as a whole, it looks like a long-range plan by aliens to

destroy the human race. The reality is worse: those in charge are just as clueless for the most part as the rest of us. The prime motivator in this play is greed on all sides, so the prognosis is not looking good. I think of the cancer fraud situation as a real life X-File.

JOHN NEWELL *Ontario, Canada*

UN-SAVORY

I am writing in response to a letter by Alan Savory (*Water is livestock*, Vol 30 No 7). Savory is a proponent of so-called 'Holistic Resource Management', or HRM, which attempts to mimic, using cattle, purported ecological benefits of intense, short-duration grazing by large herds of ungulates, which occurs in certain grasslands. However well intentioned Savory may be, his views are seriously mistaken and abundantly contradicted by scientific evidence.

HRM is predicted by Savory to result in improved water infiltration into the soil, increased mineral cycling, reduced percentage of ungrazed plants, improved livestock distribution, increased period of actively-growing forage, and accelerated plant succession. Yet Holechek et al, (*Rangelands* v22 18-22), review available studies of short duration grazing and find no support at all for any of these predictions. This array of studies includes some from Zimbabwe, where Mr Savory developed his ideas.

All available empirical evidence points to the fact that grazing damages grasslands and shrub-grasslands, while there are no examples of grasslands that have 'deteriorated' when 'excessively rested', as Savory claims. The best contrary evidence are the grasslands and shrub-grasslands throughout the western US that have flourished for decades or hundreds of years without grazing.

Mr Savory's contentions would be quaint if they were not being adopted and promot-

ed by a large number of public land ranchers and the federal bureaucrats that serve them in the western US. This is a sociological phenomenon whereby ranchers and bureaucrats formerly hostile to environmental protections have been able to recast themselves as 'good stewards' by adopting one or another version of Savory's ideas. There is a good American word for it – 'hype'. The damage and endangerment of species goes on apace, while the general public is served the illusion that the ranchers have had a big change of heart.

MARTIN TAYLOR

Grazing Reform Program, Tucson, US

TO HELL AND BACKPACKING

I'm sorry to say that the introduction to Paul Kingsnorth's excellent Ladakh feature (*Shadows in the Kingdom of Light*, Vol 30 No 8), struck a most unwelcome chord with me and I wonder whether the matter is worth exploring further in your pages.

I refer to a most insidious form of pollution sweeping the planet; one that masquerades under the guise of enlightened beings wishing to explore cultures different to their own, but one that has seemingly been hijacked by the 'me-too' generation. Not content with the cheap Ecstasy-fuelled thrills found at sites such as Ibiza, Goa, Ayia Napa, Koh Phangan and the like, these uncaring pleasure-seekers and their manifesto of rampant hedonism seem sadly to be found in pastures ever further afield.

Is it really any wonder that the Vietnamese term for backpacker has become one of contempt?

GUY CAVENDISH *London, UK*

Correction: Robert Edwards's article *Bags of Rubbish*, (Vol 30 No 8) and the report to which it referred were co-authored by Rachel Kellett. Our apologies for the omission.

JUST A QUICK WORD...

SERIOUS DISTURBANCE

Re: *Your money and your life* (Vol 30 No 7). Having read this piece I sent a copy to Susan Deacon MSP, responsible for health in the Scottish parliament. I wrote: 'If only half the contents of this article are true, it is very disturbing reading. From the viewpoint of a frequent donor to the cancer funds, I am disgusted. In view of the importance of this matter, can this be raised within the parliamentary debate?' The total lack of a reply seems to verify *The Ecologist's* position.

PETER HEMPSEED *Musselburgh, UK*

RAILY NOT TRUE

Contrary to popular belief, passenger rail transport is three to five times as expensive, has one-third the capacity to move people, uses up to three times the fuel and probably kills as many people per passenger mile as would an equivalent express bus service. Averaged over the network, each track carries the equivalent of only about 250 buses plus lorries per day. This compares with the 15,000 vehicles per day per lane on the M1.

PAUL F WITHRINGTON *Northampton, UK*

SHUT UP AND EAT IT

GM corporation Aventis has been revealed in its true colours.

The recent product recall of 'StarLink' (*The Ecologist*, Vol 30 No 8), the GM maize produced by Aventis CropScience should have a detrimental effect on the company's next profit announcement.

The US Department of Agriculture has estimated that Aventis's repayment to farmers for this 'mistake' alone will be in the region of \$100 million. And the corporation's subsequent request to the US Environmental Protection Agency (EPA) for temporary approval of the corn for use in human food because new tests show that the health risks posed are 'many times smaller' may be linked to those losses. Fortunately this request was in vain. Whilst as much as half of Iowa's corn could be contaminated, Aventis refuses to release the names of those growing the corn to any of the grain dealers. Since the first recall, Aventis has pulled StarLink from the entire agricultural market, and nearly 300 kinds of taco shells and chips have been withdrawn from US grocery stores and restaurants.

Meanwhile, Kelloggs, which doesn't separate GM and GM-free ingredients, was forced to shut down production at a Tennessee plant for several days because the company could not find corn guaranteed to be free of StarLink. ConAgra Foods, one of America's biggest packaged food companies temporarily stopped operations at a Kansas mill believed to have received some StarLink corn, too. Next door in Canada, the GM maize happily found its way into taco shells and Kelloggs cereals. Maybe it's no coincidence that the Canadian Parliament had just voted against mandatory labelling of GM products. So much for precaution.

Japan, which hasn't approved the maize for any use but is the single biggest importer of corn, has now insisted that all corn

imports are StarLink-free. All the while a Japanese consumer group has provided evidence that the controversial maize has made its way across the Pacific and into cornmeal manufactured for human consumption. All the while, discussions with US officials have failed to persuade the EU that StarLink has not found its way into Europe, too.

These events are a powerful reminder that GM regulation just isn't working. In this particular case, the seed industry was effectively left to police itself – with predictable consequences. But the case has also shed significant light on how Aventis works. In the UK Aventis has admitted that it has grown a herbicide-resistant sugar beet without permission at two trial sites, saying that it had discovered 'tiny' amounts of this unauthorised beet line. What a coincidence that the 'mistake' was discovered when the beet in question was tested in 39 German trials and a further nine across Europe, including the UK, France and the Netherlands. In the UK, Aventis, already at the centre of a public hearing over GM crops, faces investigation and possible prosecution by the Central Science Laboratory.

By the way, Aventis CropScience USA, owner of the Iron Mountain Mine near Redding – source of the most acidic mine drainage in the world – has, after almost nine years of litigation, been declared responsible for the bulk of the estimated \$1 billion cost of clean-up and management of this most toxic Superfund site. According to Felicia Marcus, the regional EPA administrator: 'The discharge from Iron Mountain is so toxic that when workers inadvertently left a shovel in the green liquid flowing from one of its portals, the next day half the shovel had been completely eaten away. Can you imagine what damage this type of drainage could wreak on the ecosystem?'

So who trusts Aventis now? Make your own mind up.



AP PHOTOS

CORAL GRIEF

Global warming is threatening the very existence of 'the rainforests of the sea'.

According to researchers addressing delegates at the 9th Coral Reef Symposium in October, more than a quarter of the world's delicate coral reefs have been destroyed by pollution and climate change, and unless immediate measures are taken most of the remaining reefs may be dead in as little as 20 years. In some of the worst affected areas, like the Maldives and the Seychelles, up to 90 per cent of all coral reefs have been killed over the last two years by an increase in water temperature. Coral reefs play a major role as anchors for marine ecosystems. This means that with reefs dwindling at such a fast pace so will thousands of species of fish and marine life. In 20 years, says scientist Ove Hoegh-Guldberg, water temperatures could have risen to the point where the reefs will be sitting in a 'hot soup', unable to survive. Clive Wilkinson, an Australian scientist, said at the symposium that 'the world's attitude to global warming must change'.

GRIN AND BEAR IT

There is good news – with caveats – for the polar bears of the Arctic.

Russia and the US have signed an agreement to 'increase' protection for polar bears in the Arctic region of north-eastern Siberia and Alaska.

According to the Worldwide Fund for Nature all commercial hunting and killing of female bears with cubs, bears younger

than one year and the use of aircraft, traps or snares to hunt bears are now prohibited. The agreement also establishes a bear management and conservation plan that involves the participation of native tribes in Alaska and Russia on the management commission, and fixes quotas on how many may be hunted for subsistence. There are an estimated 3,000 polar bears in the Chukotka region of northern Siberia and Alaska and although numbers have been stable, conservationists have been fearing a decline due to poaching and commercial hunting. Two questions though: what about quotas on commercial hunting for male bears, bears 'older than a year' and females without cubs? And how does a hunter spot the difference?



NO TAXATION BUT SO MUCH REPRESENTATION

A new report reveals how some of the richest US corporations regularly avoid paying fair taxes.

According to *Corporate Crime Reporter* and the *International Herald Tribune*, a study conducted by the Institute on Taxation and Economic Policy, a Washington research organisation, examining the profits and federal incomes of 250 of the nation's largest and most profitable corporations over the 1996/98 period, reveals that 41 companies paid less than zero in federal income taxes in at least one year. In those tax-free years, the 41 companies reported a total of \$25.8 billion in pre-tax US profits.

Rather than paying \$9 billion in federal income taxes at the standard 35 per cent rate, they enjoyed so many tax breaks that they received \$3.2 billion in rebate cheques from the US Treasury! Texaco, for example, reported \$3.4 billion in profits and \$304 million in tax rebated over three years. In 1998, 24 corporations – almost one in 10 of the companies investigated – reported US profits before taxes of \$12 billion for 1998, yet received tax rebates totalling \$1.3 billion. Big corporations like Goodyear, Texaco, Colgate-Palmolive, Kmart, Enron, Pfizer, Pepsico and

J P Morgan are amongst these.

The study found that tax breaks for the 250 companies lowered their taxes for a total of \$98 billion in tax savings over the three years. General Electric (GE) topped the list with \$6.9 billion in tax breaks. Companies used a variety of means to lower their federal income taxes, including accelerated depreciation write-offs, tax credits for oil drilling and 'research'. GE for example, slashes its tax bills every year by 'buying' tax breaks from companies that have more than they can use. Annual reports filed by Microsoft and Cisco Systems indicate that they paid no federal income taxes in 1999 because stock options exercised by employees wiped out profit for tax purposes. Pfizer Inc, Intel Corp, Bristol-Myers Squibb Co and GE also sharply reduced their tax rates through stock options.

Robert S McIntyre, a principal author of the report, said that 'with significant help from Congress, corporations appear to be finding ways around the tax reforms', and that these 'findings will encourage lawmakers to re-examine this important area of taxation'.

POLLUTING THE POOR

US officials have been forcing the poor to live in the most polluted areas.

According to a recent article published in *The Dallas Morning News*, decisions by federal and local officials have forced nearly a million American families to live in polluted areas at the expense of taxpayers. In a nationwide look at government-subsidised housing across the US, the paper found large blocks of public housing next to factories pouring toxic pollution into the air or dumping toxic waste. Although some of the housing estates were built at a time prior to 'official acceptance' of the health risks involved, thousands of families continue to

live in these areas. What's more, since 1993, the federal government has committed more than \$4 billion to rebuilding public housing in many of those same places. In a written statement the US Department for Housing and Urban Development (HUD), which funds and oversees subsidised housing, said that it is 'not aware' of any overall problem with where its projects are located. Twice, during the last four years, independent researchers have warned HUD about potential toxic risks near some of their projects. Both researchers told the paper that the agency took no action on their findings.



NOTES & QUOTES

'According to the Federal Reserve, Americans are spending more than they are taking in, marking the first time since the Great Depression that the country has experienced a negative savings rate.'

Jeremy Rifkin, author of *The Age of Access: How the Shift from Ownership to Access is Transforming Capitalism*

'The only way to make a government more efficient is to decrease its size. Any large apparatus obligatorily becomes corrupt... all taxes are too high, governments are too fat.'

Milton Friedman in a recent interview with *Der Spiegel*

'These farmers get less than 7 shillings (8.8 cents) a kilogram for coffee, while in the past it was 20-30 shillings. They don't have enough money to buy food; they can't pay for their children's education.'

Nganga Waweru, a farmer representing coffee growers north of Nairobi

'There was 'a clear policy of restricting the disclosure of information about BSE'.

Lord Phillips, chairman of the BSE inquiry
BUT...

'The government did not lie to the public about BSE.'

BSE inquiry report

'This is in the interests of the environmental community itself, because if environmental measures are seen or believed to be hidden "green protectionism", it would set back your cause and ours.'

Mike Moore, director-general of the WTO
BUT...

'An unholy alliance of protectionists, with no real objective other than to close the opening of opportunities for others.'

Peter Sutherland, chair of Goldman-Sachs and BP Amoco, on the Seattle protesters

'We're in a crisis position where we know the weaknesses of the genetic concept, but we don't know how to incorporate it into a more complex understanding.

Monsanto knows this. DuPont knows this. Novartis knows this. They all know what I know. But they don't want to look at it because it's too complicated and it's going to cost too much to figure it out.'

Richard Strohman, professor emeritus, University of California, USA.

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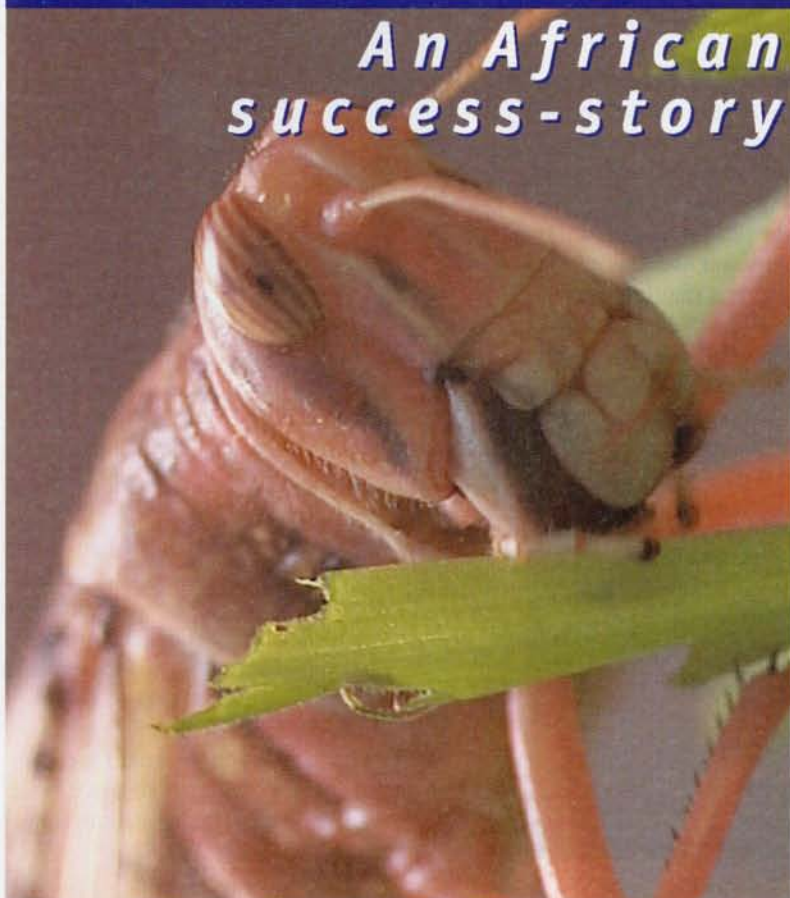
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GOOD NEWS FROM GERMANY

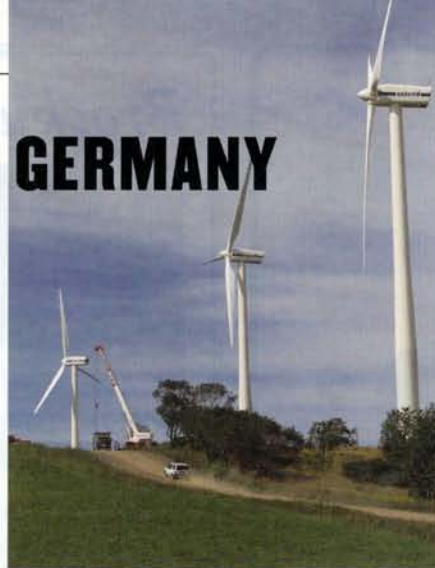
A new legal decision paves the way for governments across Europe to support and subsidise renewable energy.

A German law of 1998, designed to promote the use of electricity from renewable energy sources requires regional electricity undertakings to purchase, at fixed minimum prices, electricity from renewable energy sources within their area of supply. It also obliges suppliers of electricity from conventional sources to partially compensate the distribution undertakings for the additional costs caused by that purchase obligation.

Schleswig AG, a regional electricity distributor in Schleswig-Holstein obtains almost all of its electricity from the corporation PreussenElektra. By virtue of the law that promotes electricity from renewables, Schleswig is obliged to purchase electricity from renewable resources within its area of supply.

The proportion of electricity from wind supplied to Schleswig has thus steadily increased from 0.77 per cent of its total sales in 1991 to an estimated 15 per cent in 1998.

At the end of April 1998, when Schleswig's purchases of renewable energy reached 5 per cent, it invoiced PreussenElektra for the additional costs entailed. PreussenElektra paid. But recently, in a court case brought to the European Court of Justice, PreussenElektra contended



AP PHOTOS

that the payment to Schleswig had no legal basis and should be returned.

In essence, then, PreussenElektra contended that the national law promoting renewables gave an unfair advantage to the producers of renewable electricity.

In late October, though, EU advocate-general Francis G Jacob delivered the recommendation that Germany's 1998 law presents no 'illegal subsidy' within EU competition law. Since the subsidy does not originate from public funds but is shared as a sort of levy by all electricity customers, it is legitimate.

This could set an important precedent for other European governments, who are now free to promote renewable energy in similar ways, without falling foul of 'competition' watchdogs like EU Competition Commissioner Mario Monti.

NOTES & QUOTES 2

'The issue is not to discuss whether globalisation is good or not, just how to benefit from it.'

Nemir Kirdar, CEO of Investcorp

'If the GM maize 'Chardon LL' was approved for commercial growing in the UK then people would be justified in turning their back on consuming milk derived from it. As a scientist I wouldn't drink milk from cows fed GM maize with the present state of knowledge.'

Professor Bob Orskov OBE, director of the International Feed Resource Unit, Aberdeen

'There is a fundamental inconsistency between the (UK) government claiming to lead the international community in combating climate change and their calling on Opec to increase oil production.'

Tony Grayling, *The Guardian*

'Ralph Nader has a fatal flaw – he tells the truth.'

Howard Zinn, historian

'Before anyone rushes into increasing incinerators... we should actually look at the evidence about risks to human health and the environment caused by energy from waste incinerators. Until that time I am opposed to any new incinerators or expansions.'

Ken Livingstone, mayor of London

'You can do better than nature.'

James Young, executive vice president, MedImmune

3°C (6.3°F) above 1990 levels was the average worst-case scenario temperature rise predicted by the Intergovernmental Panel on Climate Change in 1995.

BUT...

6°C (11°F) above 1990 levels is the average worst-case scenario temperature rise they are predicting today – just five years later.

£1 million – amount released by the UK government for the care of CJD victims.

BUT...

£140 million – compensation paid to farmers for the slaughter of BSE-infected cattle.

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by Stan Eales

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continued on page 13

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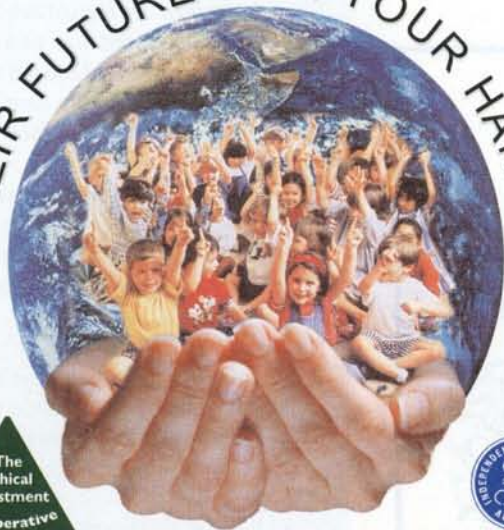
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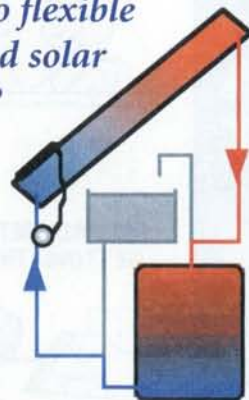
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GERMANS ATTACK BIOTECH REGULATION

The German government has called for a review of European biotechnology regulations.

The German government has declared that the controversial EU Biotech Directive (98/44/EC – see *The Ecologist*, Vol 30 No 4) does not adequately deal with the rapid advancements in the field of biotechnology and therefore needs to be amended. The government pointed out that the directive is particularly inadequate in dealing with 'the range of product patents, the patentability of genes, gene-sequences and parts of gene-sequences derived from humans, animals, plants or micro-organ-

isms'. Furthermore, it says, 'the relationship between the patent system and the plant variety protection system needs to be adequately formulated' and, 'ethical limitations to the patenting of human body parts must be enforced worldwide'. Germany's initiative is important, but ultimately it is formally up to the EU Commission to initiate new legislation. So far, the EU has been reluctant to recognise the severe problems caused by the present directive. The support of other EU member states, and of the EU Parliament for the German initiative is therefore vital.

RETURN OF THE DAM BUSTERS

The US interior secretary is tearing down the country's big dams.

The Matilija Dam in Southern California, built in 1948 to provide drinking water to the Ojai Valley and reduce flood hazards on the Ventura River, has long been a thorn in the side of environmentalists and politicians alike. The river basin is choked with 6 million cubic yards of sand and dirt, and the dam itself is cracking with age. Equally important is the fact that the dam has been blocking the endangered steelhead trout from prime spawning grounds further upstream. So Bruce Babbitt, (right), US interior secretary and an out-spoken critic of



dams, promised to use his last days in office to see through the removal of the dam. Using the pedals and levers of a towering crane, he pulled a 16,000-pound chunk from the mammoth face of the dam, the first symbolic step in the demolition of the ageing structure. 'Now, that was real power,' Babbitt said as he greeted the crowd of politicians and environmentalists who had gathered for the start of a \$426,000 project that will test methods for tearing down the dam. For the last three years, Babbitt has led a nationwide tour to knock down about 12 obsolete dams, usually carrying a symbolic sledgehammer with him.

RUSSIA'S SILENT PERIL

How much radioactive waste is languishing beneath Russian soils?

Isolated between two of the world's tallest mountain ranges, the Fergana Valley in Kyrgyzstan is Central Asia's breadbasket. At one end of the valley stands the Maili Suu plant, a Soviet-era uranium processing plant whose 70 million cubic feet of radioactive waste represents a dangerous toxic time bomb. According to the *International Herald Tribune*, much of the highly radioactive material is buried under thin layers of sand, gravel and clay. The

ground is unstable and susceptible to earthquakes and there is a serious danger that landslides and floods could send the material into the close-by Maili Suu River. Winds could already be carrying such material into rivers and streams, near and far. The Maili Suu plant is among dozens of environmental hazards littering Central Asia but nobody knows how many Soviet-era repositories of uranium waste and toxic chemicals are scattered throughout Kyrgyzstan. So far no action has been taken to remedy this huge problem.

NOTES & QUOTES

£50 million – New Labour's (via the National Lottery) subsidy to support offshore wind and biomass.

BUT...

£583 million – New Labour's (via the National Lottery) total subsidy to the Millennium Dome, as of May 2000.

According to the Department of the Environment, UK shoppers use 8 billion plastic bags a year – 134 for every person in the country.

A 1999 study by the University of Wisconsin found that three decades of the overuse of nitrogen in US farming has destroyed much of the soil's fertility, causing it to age the equivalent of 5,000 years.

According to WWF, if every human alive today consumed natural resources and emitted carbon dioxide at the same rate as the average American, European or Australian, we would need at least another two planet Earths.

According to Congressman Tom Udall, over 35 million gallons of cyanide containing fire retardants were dumped on fires in the West this summer alone. In Pajarito Canyon, cyanide levels were measured at 110 micrograms per litre. The state's 'safe' level is 22 micrograms per litre.

'On the Move' (www.londonhealth.co.uk) – a report commissioned by UK's National Health Service – found that each year Londoners lose about 34,000 years of their collective lives through transport-related pollution.

According to Cambridge University, fallout from Chernobyl has in some areas increased childhood thyroid cancer to a rate of 90 per million per year. The 'normal' incidence is only about 1 per million per year.

Marine fish landing in Goa in 1963
17,000 tons
Mechanised fishing boats in Goa in 1964
10

BUT...

Marine fish landing in Goa in 1997
94,547 tons
Mechanised fishing boats in Goa in 1998
2,200

NEWS IN BRIEF



ENVIRONMENTAL IMAGES

VIVISECTION BY AIR – UPDATE

In an undercover investigation in Tanzania by the British Union for the Abolition of Vivisection (www.buav.org) has found a shockingly lucrative trade in wild Olive baboons. The animals are sold for as little as £8 by trappers, yet fetch up to £800 each on the international market. Entire baboon families are ripped from the wild with cruel and crude traps. One trapper told BUAV how he ties caught baboons to a tree with a piece of rope until a dealer comes along. BUAV also witnessed the appalling conditions under which the animals are kept, sometimes for weeks, prior to their export to laboratories around the world. Baboons from Tanzania have been flown by Air Tanzania, Egypt Air and Ethiopian Airlines to key customers mainly in the USA, Russia and Yugoslavia.

ANIMAL CANNIBALS

Co-op, one of the oldest and largest retailers in the UK, has called for a European ban on the feeding of animal waste to farm animals. Currently blood, poultry, offal, feather meal and tallow are all legally permitted animal by-products which can be used in the diet of farm animals. An NOP survey commissioned by the Co-op found that 73 per cent of consumers believe that these practices have a 'bad effect' on what they eat and 83 per cent think that BSE is not an isolated health scare. The poll also showed that 45 per cent of consumers are unaware that beef cattle can still be fed blood. Co-op is now banning the use of all animal by-products in feed stuffs for Co-op brand meat and poultry. It

seems that even the UK's Food Standards Agency has belatedly come to its senses on this issue; it recently recommended a ban on 'animal cannibalism' in the UK; though whether the government implements this remains to be seen.

CLIMATE CHANGE: IT'S HERE

Whilst climate change still may be something difficult for the human psyche to grasp, three million people have been affected by floods in Cambodia, while Europe and the UK have been inundated with severe floods and mudslides, and Bangladesh's flood price tag now exceeds \$500 million. Meanwhile, Europe's biggest glacier, the mighty Breideamerkurjökull in southern Iceland, is falling victim to global warming. At the other extreme, a little-noticed famine caused by a severe drought is starting to ravage Kenya. According to the UN, 13 million people in six countries around the Horn of Africa are currently at risk of starvation from this year's drought. Wakey wakey, world.

TURN IT OFF

The nuclear reactor at the controversial Czech power plant in Temelin has been shut down, apparently because of a failure of pumps in the circulation system. Westinghouse, the American corporation providing the technology, is still trying to identify the exact cause of the failure. During a test operation on 27 October, all four feed-water pumps failed. Strange, then, that a spokesman was able to say that the plant's safety system was 'not affected'. Visit www.temelin.at

SOME GOOD NEWS

In late October the US Senate unanimously ratified the UN Convention to Combat Desertification (UNCCD), which had been languishing there since 1996. UNEP has declared desertification one of the world's most critical environmental problems, stating that one billion people in over 90 countries are affected by soil loss and desertification. The UNCCD requires countries to involve local citizens in planning and implementing solutions. Dwindling land and water resources resulting from desertification have played some part in sparking 10 of the recent armed conflicts in arid lands, including Somalia.

SEATTLE – THE WHEEL TURNS

Trial Lawyers For Public Justice (TLPJ) has filed a major class action lawsuit against the city of Seattle, Mayor Schell and former police chief Norm Stamper for violation of civil rights during the WTO protests a year

ago. The primary allegation is that the 'no-protest zone' declared by Mayor Schell was blatantly unconstitutional. The suit also addresses those individuals arrested outside the 'zone' for doing nothing more than expressing their constitutionally protected right to peacefully express their views.

ALWAYS READ THE SMALL PRINT

Plans by the UK government to allow Chardon LL, a herbicide-tolerant GM maize, to be added to the national seed list – the final legal requirement before a seed can be grown – hit the rocks when the Ministry of Agriculture admitted in late October that the basic test data submitted by the company may not meet legal requirements. Making the same 'mistake' as their French counterparts, the UK government relied on one year's data from 'accredited breeder's trials' and one year's data from government-run trials. However, the relevant directive requires two years of official trials. With any luck, then, Chardon LL may fall at the final hurdle, thanks to the government's inability to follow basic instructions.

LET THEM WALK

The US National Park Service has announced a plan that will ban all privately owned snowmobiles from Yellowstone and Teton National Parks by winter 2003/4. About 75,000 snowmobiles enter Yellowstone Park each year. Find out if, and under what conditions, the final environmental impact statement has been signed by visiting www.nps.gov/planning/yell/winterfinal/frames.html

SWITCHING OFF LIFE

According to *The Observer*, Novartis the Swiss food giant has developed and patented a method for 'switching off' the immune system of plants, which could be applicable to almost every crop on Earth. Novartis claims that this kind of genetic modification will give farmers greater control over disease and boost production. Critics, unsurprisingly are outraged.

CLEAN UP THE GREENBACKS

The National Wildlife Federation, International Rivers Network and Friends of the Earth are in dialogue with major US investment banks such as Citigroup, Morgan Stanley Dean Witter and Merrill Lynch to establish environmental management systems at the banks; including environmental and social lending practices. Last month, EuroNature a German NGO organised a meeting with banks in Frankfurt. To find out how it went, contact Katrin Seifert on euronatur.bonn@t-online.de

PASTA LA VISTA

A crowd of fierce-tempered, pasta-loving Italians from 20 different cities have added their voice to the growing anti-McDonald's movement. The organisers of the protests, a mix of trade unionists, radicals and family bar-owners aim to reverse or slow down McDonald's rapid expansion; the fast-food giant plans to add 200 new stores to its existing 272 in Italy over the next two years. Protesters argue that McDonald's is selling unhealthy food, destroying regional gastronomic traditions, exploiting staff and destroying consumer choice.

THE POWER OF PROTEST

EuropaBio (www.europa-bio.be), the European biotech lobby group, cancelled its annual congress scheduled to take place in Edinburgh in late October. According to *De Volkskrant*, the Dutch daily paper, EuropaBio 'cannot deny that the conference was cancelled due to the fierce critique of genetic engineering in the UK and the resulting lack of sponsors'. EuropaBio has fiercely denied this, saying that the meeting was cancelled because it would overlap too much with the UN-sponsored BioVision Congress (to be held in Lyon, France – in February 2001). EuropaBio has been at the forefront of successful biotech industry campaigns for the adoption of controversial legislation in the European Union such as the EU Life Patent Directive. The lobby group also scored a victory for the biotech industry when it helped persuade the European Parliament to reject a proposed liability regime for biotech companies.

THE GEOGRAPHY OF 'SOLUTIONS'

Livaningo, Mozambique's first environmental NGO, can claim victory on the issue that first brought it into being. Formed two years ago to oppose a plan that would have turned a local cement kiln into a hazardous waste incinerator, Mozambique's environment ministry has finally rejected the plan. The incinerator, proposed by the Danish International Development Agency (Danida), would have burned stockpiled obsolete pesticides and other toxic wastes. The Mozambique government announced plans to export the 300 tons of obsolete and unidentifiable waste for destruction in a developed country. For two years, Livaningo took its campaign to residents and businesses in the town of Matola. The group warned people of the toxic hazards of pollution from incin-

eration and held some of the first civic demonstrations known in post-revolution Mozambique.

WHOOPS! APOCALYPSE. AGAIN

According to the US Energy Department, the amount of plutonium and other man-made radioactive elements released into the soil during nuclear weapons manufacture was 10 times larger than originally estimated, thus vastly raising the amount that could eventually find its way into food and water. The Department was pressed into reviewing its data on the buried volume of radioactivity after the Institute for Energy and Environmental Research complained in 1997 that the existing data was 'inconsistent and contradictory'.

WHERE THE CATTLE ROAM

A coalition of 10 environmental and hunting groups have filed a lawsuit to try and reduce the practice of livestock grazing on millions of acres of national forest land in the Rocky Mountains. The suit was filed against the US Forest Service, targeting 11 national forests in Arizona and New Mexico that cover 18 million acres. It alleges that the Forest Service has violated the Endangered Species Act by failing to monitor and limit cattle grazing in 75 per cent of the grazing allotments issued for the national forests in Arizona and New Mexico.



LOOK BELOW THE SURFACE

Russia and the US recently announced a joint project to render harmless Russia's rusting fleet of nuclear submarines, which have raised serious pollution fears. The US-funded facility in the town of Severodvinsk on the White Sea will take hundreds of nuclear vessels out of service, and hopefully start to tackle the problem of low-level nuclear waste. Some 185 vessels, 55 of them already cut up, are awaiting 'recycling' in Russia's North.

BLACK WATER

Some 250 million gallons of liquefied coal waste from the Martin County Coal Corporation in eastern Kentucky has leaked into the River Ohio after polluting a number of smaller waterways. All in all, about 75 miles of rivers and streams have turned black and local communities had to close intakes from public water supplies. State fish and wildlife officials are assuming a 'total kill' of fish along the Big Sandy River and some of its tributaries. Martin County Coal was ordered to cease operations, and state investigators have issued a non-compliance citation accusing the company of engaging in unsafe practice by allowing sub-standard water and slurry to flow from an impoundment into underground mine works.

STOPPING URBAN SPRAWL

Lawyers for the Forest Conservation Council and Friends of the Earth (FOE) are suing the US Small Business Administration (SBA) for allegedly violating federal environmental laws by not considering the impacts of its lending practices. While the lawsuit was designed to curb urban sprawl in the District of Columbia metropolitan area, its real intention is to pressure SBA to adopt more environmentally sensitive lending practices nationwide. According to the two environmental groups, SBA is fuelling urban sprawl by providing millions of dollars towards the construction and expansion of businesses like fast-food restaurants, mini-marts and mall outlets located in sprawling suburbs without considering the consequences of its loans.

VITAMIN FIXING

Hoffman-La Roche Inc, BASF Corp, Aventis Animal Nutrition SA, Takeda Chemical Industries Ltd, Eisai Co Ltd and Daiichi Pharmaceutical Co Ltd have been ordered to pay \$225 million to settle price-fixing charges brought by lawyers from 21 states. The six companies, which together control more than 80 per cent of the world's vitamin market, agreed to settle charges that they had conspired to fix prices and control the sale of vitamins and vitamin products.

According to New York Attorney General Eliot Spitzer 'the companies met in secret... to carry out illegal agreements that imposed a hidden "vitamin tax", resulting in consumers paying an extra quarter of a billion dollars for vitamins over the past decade.

REUTERS



Please send information on your local, national or international campaigns to Stephanie Roth at: The Ecologist Campaigns Office, 46 The Vineyard, Richmond, Surrey TW10 6AN, UK. Tel: +44 (0)20 8948 0170. Fax: +44 (0)20 8948 6787. Email: campaigns@theecologist.org

GLOBAL STOP THE GATS-ASTROPHE

The General Agreement on Trade and Services (GATS) is a WTO agreement which exists to remove restrictions and internal government regulations considered to be 'barriers to trade' in the area of service delivery. This applies to any public service – from schools, hospitals, banks, rubbish collection and postal services to utilities such as water or energy.

Currently negotiations are underway that pressure governments to drastically reorganise the ownership and delivery of their service industries. At the same time, negotiators from the world's richest countries are pushing for this liberalisation process to be speeded-up.

Freeing up trade in services at a time when privatisation of the service sector is booming would immensely benefit any multinational. This is already taking place. For example, the UK National Grid delivers electricity in Zambia, Anglian Water supplies water in Chile and Thames Water has contracts in Indonesia, Thailand and Malaysia. Unsurprisingly, multinational corporations have been the main driving force behind GATS. But the effects of the

process are detrimental to a healthy democracy. Bolivia's struggle against the government's sell-off of Cochabamba's water utilities (see *The Ecologist* Vol 30 No 4) or General-des-Eaux's effect in Argentina are two of many examples.

GATS's irreversibility ensures that once governments open up particular service sectors to WTO rules, there is no going back. In other words, decisions about how to organise service delivery is effectively being removed from the political arena and handed to big business. If this trend continues, citizens will no longer be able to decide whether or not services should be regulated. Imagine such a scenario in the education or health services; because that's what the corporations are already planning for.

Even though GATS will have a profound impact on people all around the world, few are even aware of its existence. This has to change, and fast. From December 2000 through to March 2001, deliberations on a national, EU and WTO platform will take place, aiming for negotiators to present a completed GATS for parliaments to rubber-stamp by the end of 2002.

MAKE A DIFFERENCE

The World Development Movement has launched a 'Stop the GATSastrophe' campaign, telling you much more as well as what to do. Visit www.wdm.org.uk or call +44 (0)2077376215.

GLOBAL ATTACKING FOREST DESTRUCTION

Old-growth forests all over the world are increasingly being converted into monocultural plantations for paper or wood production. Around 80 per cent of the world's old growth forests have already gone. And as engineered wood products like chipboard accelerate clearcutting, plantation conversion and native forest loss, many of the species depending on these habitats are going too.

American Lands, Free the Planet and the Rainforest Action Network have launched a campaign to convince universities to stop buying paper from endangered forests, and to use 100 per cent recycled or tree-free paper instead. In the US, multinational Boise Cascade, for example, is both the largest distributor of paper to universities and the largest logger of public lands. The company now plans to build the

world's largest chip mill in the rare temperate forests of Chile.

This campaign could well succeed: in the US, as a result of a similar campaign, Indiana University is now buying all of its paper from alternative sources. But the support of students, in particular, will be needed to make this campaign work on a global scale.

MAKE A DIFFERENCE

If you are a student or university teacher, ask your student union to endorse this campaign. Organise a petition and take it to the head of your university. For arguments and ammunition, visit www.ran.org/ran_campaigns/old_growth/campus/index.html or call the Rainforest Action Network on +1453984404.

CZECH REPUBLIC

SAVE THE WETLANDS

South Moravia is home to extensive marshes, oxbow lakes and the largest fragments of hardwood floodplain forest in Central Europe.

Originally a continuous complex of floodplain habitats along four rivers, today it no longer experiences annual flooding due to artificial reservoirs and conversion to agriculture. Since 1991, local NGOs and concerned citizens have campaigned to decommission three small dams built between 1969 and 1989 that impound 1,300 acres of riparian and woodland habitat along the Morava and Dyje rivers. (The Ramsar Convention lists the region surrounding the reservoirs as wetland of international importance, and the Czech government is obliged to ensure the maintenance of the ecological character of the site.)

In 1994, conservation groups succeeded in securing some restoration of the affected area with a partial draining of the reservoirs. It was agreed that the situation would be re-evaluated in five years' time.

Assessments by local conservation groups state that woodland revitalisation has occurred where reservoir beds have been exposed, trees 5-6 metres tall being found in areas covered by water five years earlier. With the five year re-evaluation period coming up in 2001, the Czech government will have to choose between completely decommissioning one or more of the dams, retaining current water levels for five more years or raising the water to the former level.

Currently none of the water stored in the reservoirs is used for irrigation, and the region enjoys a surplus of water supply. However, the Ministry of Agriculture is likely to return the reservoirs to their former level, using the argument that the water may eventually be needed for irrigation. Czech conservation groups are calling for a decommissioning of the Nove Mlyny dams to restore the wetlands of South Moravia.

MAKE A DIFFERENCE

Write a polite letter to Dr Milos Kuzvart, Minister of the Environment, Vrsovsicka str.65, CZ-10600 Praha, or email milos_kuzvart@env.cz. Please copy your letter to Mojmir Vlasin, Veronica Institute, CZ-60200 Brno, or fax +420542218351, or email mojmir.vlasin@ecn.cz

UKRAINE

MORE NUCLEAR MADNESS

The European Bank for Reconstruction & Development (EBRD) intends to support the construction of two Soviet-designed reactors (known as K2R4) at Khmelnytsky and Rivne in the Ukraine with a \$175 million loan. With the closure of Chernobyl, the Ukrainian President is pressuring the West for financial assistance for these two highly controversial reactors.

Public groups in 16 countries recently called upon their governments not to waste public funds on two unsafe reactors when almost half the Ukrainian power plants cannot afford to operate. An independent panel of experts set up by EBRD itself concluded in 1997 that, 'K2R4 are not economic. Completing these reactors would not represent the most productive use of \$1 billion at this time'.

In addition, the two Soviet-designed reactors will not meet safety levels expected of a nuclear reactor in Europe. For example, the safety upgrades planned for K2R4 are lower than at the controversial Temelin plant. This is a matter for serious concern.

The EBRD was supposed to meet for an 'unofficial' board meeting to take a final decision on K2R4 in November. Whilst no meetings have yet taken place, the momentum is building. The EBRD is well aware of the vast problems behind K2R4 and is moving towards a collective decision to be taken by national governments. Last summer, President Schroeder of Germany travelled to Kiev to suggest alternatives, but his efforts were undermined by the US and France who in statements expressed their support for K2R4.

MAKE A DIFFERENCE

Write to Jean Lemierre, President, EBRD, 1 Exchange Square, London EC2A 2JN. Ask why EBRD is supporting K2R4 when all evidence (even their own) points to the dangers inherent in the project. Write a similar letter to your local EBRD governor and alternate governor (see www.ebrd.com). Write to Romano Prodi, President of the European Commission and Ms. Loyola de Palacio, Vice-President of the Commission. European Commission, 200 rue de la Loi/Wetstraat 200, B-1049 Brussels. Visit www.bankwatch.org for detailed argument ammunition.

CAMPAIGNS DIARY

1 December 2000

World Aids Day

1-4 December 2000

Seattle, USA.

WTO Anniversary Rally

Visit www.seattlecan.org

or call +001 205 6321656

3-4 December 2000

Global.

International Day of Action on the anniversary of the collapse of the MAI and Seattle

For more information on what's going on globally, send an email to mstrand@citizen.org or call +1 202 588 1000.

See www.foe.co.uk for action alerts

4-6 December 2000

Aalborg, Denmark.

Harnessing Energy from Waves

Contact the Danish Technological Institute on +454 350 4550 or visit www.teknologisk.com

5-9 December 2000

Woods Hole, Mass. USA.

Symposium on harmful marine algae in the United States

Visit www.redtide.whoi.edu/hab/symposium/ or call +1 508 289 2745

6 December 2000

Chatham House, London, UK.

The Climate Regime after COP-6

What happened at COP-6 and is the Kyoto agreement still 'green' enough?

For more information contact Ruth Tatton-Kelly on +44 (0)207 957 5711 or tatton-kelly@riia.org

6 December 2000

Central Hall, London, UK.

Action for UN Renewal

Lobby for a renewed UN for peace, human rights & development

Email coordinator@unforum.fsnet.co.uk or call +44 (0) 127 347 6358

7-8 December 2000

Nice, France.

European Summit

Ending the French Presidency and launch of the EU Charter on Fundamental Rights

For counter-action from 6-9 December, visit www.attach.org or call +33 1433 62661

11-12 December 2000

Bonn, Germany.

4th Conference of the Parties to the Convention to Combat Desertification

Visit www.unccd.de/cop4.html or call +49 228 815 2810

11-15 December 2000

Montpellier, France.

1st Meeting of the Intergovernmental Committee on the Cartagena Protocol

Visit www.biodiv.org/biosafe/Protocol/ICCP/index.html or call +15142877025

12-17 December 2000

Dakar, Senegal.

Dakar 2000

Conference on Senegal and Debt Cancellation
Visit <http://users.skynet.be.cadtm> or call +322 527 5990

8-12 January 2001

San Jose, Costa Rica.

World Congress on Environmental Law

Visit <http://iceac.sarenet.es/Ingles/> or call +349 4327 8888

25-28 January 2001

Davos, Switzerland.

'Public Eye in Davos' Conference

Counter-Summit to World Economic Forum's Annual Meeting (www.weforum.org) with a great list of speakers.
Visit www.davos2001.ch or fax +411 277 7001

25-30 January 2001

Porto Alegre, Brazil.

World Social Forum

Panel discussions on the Production of Wealth, Access to Wealth and Sustainability, Civil Society and the Public Arena, Democracy and Citizen's Power. Call +493 028 53400 or visit www.worldsocialforum.org

29 January-2 February 2001

La Havana, Cuba.

3rd International meeting of economists on 'Globalisation & Development'

For more information contact +537 223 456 or email anec@info.get.cma.net

30-31 January 2001

Amsterdam, The Netherlands.

2nd Annual Aviation and the Environment Conference

Email kkidd@euromoneyplc.com or call +44 (0) 2077798406

World-Wise Web: The five best online bookmarks

www.greenpeace.co.uk/gm.htm

Online consumer guide helping shoppers find out whether the food in their baskets really is GM free. Or go to www.cpre.org.uk/press/re2000/045.htm and find out where you can buy local food.

www.actionaid.org

Download their valuable report on the effects that Syngenta, the world's largest GM company, will have upon the world (plus all the commitments they have broken).

www.red-star-research.org.uk

All details (including contacts) of New Labour's sponsors/donors.

www.citizen.org/pctrade/media/100200report%20release.htm

Download 'Purchasing Power: the Corporate White House Alliance to pass the China Trade Bill over the will of the American people' and prepare for many surprises.

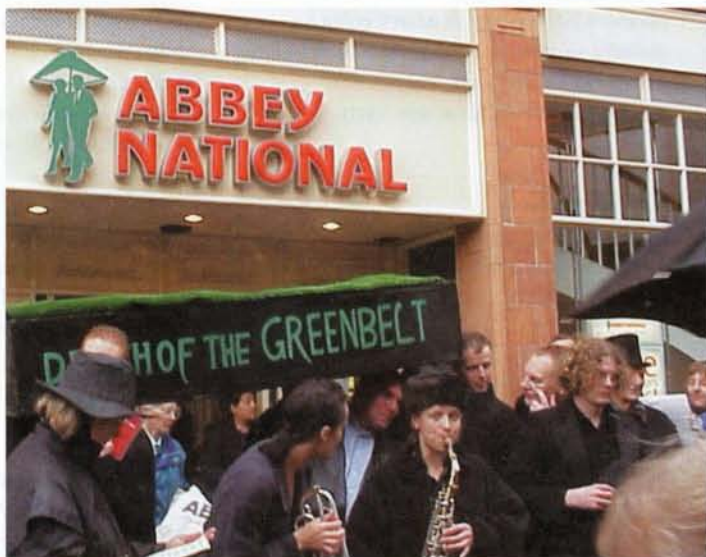
www.bse.org.uk

The BSE Inquiry and Report *** and a bonus site seeing as it's Christmas *** www.whrc.org/science/tropfor/setroads.htj An excellent report on the impact of the 6200 km road extensions planned for the Brazilian Amazon.

UK CEMENTING THE COUNTRYSIDE

In a press release last September, Midland Expressway Limited (MEL) announced that it had secured financial support and created a construction consortium to build the highly controversial Birmingham Northern Relief Road (BNRR). If built, this road will not only be Britain's first toll motorway, but – far more importantly – will destroy 27 miles of greenbelt land and two Sites of Special Scientific Interest (SSSIs).

The idea of a Birmingham Northern Relief Road came into being as the M6 was opened through the West Midlands conurbation in 1972. The first BNRR scheme was proposed in the early 1980s as a publicly-funded scheme. After a public inquiry in 1988, the then Conservative government proposed the BNRR as UK's first toll motorway. Shortly afterwards, MEL, which is actually a combination of MacQuaires, an Australian toll-road company and Autostrade, an Italian toll company, was awarded the contract and a concession



agreement was signed by the government and MEL.

MEL published its plans and invited the public's views. More than 10,000 people objected to the scheme. After national and local organisations submitted their objections, a second enquiry opened in June 1994. With its closure in October 1995, it became the longest public inquiry into a road the UK had ever witnessed. At the time the 'No BNRR' campaign was backed by the Labour Party. John Prescott and various other senior Labour MPs said on numerous occasions that they would not build the BNRR if elected.

Yet in July 1997 Labour announced that the road would be built and MEL, now with financial support, plans to begin construction in spring 2001, opening in 2004.

MEL securing finance for the construction is the single most important element which will allow construction to go ahead – or be stopped. The BNRR is financed by Abbey National and the Bank of America. CAMBBA, the construction consortium, consists of Carillion, Alfred McAlpine, Balfour Beatty and Amec.

MAKE A DIFFERENCE

What you can do: If you have an account with Abbey National, write a letter to your Manager, threaten to close your account and say why. Copy your letter to Lord Tugendhat,

Chairman, and Ian Harley, CEO, Abbey National PLC, Abbey House, Baker Street, London NW1 6XL or fax on (212) 5713050.

Please copy your letter to Chris Crean, Friends of the Earth Midlands, 54 Allison Street, Digbeth, Birmingham, B5 5TH.

Buy shares in one or more of the companies listed above and use your shareholder power to express your views. For more information, including links and how to get involved in a BNRR Abbey National Day of Action, visit www.beep.dial.pipex.com/bnrr/index.htm or call +44 (0)1216439117

World-Wise Web: The five best campaigns

www.wilderness.org/artic

Send a message to the US President to designate the Arctic Refuge as a national monument – before Bush gets his hands on it!

www.corpwatch.org/action/2000/20.html

Save Brazil's wetlands from corporate predators!

http://zope.greenpeace.org/z/gpindia/gujrat_mail_axn/net_signpetition

Send a letter to the World Bank opposing new funding for the polluting chemical industry in Gujarat, India.

www.bicusa.org/action

The World Bank is reviewing its policy on information disclosure. Read what it's all about and sign on to 'The Global Call for Greater Transparency'

www.rockywolf.org

Send a message to the US Fish and Wildlife Service telling them not to reduce protection for the grey wolf in the Southern Rocky mountains

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SHOULD THE WTO

WALDEN BELLO AND PHILIPPE LEGRAIN

Dear Philippe,

The idea that the world needs the World Trade Organisation (WTO) is one of the biggest lies of our time. The WTO came about, in 1995, mainly because it was in the interest of the US and its corporations. The European Union, Japan and especially the developing countries were mostly ambivalent about the idea; it was the US which drove it on.

Why? Because though the US, back in 1948, blocked the formation of an International Trade Organisation (ITO), believing that, at that time, the interests of its corporations would not be served by such a global body, it had changed its mind by the 1990s. Now it wanted an international trade body. Why? Because its global economic dominance was threatened. The flexible GATT (General Agreement on Tariffs and Trade) system, which preceded the WTO, had allowed the emergence of Europe and East Asia as competing industrial centres that threatened US dominance even in many high-tech industries. Under GATT's system of global agricultural trade, Europe had emerged as a formidable agricultural power even as Third World governments concerned with preserving their agriculture and rural societies limited the penetration of their markets by US agricultural products.

In other words, before the WTO, global trade was growing by leaps and bounds, but countries were using trade policy to industrialise and adapt to the growth of trade so that their economies would be enhanced by global trade and not be marginalised by it. That was a problem, from the US point of view. And that was why the US needed the WTO.

The essence of the WTO is seen in three of its central agreements: the Agreement on Trade Related Intellectual Property Rights (TRIPs), the Agreement on Agriculture (AOA), and the Agreement on Trade Related Investment Measures (TRIMs).

The purpose of TRIPs is not to promote free trade but to enhance monopoly power. One cannot quarrel with the fact that innovators should have preferential access to the benefits that flow from their innovation for a period of time. TRIPs, however, goes beyond this to institutionalise a monopoly for high-tech corporate innovators, most of them from the North. Among other things, TRIPs provides a generalised minimum patent protection of 20 years; institutes draconian border regulations against products judged to be violating intellectual property rights; and – contrary to the judicial principle of presuming innocence until proven guilty – places the burden of proof on the presumed violator of process patents.

What TRIPs does is reinforce the monopolistic or oligopolistic position of US high tech firms such as Microsoft and Intel. It makes industrialisation by imitation or industrialisation via loose conditions of technology transfer – a strategy employed by the US, Germany, Japan, and South Korea during the early phases of their industrialisation – all but impossible. It enables the technological leader, in this case the US, to greatly influence the pace of technological and industrial development in the rest of the world.

The AOA is all about consolidating the monopolistic competition between the US and the EU for third country markets. The agreement does provide for cuts in certain subsidies, but these cuts are relatively small measured against the tremendous overall level of subsidisation in the US, EU, and other developed countries. Moreover, the AOA exempts a very important channel of subsidisation: direct income payments to farmers, which in the US comes to one-fifth to one-third of farm income.

The subsidisation of agricultural production in the US, EU, and other developed countries is now nothing short of scandalous. OECD figures show that instead of decreasing under the WTO regime, overall subsidisation has increased tremendously, from around \$182 billion in 1995 to \$362 billion in 1998! Naturally, this situation creates conditions of overproduction and a huge need for export markets to relieve surplus. These markets are in the developing countries, which the AOA mandates to remove agricultural quotas, bind agricultural tariffs, accept 'minimum access volumes' of agricultural commodities, and prevent from significantly raising their minimal levels of subsidisation. Food insecurity and the displacement of millions of families who cannot compete with subsidisation from elsewhere are among the bitter harvests of the AOA.

Trade-Related Investment Measures (TRIMs), such as trade-balancing mechanisms or local content policies, had been used by many Third World countries to build up industrial sectors by pushing transnational firms to source components and inputs within the country. However, these measures interfered with the inter-subsidiary trade of transnational corporations. Alongside the banning of quotas and the binding of tariffs, the TRIMs agreement, by outlawing trade-balancing and local content policies, effectively eliminates the use of trade policy for industrialisation and development.

These agreements provide just three examples of the fact that the WTO is fundamentally flawed; and fundamentally flawed agreements resist reform.

So why does the line about the necessity of the WTO keep on being repeated despite the empirical evidence? Because Washington has learned from the Nazi propaganda master Joseph Goebbels that a lie repeated often enough might ultimately attain the

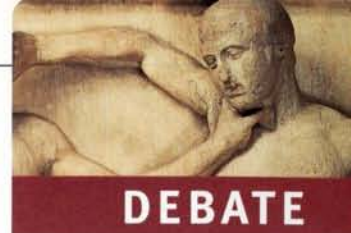


Walden Bello is professor of sociology at the University of the Philippines. He is an economist, writer, campaigner, and director of Focus on the Global South.

YES

TITLE: BRIDGEMAN ART LIBRARY

BE ABOLISHED?



DEBATE

TACKLE ONE OF TODAY'S MAJOR ISSUES.

status of truth. Fortunately, after Seattle, people now see through this Big Lie. The world does not need the WTO. The US corporate elite does.

Walden Bello

Dear Walden,

A convincing case for the WTO's abolition must show two things. First, that the world would be better off without the WTO. Second, that the WTO's abolition is preferable to any politically feasible reform. You fail to show either.

Abolishing the WTO would not destroy globalisation, capitalism, or US corporate power. But it would wipe out a forum for governments to negotiate multilateral trade rules and a mechanism for holding them to those rules. That would make every country worse off, but the biggest losers would be the poor and the weak.

One benefit of rules is that they apply to big, rich countries as well as small, poor ones. When America blocked imports of Costa Rican underwear, Costa Rica appealed to the WTO. It won, and America lifted its restrictions. Do you honestly think Costa Rica would have such clout in Washington without the WTO? Granted, the dispute-settlement mechanism is not perfect: America has a battery of lawyers to fight its corner, whereas small countries scrimp. It should be improved. But it is already much better than the alternative: the law of the jungle, where might makes right.

Another merit of WTO rules is that they tie governments' hands. Once countries open their markets to foreign trade and investment, they cannot close them again at whim. Without this stability, companies would be reluctant to invest abroad, particularly in developing countries with a protectionist or politically unstable record. Abolishing the WTO would further marginalise developing countries.

If there were no prospect of further multilateral liberalisation and no body to enforce existing rules, trade barriers would creep up as protectionists gain the upper hand. The world might split into hostile regional blocks, with rich-country exporters seeking captive markets in developing countries. Developing countries, which need access to rich-country markets more than rich countries need access to theirs, would have to join on unfavourable terms or be left out in the cold.

In any case, there would be less trade. And less trade means slower economic growth, stagnating living standards and more people trapped in poverty – like in the Great Depression. Over the past 50 years, the 15-fold rise in world trade has driven a seven-fold rise in world output. Thanks to trade, Japan and South Korea are no longer developing countries. Jeffrey Sachs and Andrew Warner of Harvard University found that developing countries

with open economies grew by 4.5 per cent a year in the 1970s and 1980s, while those with closed economies grew by 0.7 per cent a year. At that rate, open economies double in size every 16 years, while closed ones must wait a hundred. Of course, in the short term, some people lose from trade liberalisation. But in the long run, everyone gains: even the poorest South Koreans today are much richer than their counterparts 30 years ago.

Let me briefly address your specific points.

If the WTO mainly serves US corporate interests, why have 139 countries freely joined? Why are 30 others, including China, trying to join? Why is Castro, hardly a US stooge, a big WTO supporter? Presumably, they think WTO membership benefits them. Moreover, if the WTO mainly serves US corporate interests, why do America's steelmakers oppose WTO membership? And how come the US lost the biggest WTO case ever, when its foreign-sales corporations, worth some \$4 billion a year to US companies, were judged to be illegal export subsidies?

On TRIPs, you recognise that innovators should have some rights over their inventions. So why shouldn't high-tech corporate innovators, such as Microsoft and Intel? True, intellectual-property rights give companies market power: that is how innovators are rewarded. But as recent US antitrust cases involving Intel and Microsoft show, patent protection does not prevent the exercise of competition law.

It is simplistic to think that countries can industrialise by copying or reverse-engineering foreign technology. Most technology can only be used effectively with the co-operation of the companies that developed it, which have associated secret know-how. Such technology transfer is more likely with a functioning intellectual-property system. Research shows that strong patent protection is positively correlated with FDI, technology licensing and international trade. Contrary to your claim, patent protection was built into the American constitution and has a long history in Germany, Japan and South Korea.

On agriculture, you cannot blame the WTO for US and EU subsidies: they existed before the WTO. I agree they should be cut. So you should welcome the current WTO negotiations on agriculture, which aim to reduce agricultural protectionism. How would abolishing the WTO reduce farm subsidies?

The TRIMs agreement does not 'effectively eliminate the use of trade policy for industrialisation and development'. Yes, it outlaws trade-balancing and



Philippe Legrain is special adviser to Mike Moore, the director-general of the World Trade Organisation. He was previously trade and economics correspondent at *The Economist*.

NO

'Your method of arguing is to set up a straw man: opponents of the WTO are opponents of the growth of trade. This is silly. Trade can be good or bad for national development – it all depends on the rules that guide it.'

Walden Bello

domestic-content requirements, which in any case research shows are ineffective. But governments can still use investment measures such as technology-transfer requirements. Moreover, developing countries can invoke exceptions to promote economic development, and have a five-year transition period (seven for least-developed countries). Nine developing countries have requested a further extension, but most have not needed to.

The WTO is not perfect. But it is still a powerful force for good in the world.

Philippe Legrain

Dear Philippe,

Your method of arguing is to set up a straw man: opponents of the WTO are opponents of the growth of trade. This is silly. Trade can be good or bad for national development – it all depends on the rules that guide it. The relative flexibility of the old GATT has disappeared under the WTO, which imposes policies which advance the interests of superpowers.

Your most prominent example of the benefits of liberalisation – South Korea – proves the opposite. Far from being a paragon of free trade, South Korea systematically subordinated trade to developmental goals. The recent paucity of foreign cars in Korea was a key condition for the emergence of its car industry. The 'South Korean miracle' was based on protectionist/mercantilist trade practices, not on the doctrinaire free trade principles that undergird the WTO.

I had expected a more reasoned reply than a doomsday scenario asserting that without the WTO, the international economic order would degenerate into anarchy or hostile regional blocs. The history of the international economy in the last 55 years refutes this hysterical contention. The seventeen-fold increase in global trade between 1948 and 1997 took place without a powerful trade bureaucracy, without an all-encompassing system of trade rules.

Five years into the WTO, hardly any developing countries claim it has benefited them. Just look at the record: US and EU dumping of subsidised grain and meat is destroying agricultural industries, like the poultry industry in the Philippines. The US and other trade superpowers have scarcely implemented the lifting of quotas on textile and garment imports of interest to the developing countries, as stipulated by the Agreement on Textiles and Clothing. The Ministerial Decision approved at Marrakech in 1994 to take measures to counteract the negative effects of trade liberalisation on the net food importing countries (NFID) has never been implemented. These are among the reasons why the majority of developing countries oppose a new trade round.

So why are they in the WTO? In the case of most, it is not from the prospect of gain but out of fear that the rate at which they are being marginalised would increase if they were not members. You can hardly blame them: in 1994, Washington stampeded Third World governments to ratify the WTO by saying they would otherwise be isolated 'like North Korea'.

You say that the function of the WTO is to provide rules to protect the weak from the strong. Do you really believe this? It is power, Philippe, not justice, which is the currency of unequal international economic arrangements like the IMF, World Bank, and WTO. The main rationale for the WTO's existence is to reduce the cost of policing the less powerful and less developed economies that would be incurred by the hegemonic power if there were no system of rules backed up by a bureaucracy with coercive powers. This is the reason Washington's academic point man on trade, C Fred Bergsten, could tell the US Senate that what was not possible under GATT was possible under the WTO: '[W]e can now use the full weight of the international machinery to go after those trade barriers, reduce them, get them eliminated.'

The WTO is the incarnation of a paradigm that subordinates almost every other good – environment, development, food security, culture – to free trade. Shot through with this fundamental flaw, it cannot be reformed. Instead, it must be disempowered, if not abolished, and replaced by a system of global economic governance that regards the market as a mechanism to be controlled and guided to achieve social priorities.

Walden Bello

Dear Walden,

I'm disappointed that you seem not to have read my letter carefully. I didn't say that 'opponents of the WTO are opponents of the growth of trade'. I said trade would be lower without the WTO. Nor did I say the world 'would degenerate into anarchy or hostile regional blocks' without the WTO. I said protectionism would creep up and the world might split into hostile regional blocks. Do you disagree? If so, you haven't said why. If not, you haven't shown how the reduced trade and increased protectionism that would result would benefit the world.

My position is clear. The WTO is good for the world because it helps lower trade barriers and keep them down, which boosts trade and thus economic growth. Countless country studies show this. Moreover, a rules-based system is of particular benefit to weaker countries. Of course, with or without the WTO, America is much more powerful than Cuba or Costa Rica. But equally clearly, WTO rules constrain America's ability to act unilaterally. Surely this is a big benefit for weak countries? What I'm saying is not inconsistent with your statement that WTO rules benefit America. The multilateral trading system is not a zero-sum game, where one country gains at another's expense, but a positive-sum game, where everyone can gain.

You claim most developing countries are in the WTO because they 'fear that the rate at which they are being marginalised would increase if they were not members'. Even accepting your premise, this means they are not as badly off in the WTO as outside. In fact, developing countries benefit from WTO membership, by opening their domestic markets and

gaining better access to foreign ones. That is why none has left the WTO. I agree rich countries have been slow to lift textile-import barriers. But they will do so by 2005. Without the WTO, that would not happen. Moreover, a new WTO round could bring even bigger benefits. The Tinbergen Institute estimates developing countries would gain \$155 billion a year from further trade liberalisation – over three times the \$43 billion in average annual overseas aid.

You also claim the WTO 'subordinates almost every other good – environment, development, food security, culture – to free trade'. Not so. WTO rules allow governments to protect human, animal or plant life and health however they want so long as their measures are not arbitrarily or unjustifiably discriminatory and are not disguised protectionism. Take the recent asbestos case. Although a WTO panel found that France's ban on white asbestos discriminates against Canada, it upheld the ban on health grounds. WTO rules also give developing countries plenty of flexibility, as I described in my first letter. The Agreement on Agriculture makes allowances for non-trade concerns, such as food security and environmental protection. Perhaps more importantly, by fostering trade, the WTO raises economic growth, which is the only long-term route to development. Growth also generally helps the environment, because when people get richer they usually want a cleaner environment and are able to pay for it.

From the false premise that WTO subordinates everything to free trade, you leap to the conclusion that it 'cannot be reformed'. Yet the GATT became the WTO. So why couldn't the WTO change? Reform of the dispute-settlement mechanism is already being discussed. Moreover, a new WTO round will have to address developing countries' agendas or they will not agree to its launch.

It is a pity that you blame the WTO for everything you dislike. Your prejudice blinds you to the fact that, in an unequal world, the WTO makes people richer, freer and safer.

Philippe Legrain

Dear Philippe,

Before you muddy things further, let me say this: I am for fair trade – trade that is subordinated to priorities such as development, the environment, and food security. You are for free trade – trade that is liberated from such restraints in the belief that some 'invisible hand' will bring about 'the greatest good for the greatest number'. The WTO institutionalises this paradigm, which has brought about the opposite of the global prosperity that you touchingly have faith in.

Statistical projections are only as good as the assumptions that determine the numbers. I prefer historical evidence. The latest World Bank Development Report shows that, in the 90s, poverty and inequality increased in Eastern Europe, Latin America, the Caribbean, Sub-Saharan Africa and South Asia. All these areas were subjected to SAPs that embodied the IMF-WTO free-trade paradigm.

If we must forecast, let us rely on universally-respected sources such as the UN Development Programme. The UNDP estimates that, under the WTO, in the period 1995-2004, the 48 least developed countries will actually be worse off by US\$600 million a year and Sub-Saharan Africa by US\$1.2 billion a year! 70 per cent of the gains of the Uruguay Round are expected to go to developed countries.

We cannot conclude without touching on one of the WTO's biggest flaws: its undemocratic decision-making process. Shortly after Seattle, even US Trade Representative Charlene Barshefsky conceded that the 'Consensus/Green Room' method was 'a rather exclusionary one,' where 'all meetings were held between 20 and 30 key countries, and 100 countries were never in the room.' But barely 10 weeks later, Director-General Mike Moore said that the Consensus/Green Room method was 'non-negotiable'. So much for Mr. Moore's reform agenda.

Add all this up, Philippe, and it might finally dawn on you why the case for disempowering the WTO is so compelling.

Walden Bello

Dear Walden,

Whether you or I believe in free or 'fair' trade is beside the point. It is simply incorrect to assert that the WTO subordinates development, the environment and food security to trade. Read the GATT and Uruguay round texts. It is also ridiculous to blame the WTO for world poverty, which existed long before the WTO was set up. As for the IMF's structural-adjustment programmes, they have nothing to do with the WTO.

We are debating whether the WTO should be abolished, not whether there is injustice or misery in the world. Our question can only be answered by comparing the state of the world with the WTO (or a plausibly reformed WTO) with the likely state of the world without it. You say 70 per cent of the gains of the Uruguay round are expected to go to developed countries. That means 30 per cent go to developing countries. So, even by your figures, both developed and developing countries gain from the Uruguay round.

I am glad you brought up the alleged lack of democracy in WTO decision-making. The WTO operates by consensus. This means every country, however small, has a veto. How is that undemocratic? It is this consensus principle, not the Green-Room process, which Mike Moore said was non-negotiable.

One of the myths about Seattle is that there were no Africans and hardly any developing-country representatives in the Green Room. In fact, there were six Africans and a majority from developing countries. Moreover, any deal reached in a Green Room must still be approved by all WTO members. In any case, the WTO is changing. More General Council meetings, where all members can put their case, were held this year than ever before. Proceedings take longer, but every country has a chance to participate. Perhaps you should come to Geneva and see.

Philippe Legrain

'You say 70 per cent of the gains of the Uruguay round are expected to go to developed countries. That means 30 per cent go to developing countries. So, even by your figures, both developed and developing countries gain from the Uruguay round.'

Philippe Legrain



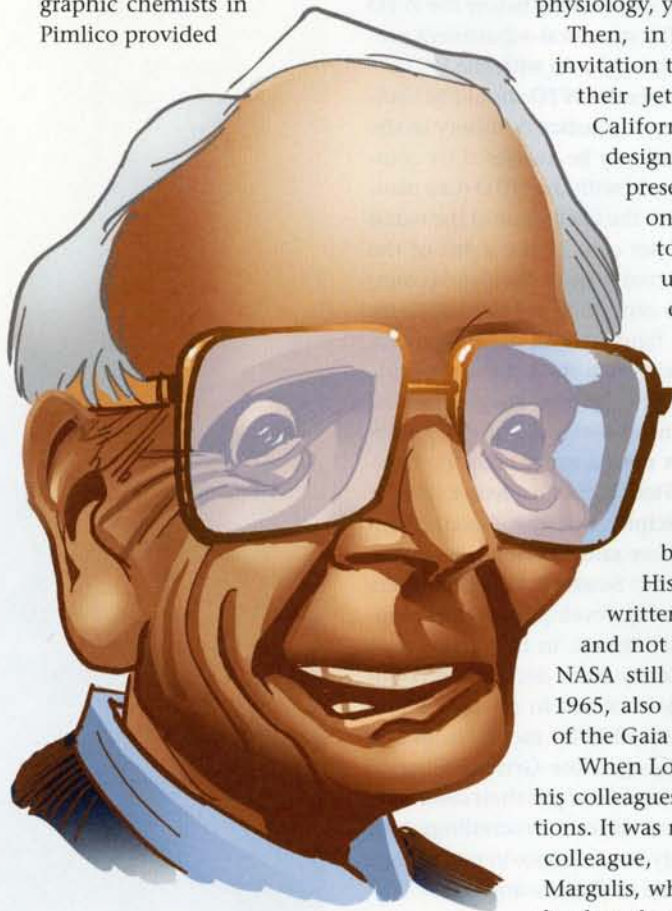
This month's heroes and villains: the scientist whose work has inspired the Green movement – and the journalist paid to attack it.

THE GOOD

James Lovelock, now 81, is no ordinary scientist. While others toil away in universities and corporations, he has spent the past 38 years deliberately detached from such institutions. His house and laboratory nestle together in a converted water mill on the edge of Dartmoor. Yet despite his apparent isolation, Lovelock is deeply in touch. For this is the man who has been called 'the Gandhi of modern science', and who provided the twentieth century with what may be one of its most important theories of life on Earth: the 'Gaia' hypothesis.

Lovelock's Devon idyll is a long way from Brixton, where he was raised as the only child of working-class parents in the 1920s and 30s. Lovelock was precocious, and learnt more from the books he read in Brixton library than he did at his highly regimented and detested school. Already passionate about science, his horizons were expanded by contact with the Leakey family, into which his mother's family married.

A firm of photographic chemists in Pimlico provided



Lovelock's first job. They insisted that he take classes for a chemistry degree, and imbued in their trainee an abiding passion for accurate measurement, rather than the fudging of results that Lovelock observes is 'so normal' in a university training.

A key factor in Lovelock's unique ability to take an overview of life on Earth was his

JAMES LOVELOCK

breadth of knowledge and experience, particularly the extraordinary diversity of disciplines. His autobiography, *Homage to Gaia* reveals that, to earn his keep while a student in Manchester, Lovelock chose to work not in a hospital laboratory or in the chemical industry, but on a farm in rural north Lancashire. The next 20 years saw him thriving at the Medical Research Council's National Institute for Medical Research, where 'I must have gone through every single division of the institute: chemistry, biophysics, experimental biology, virology, physiology, you name it!'

Then, in 1961, Lovelock received an invitation to join NASA as a consultant at their Jet Propulsion Laboratories in California, where scientists were designing experiments to test for the presence of life on the Moon and on Mars. Lovelock felt compelled to question the assumptions underlying the basis of the experiments; that life on other planets would have a very similar form to that of organisms on Earth. He was hauled into the senior researcher's office and given two days to come up with his own idea as to how life could be detected on other planets.

His answer thrilled his boss, was written up immediately in *Nature*, and not only led to a technique that NASA still uses today, but in September 1965, also inspired Lovelock to conceive of the Gaia hypothesis.

When Lovelock first mentioned Gaia to his colleagues, few saw the radical implications. It was not until 1970 that he found a colleague, the young biologist Lynn Margulis, who had the necessary vision to develop the concept with him. Together,

they published two complementary and ground-breaking papers in 1972. The new theory presented the global atmospheric system as if it were a living organism, and – even more radically – attributed purpose to it. In 1979, when this theory was presented in the popular book *Gaia: A New Look at Life on Earth*, Lovelock's theory became the subject of furious debate.

Oddly, it was the name Lovelock had chosen for his theory – Gaia was the Ancient Greek goddess of the Earth – more than the theory itself, that seemed to annoy many scientists. Richard Dawkins devoted a chapter of his 1982 book *The Extended Phenotype* to trashing Gaia. Colleagues, including fellow members of the Royal Society, ignored it.

Many other thinkers, however, welcomed Gaia with open arms. Philosopher Mary Midgley hailed it as a breakthrough – 'the first time a theory derived from scientific measurements has carried with it an implicit moral imperative – the need to act in the interests of this living system that is so much bigger than us, yet on which we all depend'. And in her book *Sacred Gaia*, Anne Primavesi has developed Gaian insights into a synthetic belief system that could appeal to followers of all religions.

Few would today deny that Lovelock's key insight – that life is, and has been, the main influence on the Earth's climate over the past four billion years – has been borne out. More significantly, perhaps, Gaia has entered popular discourse via its adoption by a burgeoning green movement, for whom the Gaia theory provides evidence that the planet is, indeed, a living whole, and that life and human activities are interconnected. Lovelock has inspired and remains friends with environmentalists such as Jonathon Porritt, Sir Crispin Tickell and Edward Goldsmith.

Many wonder how someone with such a brilliant mind, breadth of knowledge, and scientific wisdom could have been marginalised from mainstream science. 'The Gaia book may have harmed my relations with the Royal Society and the establishment, but as far as educating other scientists and the general public are concerned, it has done a tremendous amount of good,' he says. But above all, this eminently human scientist retains his humility – something some of his peers might like to learn from.

THE BAD

Richard D North, whatever his many failings, is always good for a laugh. If you're a weary environmentalist, bored after a day's trawling through policy documents or waving placards at corporate bully-boys, then pouring yourself a drink and settling down to enjoy one of North's bizarre, entertaining and absurd anti-green polemics could be just what you need.

Richard D North (best not to ask what the 'D' stands for) has, over the last five years or so, set himself up as one of Britain's foremost green naysayers. In his books, journalism and pamphlets he likes to present himself as a serious counterweight to what he sees as the woolliness and scaremongering of environmentalists. Sadly for North, though, his writings and rantings are taken less seriously than he seems to think. For in his own way, poor old Richard is as predictable, prejudiced, compromised and just plain daft as the putative eco-loonies he so enjoys taking a potshot at.

Yet the 53-year-old North came originally from the other side of the fence. In his own words 'a pretty ordinary Englishman', he left his public school in the 60s and 'dropped out', becoming a camper-van-driving vegan hippy who was, so his website proudly informs us, 'the first person to wear a poncho in Surbiton'. Inspired by the 'limits to growth' ideas that were fashionable in the 1970s, he began writing on environmental and animal rights issues. By the mid-80s, he had fetched up as the first environment correspondent of *The Independent* – in his own way, a green pioneer.

But then, something changed. For whatever reason, and over whatever timescale, North swung round and began training his guns on his own platoon. As he tells it, this was a gradual process of reasoning, research and realisation. He 'overcame my ignorant dislike of industry' and began to see that 'most "Western" values – including technological progress in consumer satisfaction – had an enormous amount in their favour'. Look at North's work, though, and it

becomes clear that rarely does such a reasoned critique inform it. He may crave the role of honest voice in the wilderness, but what really pushes North's buttons is giving his old allies in the green movement a right royal kicking.

Sit back with that drink, then, and play a quick game of 'pin the tail on the straw dog'. All you do is pick an issue close to the hearts of environmentalists and try to guess North's position on it. It's an easy game once you realise the basic principle on which he operates: If the greens are for it, I'm against it.

So Richard can't see the big deal about

RICHARD D NORTH

rainforests ('What's so great about the wilderness?... the good bits of rainforest to visit are the bits where somebody has obligingly logged and put in a road. Otherwise you can't get to it.'). He's a great fan of roads ('We don't build enough of them') and he just loves digging big holes in the ground ('Quarries are pretty. Landfill is great.'). That might be because he loves plastic ('We should have lots and lots of plastic. We should use more of it') which doesn't cause any problems when thrown into the aforementioned large holes ('Don't worry about the pollution. It's all been sorted.')

Can you guess, then, what Richard thinks about nuclear power? That's right – we need more of it ('The great thing about nuclear waste is you should dump it – preferably in the deep Atlantic.'). The fur trade? Fox hunting? Veal farming? Oil drilling? Yes please.

Much of this can probably be explained by North's opinion that greens are 'rather dreary people' who need regular pokes in the ribs from people like him. And yet his anti-environmentalism is so over-the-top, so virulent ('campaigners... are parasites getting an easy living off the back of people



who are out there trying to make the world better') that it sometimes sounds as if he is venting his spleen on the elements of his former self that he sees in today's Swampies.

Whatever his motives, North's crusade has made him the *idiot savant* of big business. He isn't merely happy to extol the wonders of multinational companies; he's happy to take their money too. Much of the research for his 1995 green-bashing book *Life On A Modern Planet* was funded by ICI. Shell paid him to pop over to Ogoniland in Nigeria in the wake of the murder of Ken Saro-Wiwa and write puff-pieces in British papers about how responsible the oil company was being.

North can be infuriating, but ultimately he is probably too bitter and too compromised to pose as much danger as he would like to the green movement. In a way this is a shame – for there is sloppiness, hubris and exaggeration within the green movement, just as there is elsewhere, and it could do with some intelligent and thoughtful criticism. It is unlikely to get it from North, though, who occasionally even provides insights into what his reputation is built on. 'Providing you are either amusing or terrifying,' he told an audience of journalists in 1998, 'in any case providing you are shocking in some way, you are going to get paid.'

...AND THE UGLY

'The economic and political environment is still in the hands of governments. We need to give them a clear message. Time is short and we need to adjust quickly. The aim is to create shareholder value. The public and the governments have to understand this.'
Georgy Mosonyi, CEO of Hungarian oil company MOL, speaking at the International Chamber of Commerce's World Congress this year.



WALL STREET 2

The Dow Jones is hurtling up, 24-hour trading is commonplace, and dotcom shares have created an entirely new financial momentum. Our financial world is a rapidly inflating bubble and, as David Boyle reports, we all know what happens to bubbles.

A new era of endless prosperity. A 'new economy' based on new technology. A bull market that seems never to end. Rapid growth and burgeoning productivity. Titanic mergers that promise new surges of growth.

No, it isn't the year 2000 and the so-called 'long boom' on Wall Street – though it might be. It's the year 1929 on the eve of one of the critical turning points of the 20th century; the Wall Street Crash.

The extraordinary parallels between today's financial insanity and the disaster that ushered in the Great Depression – not to mention the Second World War – were documented this October in a new edition of the book *Devil Take the Hindmost* (Macmillan, £7.99), by the British financial journalist Edward Chancellor.

He hasn't been the first to notice. Many of the world's leading financial authorities have been worrying about it too, and the closer you look at the two periods, the more disturbing the parallels seem.

Every generation believes its own situation is unique, and often uniquely safe. Take, for example, the designers of the Titanic in 1912 or the designers of the US Federal Reserve system the following year. By the 1920s it was widely believed that the 'Fed' provided the perfect financial safety net, controlling interest rates and money supply by buying and selling government bonds.

TONY STONE

It was the era of Henry Ford's production lines and Frederick Taylor's fearsome stop-watch. The combination of modern factories and new theories on time and motion was believed to have created a new 'science' of management. Coinciding with a time of rising productivity, docile trade unions, new technologies such as radio storming up the stock market, not to mention tax and interest rate cuts, and the markets seemed unstoppable. It wasn't any wonder that the world's leading economist, Prof Irving Fisher, believed by 1928 that 'stock prices have reached what looks like a permanently high plateau'.

An enormous new industry to sell stocks was competing to push the new stocks even faster onto the market. Around 600 new brokerage houses opened on Wall Street in 1928 and 1929. A new investment house opened its doors every day for the first nine months of 1929, issuing \$2.5 billion in securities to the public – half of which would shortly turn out to be worthless.

'No-one can examine the panorama of business and finance in America during the past half-dozen years without realising that we are living in a new era,' said John Moody, founder of the credit ratings agency. It was the prevailing view.

Everyone wanted their bit. There were special rooms set aside in the hotels on Broadway for wealthy women to play the market – much to the disapproval of the more traditional brokers. 'Everybody ought to be rich,' said the title of a long essay by John Raskob of General Motors in the *Ladies Home Journal* of August 1929, explaining that \$10,000 invested in GM a decade before was now worth \$1.5 million.

No wonder, then, that President Coolidge could say in his final State of the Union address at the end of 1928: 'No Congress of the United States ever assembled, on surveying the state of the Union, has met with a more pleasing prospect than that which appears at the present time.'

Apparently, you couldn't lose. There wasn't even any need for a financial adviser, said Groucho Marx, who borrowed a quarter of a million dollars to play the market: 'You could close your eyes, stick your finger any place on the big board and the stock you bought would start rising.'

This turned out to be the most dangerous aspect of the whole unsustainable bubble. People were encouraged to borrow to invest, believing assurances that the market would just keep rising. These were known as 'margin loans' – using shares from previous investments as security for the new borrowings.

No problem, Coolidge decided. By the end of the 1920s – in a frightening echo of today's consumer boom – a sixth of all retail purchases in the US were on credit. 'In their appetite for immediate gratification, the consumers of the 1920s were devouring their future,' writes Chancellor. 'When the future eventually arrived, they found the cupboard bare.'

The market reached its height in early September 1929, and from that October onwards a series of terrifying lurches wiped 83 per cent off the value of American investments. And with every lurch, the shares underwriting people's loans lost value too – forcing inexorable rounds of selling and heart-breaking overnight bankruptcies. Groucho Marx and Irving Berlin both lost a fortune. So did Irving Fisher. So did millions of others.

'We have involved ourselves in a colossal muddle,' said Keynes in 1933, 'having blundered in the control of a delicate machine, the working of which we do not understand.' The trouble is, we still don't.

Just as the Federal Reserve had been a response to the 1907 crash, the Glass-Steagall Act of 1933 built a wall between commercial and investment banking to make sure it never happened again. Nearly 70 years later, Congress has been busy repealing Glass-Steagall.

BLOWING BUBBLES

Can we learn from history? Another notorious financial disaster in the making was the development of the South Sea Bubble in the early 18th century, when new companies aiming to build 'a wheel of perpetual motion' were heavily over-subscribed. One company at the time was even created for 'an undertaking that will in due time be revealed'.

The evidence is that we are living through a similar bubble. The Dow Jones Index reached 2,365 points in 1990, having taken a leisurely 76 years of its 100-year history to reach its first 1,000. It rose 30 per cent in 1997 alone and recently topped 11,000. The dotcom explosion has led to a website like @Home outstripping the value of Lockheed Martin, or the internet share-trader E*Trade outstripping American Airlines.

We are living in the crazy world described by Larry Summers – the US Treasury Secretary and tennis partner of the chairman of the Fed – as one where 'entrepreneurs may raise their first \$100m before buying their first suits'.

American mutual funds like Charles Schwab, Fidelity and E*Trade now have 12 million online trading accounts, handling half a million share trades a day across the USA. When New York closes, they can just dial Tokyo and carry on trading all night long.

Yet, according to Summers' predecessor Robert Rubin after the Asian panic, in a frightening echo of 1929, the 'fundamentals are sound'.

'I was asked a year ago – given the history of speculation – how many dotcom ventures would be expected to fail, and I said 99 per cent.' Chancellor writes, 'That seemed bold at the time, but now actually seems to have been rather prescient.'

'The significance of speculative manias is that they cause the build-up of debt and bad investments which creates slow growth. I don't know whether an overnight crash is likely to happen – the worst scenario is probably Japanese-style deflation. But there are instabilities in the financial systems that are not dissimilar to the margin loans of 1929.'

Edward Chancellor is not alone in urging caution. Although there remain a few voices claiming that the 'new economy' is an era of permanent prosperity, there are others from inside the system who are warning that something has to be done.

One of the most celebrated is the billionaire speculator George Soros, whose hedge fund Quantum has reaped billion-dollar profits in recent years. Since 1998, when his remarks caused the collapse of the Russian rouble, Soros has been warning that the system is overheating and swamped by inexperienced 'day traders'.

'I see tremendous imbalance in the world. A very uneven playing field, which has gotten tilted very badly. I consider it unstable,' he has said. 'Today, American consumers... are spending more than they

'The point is, ladies and gentlemen, that greed, for lack of a better word, is good. Greed is right. Greed works.'
Gordon Gekko, Wall Street, 1987

are earning... this is a wonderful world but it cannot last for ever.'

There has been support from one of the world's leading economists: 'If Soros doesn't have the answer, at least he's asking the right questions,' says Paul Krugman.

A certain amount of aggressive realism is spreading through the markets. One investor's website in the City of London called its last diatribe 'Signals from the lemmings' (see www.contraryview.co.uk).

The danger is that the financial system is now uniquely unstable. 'We see about \$400 billion every day of foreign exchange transactions going through the system,' said Citibank chief John Reed 15 years ago. ■

Now around \$2 trillion a day in electronic payments roar through the Clearinghouse Interbank Payments System in the USA, known as CHIPS – and the similar British system called CHAPS – and less than five per cent of that has anything to do with goods, services or trade. The rest is speculation and froth, but froth with terrifying power over ordinary lives.

'It is fair to say that something very unusual is going on in the foreign exchange markets, something we have never experienced before,' says Bernard Lietaer, former hedge fund trader and Belgian central banker, whose book *The Future of Money* (Random Century, £18.99) is published in January. Trade has become what he calls 'a mere side-show to the global casino of the speculative monetary exchange game'.

Financial authorities are aware there's a problem, but argue that the solution is more of the same – faster currency movements, fewer speed-bumps. That has been Fed chairman Alan Greenspan's solution – the man who back in 1996, noting that rising volumes of stock trading were 'straining the capacity' of the system, famously warned the markets against 'irrational exuberance'.

Even Michel Camdessus in Bangkok in February used his last speech as IMF head to warn that the rising gap between rich and poor was the ultimate threat to the system – but urged more currency freedom as the solution.

Actually, of course, faster systems and closer integration probably mean more crises, as Krugman warned this year's regular meeting of central bankers in Wyoming. Look what we've had recently, after all. There have been currency crises in 87 countries since 1975, leading to the near catastrophic Asian, Russian and Brazilian crises since 1997. There have also been 69 countries since the end of the 1970s which have woken up one morning to find their whole banking system worth less than nothing.

Wall Street and the City need a certain amount of instability to thrive. Stable markets earn them nothing, after all, so there is a built-in bias towards crisis. The trouble is that there are more crunch-points than usual on their way.

CRUNCH POINT 1: THE BUBBLE CRISIS

The problem with unsustainable bubbles is that they have to keep growing, and the moment when everyone realises they won't is extremely dangerous. Yet there's no doubt about it – America has consumed and needs a rest. If you wanted a PC, the chances are that you will have already bought one. The spending boom that fuelled the bubble is probably over.

The frightening thing is that, while multinationals are issuing profit warnings like confetti, the main issue in the US presidential campaign of how to spend a budget surplus may well not be there in a few months' time.

'The reason is simple,' said the International Herald Tribune, explaining why neither Bush nor Gore was mentioning how consumer spending was falling. 'If candidates were to raise the issue, they would have to say how they planned to deal with it.'

CRUNCH POINT 2: THE DEBT CRISIS

It isn't just developing countries that are getting crucified by debt. Individuals, corporations and nations all over the world have been piling it on, partly to protect the companies from takeover, partly to fuel the orgy of speculation. No wonder US borrowings have been growing by as much as 10 per cent a year.

The danger is that, as in Japan, the market may suddenly become aware that it can't carry the debt any more. But if the stock market goes back to even reasonable exuberance, how can businesses sustain the level of interest payments? Not just their own, but the cost of the nation's \$400 billion current account deficit, and the US government's accumulated debt of \$5 trillion – itself over \$60,000 per household in the USA.

CRUNCH POINT 3: THE DOT.COM CRISIS

However much the internet may change our lives, it is becoming increasingly clear that tech stocks are not the certain route to instant wealth many thought they were. *Business Week*, long an advocate of 'new economy', is now warning of a 'deep and pervasive downturn' in the tech stocks venture capital market.

Fears of a slump in internet advertising and a realisation that the PC market can't keep growing at its usual 15-20 per cent a year, has wiped millions off the value of even big tech companies like Cisco and Intel. Even mighty Microsoft is now worth less than half of what it was. At the bottom end of the market, 17,000 dotcom employees have lost their jobs this year in the US alone.

That may be a relief for those of us who advocate sustainable consumption, but the bubble has been built on the belief that it will just carry on rising – and the moment of truth is dangerous.

CRUNCH POINT 4: THE INEQUALITY CRISIS

The growing gap between rich and poor can create its own catastrophic loss of confidence in the system – even the former head of the IMF recognises this as a danger. And the wealth of the Forbes 400 grew at the rate of \$940 billion each during the peak boom years of 1997-9 – that's \$225,962 an hour.

The gaps between developed and undeveloped is well-known. Less publicised is the strain these kind of inequalities put on even developed world economies. The cover story in the investors' magazine *Fortune* in 1997 suggested that a breadwinner has to earn a figure four times their age in thousand dollars to afford a comfortable life in modern America. That would mean I, for example, would have to earn \$168,000 a year.

CRUNCH POINT 5: THE CURRENCY CRISIS

Assuming the Asian countries recover and Latin America stays stable, there's always Russia. The \$4.8 billion IMF loan in 1996 disappeared completely, via a network of offshore tax havens – and it seems likely that it emerged again in a different guise invested in the City of London.

In 1997, the Russian government used their nuclear arsenal as collateral for the loan. But after the crisis of 1998, there was no more international money to bail out the Russian currency. 'What happened to that nuclear collateral?' asks Krugman in his latest book, *The Return of Depression Economics*. 'Good question. Let's not think about it.'

Russia may have been better off without the IMF's usual medicine, forcing countries to slash spending and raise interest rates – policies that would never be accepted in the USA and which most economists agree make matters worse. But then what the IMF does is not to get countries to take the correct action – but to do what the markets will like them to do, so that their currency will recover. It's a fatal confusion.

CRUNCH POINT 6: THE OIL CRISIS

Middle eastern crisis, American dependence on oil, Venezuela's Hugo Chavez now using oil as a weapon in his grand anti-capitalist war. Put them all together, what have you got?

CRUNCH POINT 7: THE ENVIRONMENT CRISIS

The Greenhouse Effect seems to have wiped out the profits for some of Europe's major insurers after the floods in southern England and northern Italy. According to insurance giant Munich Re, the cost of natural disasters will overtake total world GNP in 2065 at the current rate. It will have undermined the markets long before that.

'Economic planners look forward in the same way that transport planners do. They assume a natural continuous growth and try and provide for it,' says Andrew Simms of the New Economics Foundation. 'What neither understand is that we are actually up against the limits of what the system can support.'

CRUNCH POINT 8: THE HEDGE FUND CRISIS

This is actually a bundle of crises: the sheer scale and secrecy of the hedge funds, the offshore secret wealth of the very rich, and their increasingly dangerous methods of speculation. The collapse of Long Term Capital Management in 1998 – despite the two Nobel economists on its board – showed just how dangerous these monsters can



THE KOBAL COLLECTION

be. What can be done to prevent a much wider collapse, one Fed official was asked, given that LTCM's debts were suddenly 50 times its \$4 billion capital base? 'Pray,' he replied.

In the event, the Fed managed to organise a bail-out, but the risks of derivatives trading on that scale are becoming clearer. Only a two per cent overall loss on derivatives would be greater than all the world's reserves put together.

'There's blood in the water,' Morgan Stanley's president John Mack famously urged managing directors in his bid to sell derivatives. 'Let's go kill someone!'

The danger is that the giant offshore hedge funds tend to find themselves in trouble at the same time, because they hedge their bets in similar ways – and that tempts them into taking bigger risks with the system. There is some evidence that the Asian crisis was part of a co-ordinated get-rich-quick scheme by powerful hedge funds that back-fired: one even advised Australian officials on the quiet that resistance was useless.

In the future it probably will be useless: all the central bank reserves in the world – about \$1.3 trillion – would disappear in less than one day of normal trading, says Bernard Lietaer. Soros alone risked \$18 billion when he drove the pound out of the European Monetary System in 1992.

'The question nobody dares ask is who is next?' says Lietaer. 'Latin America? Western Europe? China? When will the US, the largest debtor country in the world, become a target? What would that mean?'

Put together, these crunch-points make up a complex and tricky situation, and although a repeat of 1929 probably won't happen – it usually doesn't – the recipe as a whole is looking more unstable. We have youthful traders who have never known a recession. We have an over-heating financial system that rewards instability. We have a new generation of jumpy day traders. But worst of all, we have a system that is based primarily on belief.

'We have nothing to fear but fear itself,' said Roosevelt in 1933,

and it's even more true today, because at the heart of the system there's nothing but moods, weather patterns, hopes and a wealth-creation system like clapping Tinkerbell back to life because you believe in fairies. The derivatives market is, after all, now dealing in over 47,000 different options but no touchable products at all. The New York Mercantile Exchange in 1994 was trading 200 million barrels of oil a year – four times the amount actually produced in the world: 'Like trading ether,' said Nick Leeson.

Arthur Miller's musical about the 1929 Wall Street Crash, *The American Clock*, plays with the same idea. The main character keeps all his money in his shoes, and his lack of belief in the system spreads until it brings down the whole edifice. 'My God!', says a ruined millionaire he is lending to, as he takes off his footwear. 'You don't believe in anything.'

Miller wrote the play long before the current bubble, but it seems amazingly far-sighted: 'There's never been a country that hasn't had a clock running on it,' he wrote, just seven years before the ruinous 1987 crash. 'So I keep asking myself – how long?'

Although the financial system was Clinton's self-confessed priority Number 2, the politicians seem to have stopped asking themselves Miller's question. There are some safeguards, of course, and one of them is the ever-watchful IMF.

But not that watchful. During the worst phase of the Asian currency crisis in 1998, a desperate finance

'Greed – you mark my words – will not only save [a company], but that other malfunctioning corporation called the USA.'
Gordon Gekko, *Wall Street*, 1987

minister from an unnamed country called them for urgent advice about whether to devalue his currency. Since it was after 5pm Washington time, he had a pleasant chat with the IMF security guard but had to make his mind up on his own.

The truth is, we depend on the US economy. If it keeps its little parcel of belief intact, however damaging that is in other ways, the world can manage. If not, the consequences of a serious crash – however unlikely – are probably far more serious than they were even in 1929. We are now so dependent on the financial system, without parallel systems of support, that the result could be catastrophic for humanity.

'Even a significant burst of the US bubble economy could be devastating for the rest of us – feeding into very dark reactionary forces,' says Andrew Simms.

In the introduction to his classic study *Wall Street Crash*, published almost half a century ago, the economist John Kenneth Galbraith put it like this: 'Even in such a time of madness as the late 20s, a great many men in Wall Street remained quite sane. But they also remained very quiet.'

Because the system is based on mood, the danger of writing articles like this is that they increase the risk. Even by reading it you've probably made the world more dangerous. But maybe the risks of staying quiet are now even higher. ♦

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BRECON RECKONING

Last month in *The Ecologist*, George Monbiot exposed the methods superstores use to monopolise the food market in Britain. As they do so, they destroy small towns and local economies. This is what is happening to the Welsh market town of Brecon.

For some of the ewes in the market pens, the journey to the abattoir would be a mission of mercy. Half bald, hips sticking out of their fleeces, speckled with dags and scabs, they coughed and groaned as the buyers leant over the bars to squeeze their backs.

'It's the old stagers today,' someone told me. 'This lot are only skin and grief.'

They were scarcely worth the slaughter fees. Since the rouble had collapsed and the Far Eastern market had shrunk, the price of sheep skins, most of which are sold to Russia and Asia, had fallen from £8 to 20 pence. A few of the better animals would be sold as mutton to halal butchers, the rest would be turned into petfood and 'manufacturing meat' for pies, kebabs and ready meals. The farmers had left them in the stalls and gone: one man told me he couldn't bear to see how much his work was worth.

The auctioneer stepped up onto the gangway above the sheep pens, briefly registered the small crowd of burly men in padded waistcoats and tweed hats and cleared his throat.

'Right, off we go then. Five Cheviot ewes, one Texel tup, all good ones. Twenty pound I'm asking, twenty pound I've got. Twenty pound and you're out. Half, half, one, one half, two, two and a half...'

'He's got no meat on him,' one of the buyers muttered.

'I've seen worse,' his neighbour said.

'... three! Three half, you're out Mike, four, four, I've got four...'

'I'd rather put my money on the horses.'

'A three-legged one would give you better odds than this lot.'

'... four, four half, five, five, I've got five. At twenty-fives, Clive!'

The auctioneer hit his clipboard with his biro and immediately moved to the next pen.

'Here we are gentlemen, just what the housewife wants, no fat.' The buyers laughed.

'Any warranty on them Percy?'

'Yes, lifetime guarantees on every one.'

The old 'cull ewes' sold for as little as two pounds apiece. With slaughter fees of eight or nine pounds each, the buyers maintained that they could find around fifty pence in profit on each animal.

Those men, on that chilly morning in Brecon market in March 1999, were furious. The world, they felt, had turned against them.

'They're brainwashed in the bloody schools. A lot of these teachers think it's a wonderful thing to be vegetarian, see.'

'I lost a friend three weeks ago. Just went out to the barn and hanged himself. He saw no bloody future, raising animals to be bastard burnt. And we're still importing meat from bloody Ireland, where they've openly got BSE.'

But most of the buyers' anger was reserved for Britain's supermar-

kets. The big stores, they believed, were killing British farming, forcing livestock breeders to sell their animals for less than they were worth, then charging higher prices for their meat than the independent butchers levied.

'I have bloody swore black and blue about this,' one man told me. 'We won't have a meat trade left in 18 months' time. There's a lot of blokes talking about jacking it in at the moment. It's a dismal old story, it bloody is.'

The buyers and farmers in Brecon felt they were being trampled twice by the superstores. For years they had been undercut by what, they maintained, were anti-competitive practices. Now the livestock market in the town centre was to be closed and the site used to build a new Safeway supermarket. The money Safeway paid for the land had enabled the county council to move the market out of town. The auctioneer thought this was a good idea: there would be less traffic congestion, bigger pens and a new canteen for the drovers and buyers. The others were unconvinced.

'Bloody nonsense, boy,' one of the farmers told him. 'Now listen, now. This town developed around livestock and the markets. People come here to do their shopping as well – it's much better for the market to have it here. A lot of the new markets out of town haven't been as good. Look at what happened in Leominster. They moved it out of town and it's closed now.'

Brecon is a remote, windy market town cursed with appalling weather and blessed with exquisite architecture. On the edge of the Brecon Beacons National Park, it is surrounded by formidable views. The people of the hundreds of farmsteads, hamlets and villages in and around the park travel there to buy and sell, meet their friends and organise their affairs. Tourists come from all over the world, drawn both by the climbing and walking nearby and by the peculiarities of Brecon itself. The town differs from others not only because of the presence of many remarkable buildings, but also because of the absence of some of the less engaging forms of development.

When I travelled there in 1999, I found a strikingly compact settlement, with little of the peripheral commercial construction or new housing estates which have distorted the shape of so many market towns. It was unusual in possessing no major supermarket. Brecon had a small Kwik-Save and a smallish Co-op, but most of its grocery trade passed through the hands of scores of independent shopkeepers and market stallholders. But now this was about to change, and many of the people of Brecon were convinced that the new store would destroy their town.

BRINGING CHOICE TO BRECON

A small man with a jolly red face bounded into Brian Keylock's shop and slammed a can of beer onto the counter.

'Put it in the fridge, Brian, and drink it when Wales win tonight.' He bounded out again. Brian Keylock laughed, put the can away, then carried on scrubbing and hosing down his chopping block.

A tall gangling couple came in, both towering over the butcher.

'Mrs Clarke!'

'What about me?' the man asked. 'Ignore me, will you?'

'And Mr Clarke. I couldn't see you, you're too small.'

'Is it going to be worth watching, like?'

'Yes, because we'll win. Now what about a raffle ticket for Cancer Relief? You'll get a French rugby shirt if you win.'

'What would we want one of them for?'

'Well Mrs J bought two strips of tickets, and when I asked her why she said, "Just think of all the big men who might have been inside it!" And she's 77.'

'Oh alright then.'

Brian sold them some chops and told them to pray for Wales. He turned to me with a sigh.

'You don't get this sort of thing in the supermarket, you see. It's like a family here. Safeway say they're bringing choice to Brecon. But there are nine butchers in town already. You've got nine choices. If we all disappear, you'll have no choice. The fishmonger has already closed down. Clothes shops have closed down. It's bad enough without the Safeways, and you don't need a crystal ball to see what's going to happen when it comes. Look at Monmouth. They call it "the town for sale". It's got 17 vacant premises. Go to Leominster. Since that thing arrived there, the town is dead. They'll do the same to us. This isn't for the good of Brecon, it's for the good of Safeway.'

He started packing up his shop.

'I'm not moaning about losing my job. I'm moaning about losing my life. And it's not just me. Who's going to fill these slots when we've gone? More charity shops, more building societies? The country's run by idiots.'

Everywhere I went in Brecon, I heard the same story. The people I stopped on the street told me that the superstore would ruin the place. People came to the town, they said, because of its peculiarities: the ancient buildings, its small scale, the quirky and engaging shops. The new supermarket would make Brecon more like everywhere else.

They also mourned what they sensed would be the loss of the social cohesion the small shops consolidated. 'These places,' one woman told me, 'are what stick us all together, see. They make us talk to each other. You can't avoid it.'

But above all, the people I spoke to felt that they had been misled.

BOGUS ASSESSMENTS

Brecon does not have a conventional district council, but is governed by the Brecon Beacons National Park Authority. This body is not directly elected: 16 of its members are drawn from the county councils within the Park's boundaries; the remaining eight are appointed by the Secretary of State for Wales. The authority makes the planning decisions on which the town's development depends. In 1998 it approved Safeway's application to build on Brecon's cattle market. It supported the supermarket at the subsequent public inquiry.

Like Safeway, the Authority argued that the supermarket, far from harming the other traders in town, would help them. One of the reasons why many of Brecon's residents travelled to other towns to do their shopping, the Authority claimed, was that Brecon had too narrow a range of shops. 'The quality and choice of food retailing,' according to the assessment produced by the superstore's consultants and used by the National Park Authority, 'will be significantly enhanced through the introduction of one of the country's premier retailers... Shoppers will be attracted back into the town centre.' The only noticeable losses of trade would be felt by the two small supermarkets already in the town. 'No store closures are predicted.'¹

This assessment, according to the local people opposing the store, was bogus. It was true, they conceded, that many people in Brecon went elsewhere for some of their shopping. According to a study commissioned by the Development Board for Rural Wales, only 39 per cent of the clothes shopping by Brecon residents took place in their home town, while 86 per cent of the townspeople travelled elsewhere to buy large items of furniture. But, as in all towns in mid-Wales, local people were remarkably loyal when purchasing their groceries: 90 per cent of those bought by Brecon's inhabitants are bought in Brecon.²

The consultants' assessment, in other words, failed to distinguish between the different kinds of shopping. Brecon's 'leakage' had little

'The people I stopped on the street told me that the superstore would ruin the place. People came to the town, they said, because of its peculiarities: the ancient buildings, its small scale, the quirky and engaging shops. The new supermarket would make Brecon like everywhere else.'

to do with groceries, yet the solution to the problem, according to the National Park Authority, was to introduce a bigger grocery store.

Safeway's consultants maintained that the new store, 'will enhance and promote the vitality and viability of Brecon'.³ Interestingly, however, the most comprehensive assessment of the impact of superstores ever undertaken, published by the government, came to precisely the opposite conclusion, using the same words: 'Even where town centre food retailers suffer an impact, but do not subsequently close, there may still be a concern that this will lead to a general decline in activity elsewhere in the centre, and adversely affect the vitality and viability of the centre.'⁴

But perhaps the most astonishing of all the assertions made by Safeway and the National Park Authority was that the new supermarket would generate employment in Brecon.

'Approximately 150 new employment opportunities will be created,' Safeway's consultants claim. 'It will assist in reducing the local unemployment rate.'⁵

It is hard to understand what the basis of this claim might be. As we saw last month (*Buying up Britain*, Vol 30 No 8), a study commissioned by the superstores themselves showed that every time a large supermarket opened, a net 276 retailing jobs are lost.⁶ This is hardly surprising. Small shops don't enjoy the superstores' economies of scale, so they must employ more people to shift the same amount of stock. They also tend to employ local businesses for building work, fitting and maintenance. Unlike the superstores, small shops often buy their stock through independent wholesalers. They are more likely to buy local produce and the money they make tends to stay, like their proprietors, in the town in which it was spent. The money the superstores make is immediately removed. In Brecon, the impact of the new store could be even more damaging than elsewhere, as tourism is central to the town's economy and heavily dependent on its tranquillity and distinctiveness.



'Brecon's shops serve not only its townspeople, but also the inhabitants of the surrounding villages. Public transport in mid-Wales is sparse and irregular, so most people come shopping by car.'

TRANSPORT DILEMMAS

Brecon's shops serve not only its townspeople, but also the inhabitants of the surrounding villages and hamlets. Public transport in mid-Wales, as in most parts of rural Britain, is sparse and irregular, so most of these people come shopping by car. Many of them parked beside the livestock market, or in council-owned car parks elsewhere

in the town, in which they had to pay.

Safeway's building covers both part of the livestock market and many of the car parking spaces attached to it. The store has undertaken to replace them with car parking on the other side of the old market, the side furthest from the town centre. This, like the store itself, is served by a new road partly financed by Safeway, which bypasses the high street, its shops and the grocery market. The store's parking is free.

In theory, people visiting Brecon's small shops could park in Safeway's car park, pay nothing, and walk into town. But while the remaining spaces in the old car park are not far from Brecon's high street, the new parking is a long way from most of the town's other shops. The new road leads visitors straight to Safeway and its new car park. Shoppers will be faced with a choice between convenient free parking beside Safeway, with a long walk to the other shops, or inconvenient and expensive parking close to the rest of the town. The store will, in other words, reap a massive competitive advantage from

the new arrangements. The small shopkeepers complain that Safeway, with the help of the National Park Authority, has turned Brecon round to face the other way.

NEW SOLUTIONS, OLD PROBLEMS

Meanwhile, someone had covered the lambs with graffiti. When they staggered to their feet from where they lay, they seemed to be as much blue as white: huge numbers had been sprayed on their flanks. They tottered after the exhausted grey ewes with pathetic cries, and pushed and nuzzled at the udders.

It was a day on which the crimes of the winter were forgiven. Marsh tits chased each other through the March sunshine. A chaffinch sang from a hawthorn tree, and starlings rode on the backs of the sheep as proud and glossy as cavalry officers. The last snow shone on the slopes of the Brecon Beacons: pure white on the peaks

and in the cwms, grey and stratified on the windward faces.

I walked along the River Usk, whose bumpy water rustled in the sun. An old fisherman, gaunt as a heron, stalked up the bank.

'Any luck?'

'No, I'm just watching the birds. It's too nice a day to do any fishing. When it gets like this I think "Oh sod the fish, I don't want them anyway".'

On the high ground above the river, a mile out of town, was a sea

of churned maroon earth surrounded by plastic netting. Two men in yellow helmets sat on a girder, bolting a roof onto the new livestock market the county council was building. Already, it promised to become an eyesore of spectacular ugliness – vast hangars with glinting steel roofs – in the geographical centre of one of Brecon's most famous views.

Powys County Council had been trying to build this market for years. The old one, on the town centre site owned by the council, had been built in the 1950s, when cattle were smaller. Now the animals could jump over the pens. The site was tatty and neglected, and market days caused congestion in the town centre. The existing market could have been redesigned and rebuilt, but the council decided to demolish it and start again elsewhere. This would cost, it found, some two and a half million pounds. It applied to the Welsh Office for a grant to move the market out of town, but the government turned it down. So it sold the town centre land to a property company working on behalf of Safeway, and used the earnings to move the market.

This seemed like a sensible, pragmatic solution to the problem the county council faced, and it might have been uncontroversial – had the county council not also enjoyed a powerful position on the planning authority. One third of the members of the Brecon Beacons National Park Authority, including its chairman and deputy chairman, were also members of Powys County Council whose financial problems were solved by the sale of its land to Safeway.

Powys County Council, which is also the highways authority in Brecon, then proposed that a new 'inner relief road' be built through Brecon, a plan which amazed many of the residents. The town already possessed a bypass, intended to remove much of its traffic. Why then did the council want to build a new road which was likely to pull it back in? Local people became even more perplexed when the county council announced that only the first two stretches of the road needed to be built – the third, which would have completed the loop through Brecon – was unnecessary.

From beside the old livestock market, I watched as the council's earthmovers destroyed, ironically, its own highways depot, and cleared a wide crescent of land from where I stood to the eastern edge of the town. The new road, whose construction involved the demolition of several old buildings and the effective reorientation of

'The new road, whose construction involved the demolition of several old buildings and the effective reorientation of Brecon's traffic, came to a halt precisely where the superstore would begin. Far from relieving Brecon's traffic, it simply channelled it straight to Safeway, the purchaser of the county council's land.'

Brecon's traffic, came to a halt precisely where the superstore would begin. Far from relieving Brecon's traffic, it simply channelled it straight to Safeway, the purchaser of the county council's land. The council later told me that the road had been financed partly at public expense, and partly by the superstore.

MUSCLING IN

The National Park Authority has several responsibilities, which reflect both the ordinary functions of a district council and the peculiar needs of an area of national conservation importance. It is responsible for protecting the environment, for ensuring that land use meets local people's needs, for boosting the tourist industry and enhancing the local economy. It has also been seeking to help local producers of food, by investing in an annual 'Food Fest'. Its decision to grant planning permission for the supermarket contravenes every one of these functions. The store threatened the town's environmental quality, used land which local people insisted was badly needed for housing (houses would instead be built on greenfield land outside the town's boundaries), and would damage the tourism industry, hurt local shopkeepers, and thereby undermine the market for local produce.

Safeway made use of what planning consultants describe as the tried and tested technique of raising the stakes after planning permission has been granted. It

applied at first for a moderately large store, then, once that had been approved, requested an extension to the store. Crucially this would, it seemed, contain a substantial coffee shop, a feature which might have made initial permission harder to obtain had it been included, as it posed a threat to the town's many cafes. The National Park Authority, to the helpless astonishment of local people, approved the extension.

Safeway got what it wanted. The people of Brecon got what they were given. In today's Britain, it seems, this is what 'choice' really means. ♦

*George Monbiot is an environmental writer and campaigner, regular Guardian columnist, and founder of The Land is Ours. This article is edited from his book **Captive State: the Corporate Takeover of Britain**, published by Macmillan, £12.99.*

Captive State is reviewed by John Vidal on page 61.

*To order your copy of **Captive State** p&p free in the UK, please call 01624 836000.*

References on page 65.





ONE MAN'S MEAT

Falsified reports, incompetence, the possible introduction of AIDS and other new diseases, and not one single success story. All this lies behind the attempts to transfer the organs of one species into another, yet still the biotech companies continue to experiment, dollar signs in their eyes.

Alix Fano wonders if they'll ever get the message.

On 21 September 2000, *The Daily Express* landed on the newsstands with an explosive story that caught the British public – and much of the GM industry – on the hop. The exposé was based on leaked internal reports describing xenotransplantation experiments on higher primates – including cynomolgus monkeys and wild-caught baboons – commissioned by Imutran, the British subsidiary of Novartis, and conducted by the controversial contract research laboratory, Huntingdon Life Sciences in Cambridgeshire.

Now, although many people know that xenotransplantation experiments – the process of transplanting organs, tissues and cells between different species – takes place, few were aware of the horrors that were being perpetrated at Huntingdon in the name of science. The article not only highlighted extraordinary levels of animal suffering in the laboratories, but revealed glaring technical failures in the experiments conducted by the company, despite Imutran/Novartis's earlier claims that they were succeeding. These failures had been brought to the newspaper's attention by the British advocacy group, Uncaged Campaigns, whose 150-page report, *Diaries of Despair: The Secret History of Pig-to-Primate Organ Transplant Experiments*,¹ was based on an extensive cache of leaked documents from an anonymous source. Imutran has taken legal measures to prevent Uncaged from disseminating the report. A court date was set for late November.

The extent of the incompetence surrounding these experiments was staggering: the report revealed at least 520 errors and omissions in the conduct of studies, including organ weights not recorded, unlabelled and uncovered veterinary medications, inadequate surgery records, a quadruple overdose, the illegal reuse of animals, conflicting pathology reports, the accidental freezing of a kidney during transplantation surgery and a case of a swab being left inside a primate, which resulted in his death. In one particular incident, seven baboons appear to have been experimented upon despite a warning that they 'must not be worked on due to positivity for Herpes B' – a virus lethal to humans.

READING BETWEEN THE LINES

Was this just pure incompetence, or is there an even more serious charge here? The documents demonstrated that, after five years of research, Imutran had improved the average survival time of monkeys with functioning pig kidneys from two to just four weeks. The success rate of heart xenotransplantation is even less tangible – just 11 days according to the documents. As a result of these statistics, in April 2000, Novartis had set an 18-month time limit to achieve major improvements in survival times. Uncaged Campaigns charges that Imutran/Novartis greatly exaggerated the success of their pig-to-primate experiments in published articles, by selectively using their 'best' data while ignoring data on average survival times and the overall health of the primate recipients. The 'success' of Imutran's pig-to-primate experiments should now be called into question based on the complete picture revealed by the leaked documents.

What is so remarkable about this information is that the research was being carried out in a field that is so dangerous. Here was a corporate-sponsored, government-sanctioned laboratory apparently overstating its success in a branch of science that will have extreme repercussions for mankind. Was Imutran/Novartis really prepared to sanction shoddy and seemingly deceptive work in pig-to-primate organ transplantation – a stepping block to pig-to-human organ transplantation – merely to hit a deadline?

The implications are highly disturbing, particularly as xenotransplantation hasn't had that great a track record. Since 1905, 82 humans

have received whole organs from chimpanzees, baboons, pigs, goats and other animals, and all have died from infections and complications related to hyperacute rejection within hours or days of the surgeries. Human and animal organs have evolved over the millennia to be able to deal with viruses, necessary immunities and other foibles and subtleties that each species requires. The trouble with xenotransplantation is that you just don't know what comes with each organ.

Numerous published documents have warned of the dangers and unpredictability of animal viruses. The swine flu epidemic of 1918 killed 20-40 million people worldwide. During 1998 and 1999, the novel Malaysian 'Nipah' encephalitis virus, which originated in fruit bats, jumped from pigs to humans, infected 269 people, killed 117, and led to the mass slaughter of one million pigs. The virus, which caused brain damage in dozens of victims, has resurfaced this year in several Malaysian villages. In May 2000, a British farmer died after contracting a rare pig disease, streptococcus suis. It appears he inhaled the virus after it was

breathed out by his pigs. A 1999 study by British scientists found that cancer-causing retroviruses are transmitted much more frequently and easily between different species in the wild than previously thought, adding concerns regarding the xenotransplantation of pig organs to humans. In September 2000, scientists gathered at the Royal Society of London to determine whether polio vaccines made with chimp kidneys and contaminated with the simian form of HIV could have triggered the epidemic of the AIDS virus which has stricken 53 million people, most of them in Africa. If this theory proves true, it increases the odds that a potentially lethal microbe from another species could accidentally be introduced into the human population via xenotransplantation.

COMPOUNDING THE FOLLY

Despite these complex and largely unforeseeable cans of worms opened every time an organ is transplanted from one species to another, the scientists won't leave xenotransplantation alone. Pigs, they say, are source animals of choice because they breed quickly, have been extensively farmed, and have organs that are allegedly 'similar' in size to ours. Today, multinational biotechnology companies claim that they have bred 'germ-free' pigs with human genes whose organs are less likely to be rejected by the human body. Soon, farms could be filled with cloned 'humanised' pigs – living factories, genetically engineered to meet the world's growing demand for replacement organs.

For there's money to be made. According to the United Network for Organ Sharing, a quasi-governmental organisation that co-ordinates human organ and tissue donation in the US, approximately 4,000 Americans die each year waiting for transplantable organs. Compared to the number who die from heart disease (726,974), cancer (539,577), pneumonia/influenza (86,449), AIDS (16,516), and by suicide (30,535), this may not seem high. But with over 60,000 Americans on transplant waiting lists (180,000 worldwide), a perceived chronic shortage of human organs and tissues, and a potential market in pig parts and expensive anti-rejection drugs worth \$6-\$10 billion annually, the race to cash in on this market is officially on.

Some researchers and biotechnology companies claim that putting pig organs into people may become a commercial reality within two years. Robert Michler, chief of transplantation at Ohio State University Medical Center in Columbus, believes that human trials should begin as soon as possible, as soon as 50 per cent of a group of baboons with transplanted pig hearts survive for three months – a target set by the US Food and Drug Administration (FDA).

In August, scientists at BioTransplant, a Massachusetts-based

'The extent of the incompetence surrounding the Huntingdon experiments was staggering: the report revealed at least 520 errors and omissions in the conduct of the studies, including a quadruple overdose and a case of a swab being left inside a primate which resulted in his death.'

■ xenotransplantation company, in collaboration with Massachusetts General Hospital, announced that they had bred a line of miniature pigs that could provide a 'safer source of cells, tissues, and organs for xenotransplants' because they allegedly do not transmit potentially harmful viruses to human cells. (Patents are being filed in the US and abroad to protect such allegedly lucrative 'inventions'. On 8 October 2000, *The Sunday Times* UK announced that BioTransplant had submitted an application to the European Patent Office for an 'embryonic pig-human hybrid', the uses for which have not been defined by the company.) BioTransplant researchers theorise that generations of inbreeding could have weakened the viruses and taken away their ability to infect.

However, Porcine Endogenous Retroviruses (PERVs) – a family of AIDS-like viruses that are harmless to their hosts but potentially lethal when transferred to other species – are incorporated in the pig's genome and cannot be bred out. It has been estimated that hundreds of different endogenous retroviruses may be present in a given animal. BioTransplant admits that their mini-pigs still carry PERVs in their DNA, and thus in every organ, cell and tissue destined for transplantation.

MUTATION FEARS

Virologists like Dominic Borie and Robin Weiss have cautioned that endogenous retroviruses in pigs could recombine with human viruses and/or mutate into more infectious forms after transplant. Pigs may also contain other as yet unknown viruses. Daniel Salomon, a researcher at the Scripps Research Institute in La Jolla, California, has said that earlier studies, which suggested that PERVs have not infected people, 'may not have looked in the right places'. Patients injected with pig pancreatic islet cells to treat diabetes have had their peripheral blood lymphocytes (white blood cells) and blood serum tested for PERVs, and have been declared free of infection. But PERVs do not usually infect blood lymphocytes. They prefer epithelial tissues – tissues that line the inside and outside of organs. Only biopsies of these tissues could reveal the presence of the pig virus(es), and such biopsies have not been done in humans. Baboon cytomegalovirus was, in fact, recently detected in stored tissue samples from a recipient of a baboon liver who died after a xenotransplant in 1992.

A blood test will only pick up an active infection; but many infections (eg AIDS or 'mad cow disease') may remain latent in the body for years before they're ready to surface. So the fact that a blood test does not detect PERV in a patient's blood at a particular point in time, does not mean that that patient is not harbouring the virus.

Moreover, most studies of xenotransplant patients have been retrospective, meaning that patients' blood was not sampled for PERVs periodically from the moment treatment began, as would be done in a controlled study. Most studies have also lacked a control group – a group receiving a placebo transplant. Peter Collignon, an infectious diseases physician at Canberra Hospital in Australia, observes that, without a control group, there is no way to determine whether the treatment really worked. Indeed, the testing of xenograft patients that has been done to date has not established the technology's safety or its efficacy. One could go so far as to say that tests have been designed to conceal unfavourable outcomes.

Many other questions and concerns remain, one of the most important being whether animal organs will ever be able to sustain human life. Will pig organs continue to grow at a 'pig rate' once transplanted into humans; will they become susceptible to human diseases; will they be able to carry out functions necessary for human survival? For example, unlike the human organ, the pig kidney lacks a mechanism for controlling levels of medicines, which could have a

significant impact on a xenotransplant patient who requires several drugs. The porcine kidney cannot handle the high levels of uric acid found in the human bloodstream, which could lead to kidney stones or kidney failure; and it may not respond normally to the hormone vasopressin, which is released from the human brain. Such discrepan-

cies could affect blood pressure, hydration and fluid balance. Human red blood cells are larger than those of the pig and there are incompatibilities in blood-clotting mechanisms, so that in a grafted pig organ, blood clotting, organ failure and death may occur from blockages in the tiny blood capillaries. A pig's heart normally pumps smaller amounts of blood per minute than required by a human, due to its horizontal posture. If the output of the heart is too low, multiple organ failure and death would result.

In *Transplantation Proceedings* (1999, Vol 31, pp905-8), M E Breimer describes physiological incompatibilities between humans and pigs, including differences in anatomy, physiology (regulation of blood circulation, hormone systems), immunology, complement and coagulation systems, pharmacology and metabolism. Despite these seemingly insurmountable problems, pig research continues unabated.

The prospect of commercial cross-species transplantation has created huge financial incentives for multinational drug and biotechnology companies. Novartis (which also makes cyclosporine, the leading anti-rejection drug), Baxter Health Care and their many subsidiaries that dominate the field have already invested over \$100 million in research. Such enormous capital investment has prompted research collaborations between different companies and medical centres in an attempt to share risks and costs.

Novartis is also sponsoring xenotransplant research at several American, European, and Canadian medical centres, to save on contract lab and research costs. Novartis is funding pig-to-primate xenotransplantation experiments at the Universities of Ohio State (Columbus), Pennsylvania (Philadelphia), Wisconsin (Madison), Stanford University, Massachusetts General Hospital and, in Canada, at the Universities of Western Ontario, Toronto, and Guelph.

The Mayo Clinic in Rochester, Minnesota, which opened a large xenotransplant programme and pig-breeding facility last year, has forged an alliance with Baxter Health Care/Nextran, a New Jersey-based biotech company, to breed transgenic pigs whose organs would not be prone to rejection. Christopher McGregor, Mayo's director of cardiothoracic transplantation, has declined to say how much money Mayo has received from Baxter.

Despite these collaborations, there is fierce competition between each individual company or medical centre to be the first to successfully transplant pig organs into humans, driven by the desire to reap financial rewards, to gain publicity and to pacify anxious investors.

Alexion Pharmaceuticals in New Haven, Connecticut, is developing stronger drugs to suppress the immune system. PPL Therapeutics, associated with the Roslin Institute in Scotland (famous for cloning Dolly the sheep and filing a world patent on the cloning of all animal species, including humans), is trying to breed transgenic pigs whose organs will not provoke hyperacute rejection when transplanted into humans because they lack a specific sugar called alpha-galactosidase. In March 2000, PPL announced it had cloned a litter of five female pigs using a double nuclear transfer technique. The company claims that pig cloning will ensure a plentiful supply of pigs for xenotransplantation.

However, cloning pigs for transplants is an expensive, technically difficult and inhumane proposition. Last May, BBC News Online reported that PPL was having trouble producing cloned pigs because none of the genetically modified embryos were surviving to term in their surrogate mothers. PPL acknowledges a 50 per cent postnatal

'Each and every day in the United States, 6,000 bodies full of human organs are buried or burned. That's two million each year, many times the number of organs required for all types of transplants.'

loss of cloned animals. Cloned animals are typically weaker than their traditionally bred counterparts and may be prone to congenital abnormalities, chronic organ dysfunction, premature ageing (due to changes in chromosome structure), high infant and juvenile mortality and cancer (see Michael W Fox, *Beyond Evolution*, Lyons Press, 1999). Moreover, cloning pigs will not rid the animals of the numerous viruses, bacteria, and parasites they carry, which may lead to dangerous infections in humans.

Nevertheless, over the last several decades, US federal agencies have dispensed tens of millions of dollars to university researchers and private corporations for cloning and related xenotransplantation projects. The Commerce Department's Advanced Technology Program, established under the Bush Administration, has given multimillion-dollar grants to corporations like Alexion Pharmaceuticals and Organogenesis Inc, and to PPL for their pig-cloning projects. A B Cosimi, a researcher at Massachusetts General Hospital in Boston, received over \$15 million from the National Institutes of Health (NIH) between 1992 and 2000 to study the immune response involved in xenograft rejection between pigs and baboons. A team of researchers at Duke University in North Carolina received almost \$2.5 million from 1997 to 1998 to transplant pig hearts into monkeys and other animals in an effort to elucidate the 'immunological barrier to cardiac xenotransplantation'. In 1997, the NIH published an announcement on the Internet soliciting 'applications [from domestic and foreign researchers] to enhance [the] ability to transplant organs and tissues across species barriers (xenotransplantation)'. The NIH even promotes xenotransplantation in articles designed for children on its website under the guise of 'science education'.

CHANGE OF OPINION?

But not all US companies continue to be enthusiastic about xenotransplantation. In August, Geron Bio-Med, a US biotech firm, announced that it was cutting back funding for its Scottish subsidiary's xenotransplant research programme, Roslin Bio-Med, citing concerns about public health risks. Geron stated it would redirect its efforts to cultivating human stem cells for research and transplantation. Ian Wilmut, Roslin's chief scientist, said he was disappointed by Geron's decision but understood concerns about 'unknown [pig] viruses being released into the human population'. Shortly after the Geron announcement, PPL Therapeutics, which is a Roslin offshoot, distributed a press release stating that it was not abandoning its xenotransplantation research pro-

gramme, least of all because of virus fears, leading critics to question the motives behind the company's sudden retraction.

In April 2000, the US FDA suspended cellular xenotransplant experiments in which foetal pig brain cells were injected into the brains of stroke patients. Thomas Fraser, president of the Charlestown, Massachusetts-based company Diacrin, admitted that one patient developed seizures a week after a transplant and another had minor brain swelling and muscular fatigue. The company said it would try to determine whether the pig cells or the equipment used to deliver them to the brain were to blame for the 'side effects'.

A study published in the British journal *Nature* on 17 August 2000 raised further questions about the safety of cellular xenotransplants.

Salomon et al showed that when insulin-making pig pancreatic islet cells were transplanted into mice with deficient immune systems, PERVs jumped the species barrier, migrated from the site of transplantation, and infected mouse tissues such as the spleen, liver, salivary gland, skin, small bowel and lung. Given this chain of events, the pig virus would likely be present in saliva,

faeces, broken skin and coughed-up lung secretions. Salomon and colleagues concluded that pig-to-human islet xenotransplantation could result in patients becoming exposed to infectious PERVs that might be able to replicate.

It is unlikely, however, that Salomon's study, or any other, will be heeded by US regulatory officials or companies investing in xenotransplantation. After all, reports in 1997 and 1998, stating that various strains of PERV from different breeds of pigs infected human cells, didn't seem to raise enough of a red flag for anyone to actually halt xenotransplantation research.

André Jestin and his colleagues at the French Agency for Food Safety in Ploufragan found that the complete genomes of, amazingly, 11 types of PERV are



expressed in pig organs, including the heart, liver, pancreas and kidneys. Jestin believes that controlling these viruses, or eliminating them via genetic engineering, will be much harder than anyone thought. Porcine pseudorabies virus has been detected in Swedish diabetes patients treated with porcine cells in 1997. And in August 1999, *Science* published the results of a Novartis-sponsored study of 160 patients in nine countries exposed to living pig tissue over a 12-year period. Some patients in the study reported persistent rashes and strange fevers. But most worrisome was the finding that 30 patients who had their blood 'filtered' through pig spleens tested positive for PERV DNA; 23 patients had pig cells circulating in their bodies 8.5 years after treatment; and four patients, injected with pig cells, produced antibodies against PERVs, leading the authors to admit that 'PERV infection [could not] be excluded'.

WHO WILL ACT?

So where do we go from here? At a public meeting in January 2000, Dr Phil Noguchi, director of the US FDA's Division of Cellular and Gene Therapies, acknowledged that xenotransplantation is 'fraught with danger'. FDA documents have openly stated that '[X]enotransplantation may facilitate the transmission of known or as yet unrecognised agents to humans'.

New pig viruses, like 'Nipah', and strains of PERVs, are continually being discovered. A pig virus, contracted via xenotransplantation, could spread to other humans undetected, causing an AIDS-like plague.

Yet there are currently 12 FDA-approved xenotransplant clinical trials ongoing in the US. Most, if not all, are industry-sponsored, and involve the use of pig cells to treat diabetes and neurological diseases, and whole pig livers and cells to perfuse ('filter') the blood of patients with acute liver failure. The FDA (which has also sanctioned the sale of unlabelled and untested genetically engineered foods) has refused to enact even a temporary moratorium on such trials, claiming that it will monitor patients closely to ensure public safety. Sound familiar? In the 1980s, the FDA allowed thousands of people to receive HIV-tainted blood and blood products, resulting in thousands of cases of HIV infection and the deaths of over 10,000 haemophiliacs.

Clearly, governments have chosen to ignore the Precautionary Principle in the xenotransplantation debate. They have also completely ignored alternatives to xenotransplantation, including prevention of disease, use of human tissue for transplant and increased human organ donation. Each and every day in the United States, 6,000 bodies full of human organs are buried or burned.

That's two million each year, many times the number of organs required for all types of transplants. In 1998, the General Accounting Office found that the US is doing a poor job of retrieving organs for transplantation. Many nations, including the Netherlands, Austria, Spain, Belgium and Singapore, have seen organ donation rates soar after the passage of 'presumed consent' laws, which assume that citizens will donate their organs after death unless they 'opt out'. Although a majority of Americans (85 per cent) support organ donation, the feasibility of such a law has not been considered.

Meanwhile, in the wake of the Huntingdon scandal on 22 September 2000, Uncaged Campaigns called for an independent judicial inquiry into the information contained in the leaked documents, as well as a ban on animal-based xenotransplantation research in the UK. On 26 September 2000 Novartis announced it was closing down operations at Imutran. However, the announcement added that the company was merging with US-based BioTransplant, perhaps hoping to leave a scandal behind and transfer its operations to the US, with its notoriously lax animal welfare and biotechnology regulations. Novartis, which had been collaborating with BioTransplant to breed lines of pigs with human genes, will own 67 per cent of the company and retain the rights to commercialisation of research from the new merger. In return, BioTransplant will receive royalty payments from Novartis sales. Elliot Lebowitz, BioTransplant CEO, revealed that commercialisation of xenotransplantation could generate 100 million dollars in annual revenue for his company.

The work continues. ♦

Alix Fano, MA, is executive director of the Campaign for Responsible Transplantation (CRT) and author of a chapter on xenotransplantation in the book, Redesigning Life? The Worldwide Challenge to Genetic Engineering, (Zed Books, February 2001). CRT, an international coalition of physicians, scientists and 90 public-interest groups, is promoting a ban on xenotransplantation and advocating for safer, more cost-effective and humane alternatives. Check out www.crt-online.org to learn more, sign an online petition and get involved.

References on page 65.

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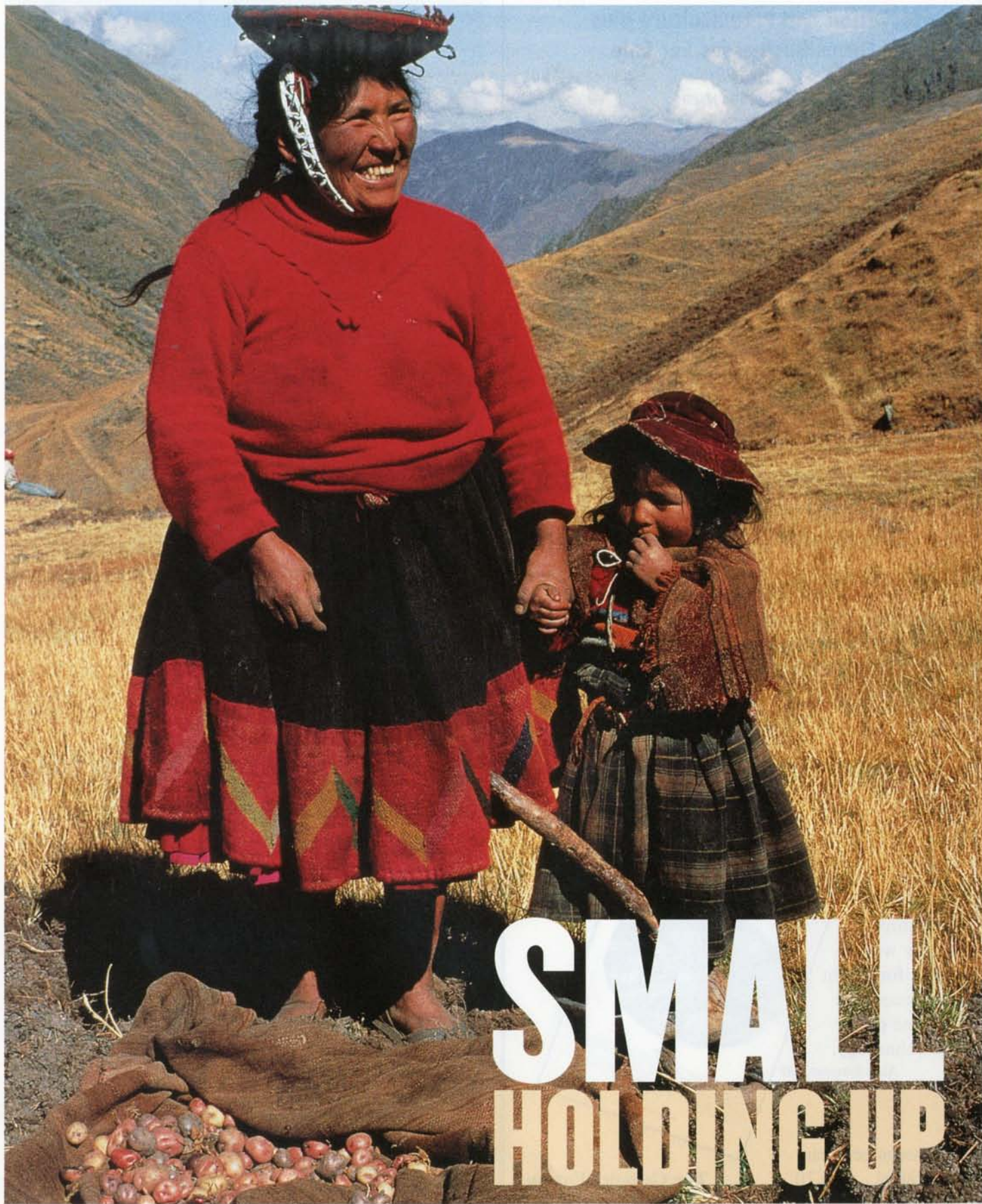
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SMALL HOLDING UP

Modern agriculture is in crisis and the alternative is clear – a move towards sustainable farming. But is this any more than a pipe dream? Definitely, says John Zarb – because across the world, it is already happening.

We hear it all the time: farming is 'in crisis'. In Britain, and across the 'developed' world, not a day goes by without more reports of farmers going to the wall, even committing suicide in despair at the state of their industry. Farmers can often be heard to cry that this is the greatest crisis on the land since the depression of the 1930s. And it isn't getting any better.

So far, the answers coming from governments have been a combination of short-termism and defeatism. Throw more money at the farmers, in the form of ever-larger subsidies, whilst accepting that, in the long term, traditional farming is finished, and the only way forward can be ever-more intensification, combined with 'diversification' for those who don't have the machines, money or land area to compete in the new global agricultural market.

At the other end of the spectrum, mostly in the 'Third World', are peasant subsistence farmers struggling to survive whilst their centuries-old farming systems are being undermined by global politics and economics, and who count themselves lucky if they produce enough food for their families, let alone a surplus for sale.

There is a clear link between the problems of farmers in the rich and poor worlds. Both are caused by a global trade in agriculture which subsidises and promotes vast, intensive, capital-rich farmers and destroys everyone else. This approach is good for big 'agribusinesses' and for supermarkets, but bad for the countryside, smaller farmers and the communities that they could support. It takes no account of the ecological, social and cultural factors vital to real agriculture. On the contrary, it undermines centuries-old traditional farming practices and forces farmers already in a desperate situation into a vicious circle of technological dependence that further weakens their vital cultural links with the land.

The system that is destroying farmers and farming all over the world is a system that sees agriculture as just another industry – a global food factory, subject to the same rules of 'free' trade as car factories or coal mines. This is a fallacy, but within the current system, it is one which remains virtually unchallenged. For within the current paradigm of global-trade-comes-before-all-else there is, as Margaret Thatcher once famously put it, 'no alternative'.

But there is. And it works.

LEARNING LESSONS

For the fact is that there are sustainable ways forward for farming – ways that nurture the land, provide enough food and support real farms that are the linchpins of their communities. Real, ecological, sustainable farming is not, as some would like us to believe, a romantic fantasy propagated by nostalgic environmentalists. It is a workable alternative. How do we know? We know because – all over the world – it is working already.

If the governments of Britain and other rich countries, then, want to find real long-term solutions to the current farming crisis – solutions which will benefit consumers, farmers, communities and the rural environment, rather than just agribusiness corporations and their shareholders – they should learn some hard but inspiring lessons from various rural communities all over the world who are already making this happen.

MAKING IT HAPPEN

Faced with greater crises than farmers in the 'developed' world, Latin American, African and Asian farmers have found ways to reverse their seemingly inexorable decline from which the West could, and should, learn. Most have managed this through the formation of non-gov-

ernment organisations (NGOs) whose philosophy is rooted in an understanding of the ecological and social basis of agriculture. These NGOs work closely with researchers, farmers and communities as part of a broad strategy for sustainable agricultural and rural development. Their achievements have been immense.

Although initially severely limited by technical expertise, wider co-operation with other non-government groups over the years has enabled these organisations to develop an approach to technology generation and education that effectively disseminates new knowledge to those who need it most and helps adapt technical information to suit traditional farming strategies. By circumventing conventional political and economic stumbling blocks (like political apathy, corporate interests and poverty), farmers and communities at the receiving end of these initiatives have become more self-reliant and efficient. British, European and North American farmers could do the same.

AGROECOLOGY

Agroecology is an alternative approach to agricultural development which may help forge a new way forward for struggling farmers and suffering environments the world over. It is a multidisciplinary science that defines, classifies and examines agricultural systems from ecological and socio-economic perspectives. It provides the ecological concepts and principles for the analysis, design and management of productive, resource-conserving and socially equitable agricultural systems.

Agroecology is unique because it integrates indigenous and modern farming and technical knowledge. In contrast to conventional agricultural research that tends to create resource-dependent commercial solutions to agricultural problems, agroecology emphasises the vital importance of biodiversity, nutrient recycling and the ecological interactions between crops, animals and micro-organisms.

It also emphasises the social role of agriculture – for farming has always been about much more than just producing food. In agroecological development, the use of local skills and resources is supported through education and research tailored to local conditions. By teaching communities to be self-supporting through the use of sustainable farming systems, conditions are created for the establishment of stable local economies. Sustainable farming practices allow the natural integration of farming, wildlife, conservation and society whereas currently conventional thinking attempts to compartmentalise these as separate concerns.

Agroecology, in other words, is an approach to farming in which the land and the people who depend on it are placed at the centre – and as the examples which follow show – it has succeeded where conventional agricultural policies have failed.

BOLIVIA – REBUILDING PRODUCTIVITY

The Bolivian highlands are characterised by cold, dry conditions, with seasonal scarcity of water and soils of low fertility. Frost, erosion, deforestation, endemic poverty, and low access to credit, markets or public services add up to a formidable environment in which to make farming work at all – let alone make it profitable.

Yet despite all this, the NGO Centro de Servicios Múltiples de Tecnologías Apropriadas (SEMATA) is running a successful project to help local, sustainable farming work. It promotes small-scale vegetable production, potato and cereal production, the production of traditional Andean crops, and sheep, alpaca and cattle farming. The

'There is a clear link between the problems of farmers in the rich and poor worlds. Both are caused by a global trade in agriculture which subsidises and promotes vast, intensive, capital-rich farmers and destroys everyone else. This approach is good for big 'agribusinesses' and for supermarkets, but bad for the countryside, smaller farmers and the communities that they could support.'

✦ overall strategy of the project is to halt the environmental degradation and soil erosion that has occurred through deforestation and tin mining in order to allow improvements in soil fertility. In practice this has been achieved in several ways:

- The use of organically managed mud-built greenhouses has enabled year-round vegetable production with markets in La Paz, the capital city. Income from these enterprises has significantly improved the lives and food security of local farmers.
- Steep hillsides prone to erosion from extensive livestock grazing have been terraced using local stone and labour. Farm-produced manures, along with crop residues and other organic matter are used to fertilise terraced beds for long-season crop production. Terrace walls afford some frost protection.
- The planting of native trees has further enhanced soil stability and fertility. Trees also provide shelter, shade, leaf mulch, fencing and firewood.
- Native pastures are being managed for livestock production. Producing a range of other crops reduces reliance on livestock farming. This allows improvements in income and food security, reductions in soil erosion from grazing stock and the regeneration of native trees.

Taken in the round, this project has shown that sustainable farming really can work, even in the most hostile conditions.

A similarly ambitious Bolivian project was initiated in 1984 by an amalgamation of several NGOs and other organisations to reconstruct ancient systems of terraces, which traditionally made local farming work. These terraces (waru-warus) contained soil and organic residues and were surrounded by water-filled ditches. The combination of a raised bed (to limit the effect of severe ground frosts) and canals (to limit the severity of freezing air temperatures) enabled successful long-season crop production at an altitude of 4,000m. By investing the time and effort in rebuilding these traditional structures, the project has helped the productivity of local farmers to shoot up.

A similar terrace restoration project in Cajamarca in north-eastern Peru, begun in 1983 and involving several NGOs and local government agencies, shows what a difference such a project can make. Ten years of traditional farmland reconstruction there achieved results including:

- 550,000 trees planted to stabilise steep slopes, limit soil erosion and provide mulch, timber and wind protection
- 1,124 hectares of land (32 per cent of total arable land) under conservation management bringing benefit to 1,247 families (52 per

cent of the local population)

- potato yield increased from 5 to 8 tonnes per hectare
- cattle finishing on improved pasture
- alpaca wool production
- annual family income increased from \$108 to \$500.

Although there is clear evidence that alternative agroecological production systems are more energy efficient and profitable than either unimproved traditional or modern systems, one of the most important factors in their favour is the strong support for them shown by farmers. One of the terrace-sponsoring NGOs in Peru revealed that farmers preferred the alternative systems because they allowed optimal use of scarce resources, brought tangible returns on labour and investment, were compatible with traditional technologies and were accessible even to poor producers.

These impressive results teach one important lesson; working with nature, and with local people, can produce uniquely adapted farming systems which can also be very productive. Obviously the terraces of Bolivia and Peru are unique to that region, but the lesson is applicable worldwide.

CUBA – RESTORING THE BALANCE

The agricultural crisis that we are faced with in prosperous Britain and Europe reached its climax in Cuba 10 years ago. When the US trade embargo of 1959 forced Cuba to look to the USSR for support, favourable trading conditions allowed Cuba to become entirely dependent on cheap Soviet imports of fuel, fertiliser and agrochemicals to support farming. But when Cuban trade with the Soviet bloc ended in 1990, the folly of this dependency on non-renewable inputs was revealed.

Faced with a dramatic reduction in these commodities, Cuban agriculture was forced to shift from an industrialised input-dependent system (like the one we have in the UK for example) to a self-supporting, low-input one, very rapidly. In effect, there was an immediate need to double food production whilst at the same time halving inputs in order to feed the country.

In UK agriculture there is the same dependency on purchased, synthesised, non-renewable inputs (fuel, fertiliser, agrochemicals) and machinery. And as we discovered recently, it only takes a small interruption in fuel supply, or a small shift towards unfavourable global trading conditions to bring the country to its knees. The case of Cuba should provide a salutary alternative.

With government support, Cuban agriculture began to react to its

Right field: Mapuche farmer harvesting wheat in Chile (this page); Campesino mother and daughter with potato harvest in Peru's Patacancha community (previous page).



immediate needs: to develop a sustainable, self-supporting agricultural system using renewable resources. A number of NGOs consisting of scientists, extension workers and farmers, including the Asociacion Cubana de Agricultura Organica (ACAO) and in 1994 Sustainable Agriculture Networking and Extension (SANE), a UN programme, became active in this role. Their aim was to support the establishment of model farms (which they called 'agroecological lighthouses') from which vital training and information could be disseminated.

In 1995, agricultural co-operatives were set up at each of the agroecological lighthouses and production systems based on sound ecological resource management were developed. After only six months, crop production, biodiversity, soil fertility and soil quality all improved. Through innovations as simple as tree planting, composting, crop rotations, polyculture, biological pest control and the production of multi-use crops for food, fibre and fertility, the way was paved for the development of effective sustainable cropping systems suited to local conditions.

The use of polycultures in Cuba has been a particularly effective method of improving yields and resource use. A polyculture, or intercropping, system is one in which two or more complementary crop species are grown together, either in alternate strips or freely interspersed, on the same field. The crops grown in polyculture do not compete directly with each other for resources. For example, a deep-rooting crop planted with a shallow-rooting one will not compete with the other for water. Similarly, an early-maturing crop might be sown at the same time as a late-maturing one. After the earlier crop is harvested, the later one will be left to mature. Sorghum and pigeon pea, for example, are grown as intercrops in drier parts of India. Polycultures have several advantages over the production of single species crops:

- Polycultures make efficient use of land and resources because two or more crops can be grown on the same area of land.
- Complementary interactions occur between certain crops that tend to suppress pests and disease and promote plant growth.
- Polycultures can give higher yields per unit area than if either crop

FIGURING IT OUT

Agricultural production from Cuban agroecological farms in the first three years

| | Year 1 | Year 2 | Year 3 |
|---|--------|--------|--------|
| Area (ha) | 1 | 1 | 1 |
| Total production (t/ha) | 4.4 | 4.9 | 5.1 |
| Energy consumption (Mcal/ha) | 3,797 | 3,611 | 4,885 |
| Number of people fed per ha | 4 | 3.5 | 4.8 |
| Energy efficiency (output/input) | 4.4 | 8.8 | 9.5 |
| Labour (Mcal) | | | |
| Human | 569 | 392 | 359 |
| Animal | 16.8 | 16.8 | 18.8 |
| Tractor | 277 | 162 | 138 |

had been grown alone. This ability is expressed in terms of the land equivalent ratio (LER). LER is the ratio between the yield of the crop in polyculture and the yield of the sole crop. Therefore LER values greater than 1 show that the polyculture is effective in improving crop yield.

Polycultures are not limited to tropical farming systems either – Brussels sprouts/spring cabbage, cereals/clover, leek/lettuce and livestock/fruit tree are all perfectly feasible crop combinations for temperate regions including the UK.

The Cuban experience also shows how other components of agricultural systems – energy consumption, food production and labour – can be optimised through sustainable agricultural practices (see table above). It also shows how, with sufficient political will and government support, sustainable farming practices can be made to work.

CHILE – TRIUMPH OF THE CAMPESINOS

In south central Chile, a region with hot dry summers and mild wet winters, small farmers (campesinos) have evolved complex farming systems designed to make the most efficient use of scant resources. Farming often marginal land, the campesinos are able to grow a range of crops including cereals (wheat, rice, barley), vegetables (potatoes, corn, beans, squashes, tomatoes, aubergines) and fruit (grapes, citrus, 🍷



◆ apples, pears, apricots, avocados, peaches, figs, cherries), as well as trees, medicinal plants and livestock.

The campesino systems can be divided into two major groups: firstly, small-scale intensive systems of up to one hectare that supply much, but not all, of the family food. Income from other work is needed to support the family. And secondly, larger semi-commercial enterprises of between five and twenty hectares, designed to produce a surplus for sale.

Vegetable production dominates the smaller farms, but chickens, ducks, rabbits and sometimes pigs are also kept. Farms may have five or 10 tree crops and around 15 annual crops, plus medicinal herbs. Tree crops supply shade, fodder, leaf or bark mulch, firewood, shelter, soil protection and fencing. Animals forage on harvested plots or beneath orchards where they eat weeds, crop residues and soil pests. Manure is collected for composting. Intercropping is usual and the cropping season is extended by sowing the next crop in the field straight after the first has been harvested.

On the larger semi-commercial systems, grain and livestock production is possible and more trees can be grown for firewood and building. High-value commercial crops such as peach, cherry and apple are grown for local markets whilst beans, squash, potato and corn are grown for home consumption.

The system works wonderfully – and very productively, by any standards. One typical 12-hectare farm provides food for an entire family as well as clothing, housing and capital. The farm consists of an area of fruit trees interplanted with annual vegetables, a mixed orchard of fruit trees with rows of beehives between the trees, 5 hectares of pasture, three hectares of wheat and a plantation of native pines. Apart from generating food and cash from fruit and annual crops, the farmer harvests 380kg of honey a year from 26 hives, 12 litres of milk a day from three cows, a dozen eggs from his free-range hens and flour for breadmaking for the family of five. Wood from the plantation is used for building the house and barns and supplies charcoal for cooking and heating. All animal manure and crop residues are collected for composting.

This is a system, and an environment, very different from those of Peru or Bolivia. But the principles underlying its success are the same – local co-operation, and working with the land and its resources rather than blasting them into submission with chemicals and machinery.

NORTH YORKSHIRE – SUSTAINABILITY COMES NORTH

In case it seems that such systems can, or do, only exist in the 'Third World', a look at how they also work in Britain can be enlightening.

In upland Britain, lamb and beef production are often the sole agricultural enterprises. In these systems, animals spend much of the year grazing extensively. Some grass is grown on the farm for hay or silage, together with swede, turnip or kale for winter forage because grass growth declines drastically in the winter. Some upland areas support cereal production. In many cases however, hay and straw, along with concentrated feeds are purchased for livestock for the winter months. And although manure is spread on the land, fertiliser is also bought in to support grass production. With the land dedicated to animal production on what can often be cold, wet, sloping ground there seems little opportunity for the production of other crops and many hill farmers rely totally on sheep, beef or a mixture of both for their income.

Howard and Rosemary Wass farm about 190 acres at Newfield Farm, Fadmoor, North Yorkshire, an upland area on the southern edge of the North York Moors. Like many of their neighbours, they produce beef and lamb from 25 cows and 200 sheep. But in an area not noted for vegetable production, Newfield also produces potatoes, carrots, parsnips, leeks, onions, cabbages, Brussels sprouts and swedes, along with seed potatoes and 45 acres of wheat, oats and barley, 12 acres of which provide all animal feed requirements.

Vegetables and home-produced eggs are sold at the farm gate. This generates cash, reduces energy-demanding transport, storage and distribution, cuts out packaging and grading, and supplies fresh food locally. The rest of the vegetable crop is supplied to the UK market.

Clover supplies nitrogen for crop growth and precedes arable crops in the rotation. In common with other organic systems, subsequent crops then benefit from residual fertility. The cereal straw (high in the mineral nutrient potassium) provides animal bedding. Dung and bedding, along with all other crop residues, are returned to the land to replenish soil nutrients.

Given the availability of labour, a lot of upland farms have the capacity to produce a diversity of crops in this way. And there is no biological reason why the UK could not go a step further and create terraced hillsides for intensive vegetable production as in the Andes. The practical challenges of soil management for long-term fertility can be overcome. The policy support needed to promote such drastic change in farming might be too much to expect but it may have to be forthcoming if hill farming in the UK is to be transformed into a more efficient, diverse and sustainable enterprise.

OPENING THE GATE TO THE FUTURE



ENVIRONMENTAL IMAGES

The key argument used by those who continue to support the intensive, essentially destructive farming practices pioneered by the West is that sustainable farming technologies will be unable to support economic and population growth. And it is true that sustainable technologies will not support the current socio-economic infrastructure – but then sustainable technologies are not designed to fit in to this framework. They are designed to entirely replace it. And with political will and the commitment of the people involved, it is entirely realistic that they could do so.

The examples included in this article show that sustainable technologies have succeeded in bringing about significant improvements in agriculture under crippling economic, environmental and political conditions. So just imagine how much more successfully they could be implemented in Europe or the US, where structures such as transport systems and markets already exist.

It won't be an easy road, and no one is pretending it will be. But whilst the wider establishment of sustainable farming requires fundamental changes in all areas of politics and society, there is unequivocal evidence that sustainable agroecological technologies can alleviate food shortages, poverty and environmental degradation, and promote social stability at the same time – and it is worth pointing out that, 50 years on from the 'Green Revolution', modern intensive farming has signally failed to do any of these things.

The basic message for the future is a simple one: governments and policy-makers in the so-called developed world could create the conditions necessary to allow sustainable farming to flourish. Given the overwhelming evidence of the environmental, economic and social benefits of sustainable farming technologies, they no longer have any real excuse for carrying on as usual. ◆

Dr John Zarb is a consultant researcher in sustainable farming.

Further reading on page 65.

head, hand, heart

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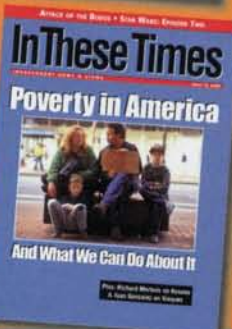
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BESSIE AND THE GAUR

THE PROMISE THAT CLONING WILL BE A BOON TO CONSERVATION IS, SAYS MALCOLM TAIT, A COMPLETE COP-OUT.

MAYBE IT'S A symptom of twothousanditis, the condition brought on by excessive attention paid to a particular number with no significance whatsoever other than tidiness, but this year has seen an extraordinary rash of stories relating to 'the science of the future': genetics. Wherever you look, there's a new challenge to medical and human ethics – children's gender genetically manipulated in Spain to bypass inherited disease; genetic information required by insurance companies; a baby genetically chosen with cells that might save his dying sister; the human genome under the microscope; even a UFO-cult with the funds, alleged ability and necessary loopholes to try cloning the first human. It's as if someone at the beginning of the year opened the Pandora's box marked 'Frankenstein', and the doctor's influence came pouring out.

Mankind has always enjoyed testing its own limits, of course, and there's nothing it likes better than a good ethical argument – talk radio and TV chat shows wouldn't survive without it – but we've entered a moral maze this year that has heads spinning.

As ever, the arguments boil down to one key confrontation: the needs of the planet versus the rights of the individual. The topic – genetics – may be comparatively new, but it's the same old argument. The world has more people than it can cater for: yes, but if science can help my childless marriage, why shouldn't I have the right to take advantage of it? Excessive vehicle use causes global warming and ultimately destruction: yes, but I need my car to get my children to school. The long-term prospects would appear to be disastrous: yes, but I need a short-term solution.

However, there's one of this year's genetic developments that has nothing to do with human rights, nothing to do, despite appearances to the contrary, with animal rights, and everything to do with scientific experimentation dressed up as benefit. Last month, a cow named Bessie from Iowa was due to give birth to a gaur, an endangered ox-like animal from Asia. The process was achieved by injecting gaur cells, complete with their DNA, into hollowed-out cow eggs, then electrically fusing the eggs and DNA together. Of the 81 successfully developed eggs that were implanted into cattle, eight resulted in pregnancy, three managed not to



CONSERVATION IS A
PRECARIOUS AFFAIR,
BECAUSE ITS FAILURE
IS FINITE. IT HAS,
QUITE LITERALLY,
A DEADLINE

miscarry, and two turned into embryos which were removed for monitoring. Only Bessie soldiered on. At the time *The Ecologist* went to press, Bessie was still approaching labour, but whether or not this first experiment was successful, it won't be the last.

Already there are plans afoot for more work along similar lines. The bucardo, a Pyrenean mountain goat, became extinct in January, when the last of its kind was put out of its lonely misery by a falling tree. Cells were taken from the corpse, and the Massachusetts-based company Advanced Cell Technology is planning to clone the creature back to life. The panda is next on the list for rejuvenation, and there's talk of trying to bring back the Tasmanian tiger, a wolf-like animal that lost its last grip on survival in the 1930s. Even the mammoth, for crying out loud, is being looked at for a possible comeback. The makers of next year's second sequel to *Jurassic Park* will be able to keep their marketing funds firmly in their back pockets.

Now, the mammoth may be a bit pie-in-the-sky – the DNA that we've got from an ancient frozen carcass is patchy

to say the least – but there's no doubt that the thought of bringing back the bucardo, an extinct species, certainly stimulates the imagination. It's a fascinating scientific gimmick, a perfect example of doing something because we can. We should leave it at that.

But we won't. Already there is talk of this process being a marvellous aid to conservation, a boon to the world's endangered species, a solution to the perennial problem of man's cohabitation with beast. This is tripe, for the cloning of endangered species is as far removed from the spirit and psychology of conservation as we've ever been since man first noticed he was killing off the birds and beasts.

Conservation is a precarious affair, because its failure is finite. It has, quite literally, a deadline. Sometimes that deadline is easy to see, other times it's not. In the 1980s, it was realised that whales were struggling in their relationship with man, and new laws and consumption restrictions were put into place. By the early 1990s, the plight of the elephant came to life, and reasonably successfully dealt with. We've recently discovered that the troubled tiger is in even more danger than we'd previously thought. Wheels are

STEVE CARROLL

TITLE: THEARTARCHIVE

beginning to turn. Yet for every headline species that captures the heart, there are many many more that don't make it. Most of the world first heard of Miss Waldron's Red Colobus monkey this year, for example, when it was announced that it had become extinct. A sense of simultaneous gain and loss.

Extinction, of course, is part of evolution, and had man's footprint not covered the lands and seas, the world would still have continued its course of saying farewell to species whose day had gone. The fact is, however, that man has not just accelerated that process, but is continuing to do so at a rate that doesn't allow the surviving species to adjust to their new ecosystems. Conservation isn't just about saving a particular species, it's about reducing our destructive impact on natural processes that are in increasing danger of being unable to sustain themselves, and ultimately, therefore, of sustaining us.

There's too much at stake, for nature and for ourselves, to take conservation lightly. But conservation takes time and money. It requires careful management and planning, and involves apparent sacrifices. It demands that the long-term view takes precedence over, or is at least built into, the short term. If conservation is going to work, mankind has to want it so much that it hurts.

SLIPPERY SLOPE

Which brings us back to Bessie. Suddenly, for the first time ever, we've got an alternative to conservation. It's only a tiny crack at present, but science will want to widen it. What's the point in putting all that effort into looking after ecosystems if we've got the ability to clone everything back into existence? Just think of what we can achieve – we can carry on crashing through the planet, doing what we want, and whenever some species starts to totter as a result, we've got the technology to see it through the hard times. Of course, no biotech company would put it like that at present – it would appear as scientific coldheartedness and therefore be commercial suicide – but the option will be there. Cloning endangered species is a classic case of science no longer being used for prevention, but for apparent cure. It is lazy science. However much its supporters may protest that cloning will only ever be used to complement conservation, to step in when conservation has failed, the day will come when the financial benefits of, say, clearing a forest will outweigh the costs of cloning the endangered species within. Someone will be prepared to pay for it, and the rot will have begun.

But what will we then do with these phoenix-like creatures? If their habitat is no more, where will we put them? Perhaps we will create reservations for them – but to save space, we'll need to make sure we only hang on to the species which benefit ourselves. We'll need to recreate habitats that suit them, and if our new cloned versions require special diets, or develop viruses or illnesses that their originals never encountered, then we can genetically modify their surroundings to suit. Any imperfections that are built in, we can

decode and correct. In short, who needs Nature's ecosystems, when we can create our own?

This may seem a far-fetched future, but it is in fact perfectly in line with the way mankind has always been – except that he's now taking a bigger step than ever before. From his earliest days, he has used whatever tools are available to him to conquer nature, and reshape it into his own likeness. He has recorded his kills by scratching them into a rock; when he realised hunting was too difficult he herded instead; he has carved his image into every known material; he has put creatures into cages to look at, or taken them on as pets; he has hunted them for fun. Why would anyone think he wouldn't instinctively want to go that one further step – albeit a mightier one than ever – and restructure nature to suit his precise needs?

PASSING THE BUCK

None of this is to say that genetic scientists and those who fund them are necessarily power-mad, corrupt seekers of world domination. Science is the discipline of discovery, of finding out, of increasing knowledge. Thus it is that, generally, each new step forward is taken with the honest and sincere desire to benefit man. Yet it's curious how often genetic scientists, nudging the process onward, tend to see their own work in isolation and distinct from the overall movement.

'The prospect of human cloning causes us grave misgivings,' writes Ian Wilmut, co-cloner with Keith Campbell in 1996 of Dolly the sheep, in his book *The Second Creation*. 'It is physically too risky, it could have untoward effects on the psychology of the cloned child, and in the end we see no medical justification for it. For us, the technology that produced Dolly has far wider significance.'

Wilmut is fully convinced of the benefits of his own work, knows that he has paved the way for future cloning, yet is distancing himself from any responsibility for it. It's rather like the work in

the 1930s on splitting the atom and harnessing its energy – everyone involved could see possible positive benefits in their own specific research, but relied on everyone else not to see the potential for harm.

Which is why, ultimately, we should none of us be fooled. The cloning of endangered or extinct animals is an extraordinary feat, and one which, if continued, will inevitably lead to yet more and more extraordinary feats.

It is the latest stage in man's attempts to control his world, and like Frankenstein's monster, it may one day lead to its creator's own destruction.

So let's drop the pretence right now. Let's honestly admit to ourselves what we're getting into. Cloning is a brand new chapter in the history of mankind, but it has nothing, absolutely nothing, to do with conservation.

Malcolm Tait is managing editor of The Ecologist.

CLONING ENDANGERED SPECIES IS A CLASSIC CASE OF SCIENCE NO LONGER BEING USED FOR PREVENTION, BUT FOR APPARENT CURE. IT IS LAZY SCIENCE

POWER FAILURE

THOUGHT, VISION AND COURAGE, SAYS SIMON RETALLACK, ARE THE VIRTUES THAT POLITICIANS ARE IN DANGER OF LOSING.

IT HAS BECOME fashionable for politicians of all persuasions to deplore the rising tide of public cynicism and disillusionment with politics today. The unrelenting descent in voter turnout at elections and the plummeting of respect in which politicians as a group are held over the past two decades, we are told, threatens the proper functioning of democracy and is hence a matter of enormous concern. That may well be. However, it would be taken a little more seriously if the ever-so-sincere politicians who agonised about this worrying trend recognised that it is they who may be its principal cause.

The misuse of power for personal or party enrichment has been well documented and has certainly taken its toll. But so too has the intellectual bankruptcy of modern politicians. The vast majority are so uninspired; keener to stifle debate and control their image than achieve real change or provide the electorate with any real choice. No matter what they promise, in office most end up subscribing to the same managerialist, visionless and unthinking agenda that abdicates democratic power to corporations and global markets, and is devoid of any serious commitment to protect the interests of society or the planet.

That struck me more forcefully than ever when I went to interview one of Tony Blair's cabinet ministers, Clare Short, earlier this year. My acquaintance with her just before she entered government made the experience particularly alarming. Back then she had been highly critical of the status quo, talking openly of her determination to fight to change the 'malfunctioning' institutions of the global economy – the World Bank, IMF and WTO.

Now, as Secretary of State for International Development and as a Governor of the World Bank, she had changed beyond recognition. Suddenly, these institutions were essential forces for good – linchpins of global poverty reduction no less – and when presented with evidence to the contrary she reacted with a combination of denial and abuse.

To findings that World Bank funds are increasingly being channelled to the projects of large corporations she said: 'That is completely biased and unrepresentative information,' adding, 'I doubt that it's true'. To evidence that World Bank projects had very high failure rates: 'I wonder what the failure rate of the articles *The Ecologist* carries are?' To the question of whether it would make sense for the Bank to shift its funding away from greenhouse gas-emitting fossil fuel projects, towards renewable energy projects in order to mitigate climate change (of which the poor are already the biggest victims): 'This is a bundle of half-informed prejudice,' she said, accompanied with a look of sheer contempt. To an enquiry as



LABOUR OR TORY, LEFT OR RIGHT, IT MAKES LITTLE DIFFERENCE TODAY

to how she could justify her support for a World Bank project which would increase Chinese emigration to Tibet: the very fact that I asked the question was 'proof' that I was 'prejudiced'. Moreover, the project, she insisted over and over, was 'not in Tibet!', despite the fact that the Dalai Lama was born in the region to be resettled and that the Chinese themselves have designated it a Tibetan area. She simply dismissed Third World critics of World Bank policy that I cited as being 'wrong' or 'not representative', and developed country critics as being lined up with the 'far right'.

Turning the argument spectacularly on its head, she maintained that it was people such as the writers and readers of *The Ecologist* that were the real problem! Environmentalists, she claimed, are 'in a muddle' that is 'very dangerous for the future of the world'. Furthermore, they are 'morally wrong'.

I emerged from the interview feeling genuinely shocked and repelled by her

implacable hostility, stunned that someone with views, attitudes and such an incompetent grasp of the facts as her should be in a position to wield any power whatsoever.

True, in keeping with the zealous approach associated with the newly converted, the manner in which she expressed her case may represent something of an embarrassing extreme (a likelihood her press officers seemed keenly aware of given their apparent attempt to prevent me publishing nearly every quotation cited here). But the thinking (or lack of it) behind her arguments is all too typical among senior politicians the world over.

Labour or Conservative, Democrat or Republican, Left or Right – it makes virtually no difference today. For members of each tradition, the fundamentals of neo-liberal macro-economic management and the global institutions that help enforce it are still sacrosanct and almost completely unquestioned; the poor and the environment the perpetual victims to whom political attention is rarely given.

The corporate cash that funds political parties clearly plays a part in this, as does the inextricable fact that politicians have handed away to unaccountable economic entities many of the powers with which they could effect change. But equally responsible is the lack of thought, vision, wisdom and courage that typifies most politicians today. Given the monumental challenges we face, that situation urgently needs to be reversed if we are to stand a chance of restoring public faith in politics and the democratic process.

Simon Retallack is managing editor of The Ecologist's special issues. He studied Government at the London School of Economics and was politics editor of its student newspaper for two years.

OKOMU: WHICH WAY FORWARD?

OWING TO BUDGETARY RESTRAINTS, 50,000 INDIGENOUS LIVES IN NIGERIA HANG IN THE BALANCE. MELFORD ITA REPORTS.

IN 1912, THE Okomu Forest Reserve, part of the lowland rainforest ecosystem that once covered a vast area of South Western Nigeria, was gazetted as a sustainably managed forest for the supply of timber. Under the plan, the forest's resources would not only supply the region with a valuable timber trade, but by following a strict 50-year rotational cycle of growth, logging and regeneration, ensure that the forest sustained not only itself, but the dozens of communities that relied upon its industry.

Perhaps unsurprisingly, the planned sustainable cycle failed. As the decades rolled by, harvesting of forest and non-forest timber products, indiscriminate logging and the development of monoculture plantation systems began to replace the plans for sustainable management, and became an onslaught on the natural resources of the Reserve. The original programme was effectively forgotten, and the coping strategies of the indigenous and least-empowered groups, notably women, children and the elderly in the underlying communities collapsed, giving way to suffering and untold misery. Fifty communities have been affected, with a population of roughly 50,000 indigenous people. Their livelihoods are being destroyed, and their individual lives are going the same way.

How is it that a society such as this can become dismantled so easily? The recent events surrounding Okomu can provide a clue.

In the autumn of 1998, the Nigerian-based NGO Africa Inter-Environmental Monitor (AFRIEM) launched a campaign aimed at addressing biodiversity conservation, poverty reduction and gender issues, focusing on the Okomu region. They sent a campaign letter to the European Commission's Directorate General for Development – the sector responsible for addressing matters concerning the environment in ACP (Africa, Caribbean, Pacific) countries. The letter disappeared into the system, but with the encouragement and help of former European Commission adviser Margaret Brusasco-Mackenzie AFRIEM resubmitted it, complete with a proposal. All the conditions of an initiative offered by the European Parliament in response to the Rio Earth Summit process, as well as the National Indicative Programme were met by the proposal. And all the while, the lives of the people in Okomu were disintegrating further.

Once again, the proposal ran into inertia. The European Commission let AFRIEM know that the proposal could not be included in the list of priorities developed by the Commission because of budgetary restraints. Budgetary restraints? Yet the European Commission's environment and forest financing guide budgeted 45 million ecu to 'Tropical Forests in Developing Countries' for the period 1997 through 1999. Now, this implies an annual appropriation of ECU 15 million to be divided equally amongst African, Caribbean and Pacific (ACP) countries, as well as Asian, Latin American and Mediterranean (ALAMED) countries.

If money and support for the Okomu sustainable project was to



WHEN TWO ELEPHANTS
FIGHT, THE GRASS
WILL SUFFER

be forthcoming, the spirit of the Lomé convention would need to come to the fore. Yet by July 1999, the EU was setting up talks in an attempt to agree a successor to the framework of the Lomé Convention. The talks fell apart, leaving an unresolved state of affairs – the Lomé Convention had been brought into question, its proposed successor, the Regional Economic Partnership Agreement seemed to be going nowhere, and the European approach to development in ACP countries had fallen into discord.

While the people of Okomu powerlessly waited for news, it seemed that the framework of co-operation between ACP countries and the European Economic Community (EEC) under the Fourth Lomé Convention had been declared null and void. Or was this yet another calculated move to send ACP countries down a slippery slope? Whatever the case, European infighting had left Nigeria and other ACP countries high and dry. As we say in Africa, when two elephants fight, the grass will suffer.

How often have we seen agreements, conventions, treaties and co-operatives promise much and deliver little? Too often. Dr David Keen of the London School of Economics, for example, spoke at a meeting in June of a mechanised farming and agriculture scheme in the Sudan which was not fully worked through, pointing out that the area was destined to be no more than a breadbasket for the Middle East. His views were later corroborated in an interview with Mr Aldo A'jou Deng, the former Deputy Prime Minister of the Sudan. Mr Deng stated that 'the mechanised scheme created in Nuba-land did not benefit the locals, and only three families were given land for farming'. He remarked that 'the same could be said for the Blue Nile region where the indigenous *funj* people were displaced, and several acres of their land were sold to produce crops at below market rate for export to Saudi Arabia'.

In the past, the rural poor have been viewed as the cause of destruction to the ecosystem rather than the victims of unforeseen contingencies. This and the urgency of the extinction crisis led to the tradition of protectionist conservation, which exacerbated rural poverty, alienated the rural people from government and conservationists, despite a shared interest in biodiversity. There is strong evidence of the failure of some protectionist approaches to conservation in comparison with participatory ways of working, which offer a methodology for linking the aspirations and world-views of the poor and international conservationists. The approach to conservation is changing with the appreciation of the role that indigenous people can play in managing their environment, if given the opportunity.

If development is to be sustainable, it must begin with those who know most about their own coping strategies.

Melford Ita is a freelance journalist. Contact him on melfordi@hotmail.com

THE SAVAGE STATE

BY PROJECTING OUR OPPOSING VIEWS OF THE PAST ONTO TRIBAL PEOPLES, SAYS JAMES WILSON, WE HELP TO DESTROY THEM.

EVEN BEFORE ITS recent appearance in the bookshops, *Darkness in El Dorado: How Scientists and Journalists Devastated the Amazon*, by the American investigative journalist Patrick Tierney, sparked controversy. The eminent anthropologist Leslie Sponsel calls it, 'the ugliest affair in the history of anthropology'.

Darkness in El Dorado focuses largely on the work of the American anthropologist Napoleon Chagnon, who in 1968 published *Yanomamo: The Fierce People*, a study of the Yanomami Indians of Venezuela and Brazil. *The Fierce People* quickly became the bestselling anthropological textbook of all time, transforming the 25,000 or so Yanomami, almost overnight, into the most famous (and infamous) tribal people in the world.

It's easy to understand *The Fierce People's* success. Chagnon is a born storyteller, and his major 'finding' was an editor's dream. The Yanomami, he claimed, were 'brutal, cruel, treacherous' people, living 'in a state of chronic warfare'. Even when not fighting, Yanomami leaders spent much of their time under the influence of hallucinogenic snuff, summoning up blood-curdling spirits to pursue their vendettas by magic.

Repellent though this endemic violence might appear, Chagnon believed it served an important function: the men who killed the most enemies, he asserted, tended to have more wives and children – so passing on the genes that made the successful warriors and leaders, and ensuring a constant 'upgrading' of the population.

From the start, Chagnon's views were contentious. Missionaries and social scientists accused him of – in the words of Brazilian anthropologist Alcida Ramos – 'character-assassinating' the Yanomami. But Chagnon – supported by powerful academic allies such as the sociobiologist Edward O Wilson – insisted that his work was scientifically valid, and that his detractors were ideologically motivated 'bleeding-hearts' unable to accept the truth about human aggression.

Now, after 10 years' research, Tierney has uncovered compelling evidence that both Chagnon's methods and his findings were deeply flawed. Tierney claims that, in his determination to prove the Indians' ferocity, Chagnon manipulated data, forbade his cameraman to record 'peaceful' activities, and flew in plane-loads of goods to bribe the Indians to re-enact fights for him. This not only forced the Yanomami to become accomplices in promoting his image of them – it also, paradoxically, made the image truer, because the flood of shotguns and machetes provoked outbreaks of real violence.

What is most disturbing about this tragic-farce is its impact on the Yanomami themselves. Chagnon's 'fierce people' image has hindered



THE PRESS REGULARLY
USES WORDS LIKE
'PRIMITIVE' AND 'STONE-
AGE' TO DESCRIBE
TRIBAL SOCIETIES

attempts to help them and given comfort to their enemies. As long ago as the 1970s, the doyen of British anthropology, Sir Edmund Leach, refused to back Survival International's campaign for Yanomami land rights because, after reading Chagnon's book, he concluded that 'they would exterminate each other'; more recently, the British government refused to fund a project for the Yanomami, saying that the first priority for any initiative with them must be to 'reduce violence'. Chagnon's work influenced Brazilian government plans to fragment Yanomami territory in 1988. It also contributed to the atmosphere of racism in which a gang of gold miners massacred 16 members of the tribe in 1993.

But there is a deeper question. Why should an anthropologist have gone to such lengths to prove a point about one tribe's culture? The answer, I think, lies in our tendency to see tribal societies as earlier versions of ourselves. As 'the founder of modern anthropology', Edward B Tylor, put it in 1871: 'the savage state... represents an early condition of mankind, out of which the higher culture has gradually been developed or evolved...'

This assumption is so deep-rooted in our culture that it is barely questioned. The press regularly uses words like 'primitive' and 'stone-age' to describe tribal societies. A CNN report on the Yanomami earlier this month called them 'one of the world's true Neolithic peoples'.

The consequence of this for tribal peoples is that we take them both too seriously and not seriously enough. Too seriously, because we project onto them our ideas of human nature, seeing them either as Noble Savages (Margaret Mead's view) or as bloodthirsty brutes (Chagnon's). Not seriously enough, because we take their 'backwardness' as a pretext for denying them the rights of 'modern' people. Under Brazilian law, for instance, Indians are still considered minors, and Canadian courts continue to deny native claims on the grounds that aboriginal societies are too 'primitive' to 'own' their land.

This muddled thinking creates enormous obstacles for tribal peoples and for those who try to help them to protect their rights. It is time we stopped thinking of societies like the Yanomami as – in Chagnon's phrase – our 'contemporary ancestors', and began to accept them simply as our contemporaries.

*James Wilson is the author of **The Earth Shall Weep: A History of North America**, published by Picador, price £10.00. He has written and worked on a number of television documentaries and is an executive member of Survival International. Survival International's new book, **Disinherited: Indians in Brazil** is available from www.survival-international.org.*

WORLD IN A GRAIN OF RICE

RICE, SAYS VANDANA SHIVA, IS MORE THAN JUST A FOODSTUFF; IT IS AN ENTIRE CULTURE. AND IT'S UNDER THREAT.

IN INDIA, RICE is often called 'Prana' – the breath of life. In Japan, rice is a metaphor for the self. All over Asia, wherever rice is a food staple, such comparisons can be found, for rice is much more than a source of calories in Asian culture – it is also the basis of both biological and cultural diversity. Rice represents many things for the people of Asia, from culture, history, landscape, religious and social ideas.

In parts of India, on the first day of a new agricultural cycle, farmers exchange paddy seeds and offer them to the village deity. At harvest time, rice is worshipped as the goddess of wealth – Dhanalakshmi. The word for rice, gift and wealth is 'dhana'. And because rice is the real wealth of the rice farmers of Asia, they have always defended it. After the great Bengal famine of 1942, which killed two million people, peasants refused to allow the British to take their rice. 'We will give our lives, but not our rice' was the call of the peasant uprising of the Trbhaga movement.

Rice, in other words, to many of the people of Asia, is life itself. And this is why the ongoing corporatisation of rice varieties is such a tragedy.

Rice evolved as a food source in Asia, in many and varied forms. Recently though, the globalisation and corporatisation of agriculture has had serious effects on that diversity. India, for example, had nearly 200,000 rice varieties until that rich genetic diversity was destroyed by the chemicals and machines of the Green Revolution. The Green Revolution's scientists 'built' India new rice varieties to replace the thousands it destroyed; but in doing so, they also created 40 new insect pests and 12 new diseases for rice farmers to cope with. The net result; a worse life for farmers, and fewer varieties of rice.

As the Green Revolution miracle fades, the world's technocrats are preparing its second wave: genetic modification. We have recently heard of vitamin A rice – or 'Golden Rice' – being proclaimed as a miracle cure for blindness. More than \$100 million has been spent over 10 years to produce this transgenic rice at the Institute of Plant Sciences in Zurich. The Zurich team introduced three genes taken from daffodils and bacteria into a rice strain, to produce a yellow rice with high levels of beta-carotene, which is converted to Vitamin A within the body.

Now, plans have been drawn up for a transfer of Golden Rice to India. And for what? Vitamin A rice is likely to fail in preventing blindness, since it will meet less than 1 per cent of the required daily intake. Ninety-nine per cent of Vitamin A will still have to be provided from alternatives which already exist, such as green leafy vegetables and fruits – coriander leaves, curry leaves, drumstick leaves, amaranth



THE CRY MUST GO UP TO
LIBERATE RICE FROM
CORPORATE CONTROL
AND RETURN IT TO THE
PEOPLE OF ASIA

leaves – staples of the Indian diet.

In fact, as ever with such 'miracle' technologies, Golden Rice is based on a false premise. The destruction of biodiversity by industrial agriculture is a primary cause of today's Vitamin A deficiency across rural India, and it is only through rejuvenating biodiversity on our farms that we can solve problems of vitamin deficiency and malnutrition. In spite of all the hype about Golden Rice, it will not solve the Vitamin A deficiency problems.

Elsewhere, the colonisation of rice by powerful interests goes on unhindered – and one of its key weapons is the patent system. The most stunning example of cultural imperialism yet was when Rice-tee, a US-based corporation, claimed the famous Indian basmati to be its 'invention' – patent number 566484. Strong campaigns across India may be starting to force this corporation into a retreat, but it will not be the last such absurdity. Such acts are the appropriation of nature's regeneration processes and the indigenous innovation by rice farmers of Asia over centuries. It is blatant biopiracy.

Today, those who care about the future of Asia must recognise the importance of

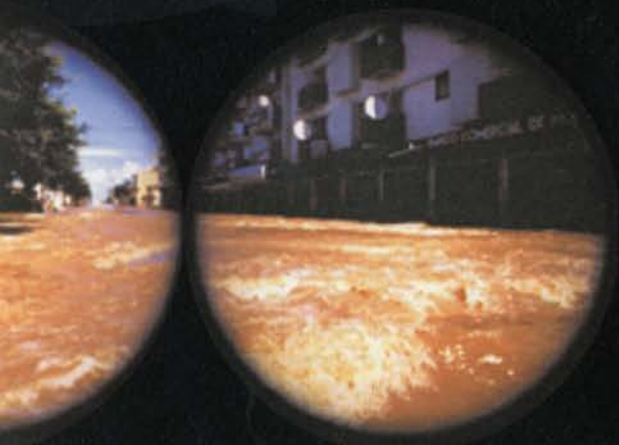
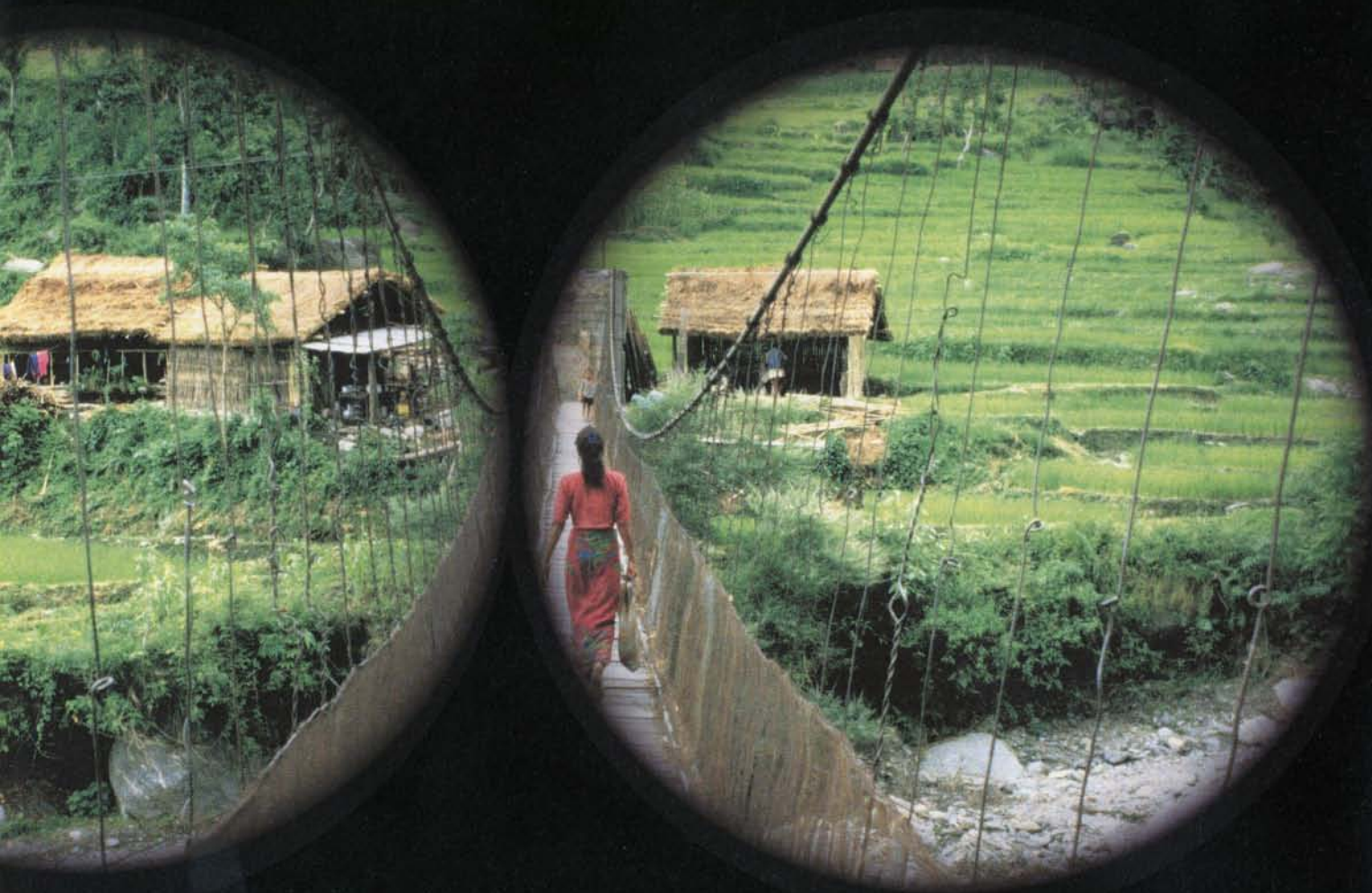
rice in the formation of these societies – and in their future. And that rice must be owned and controlled by the small farmers – the people – and not by foreign corporations with no interest in or understanding of it. The cry must go up to liberate rice from corporate control through chemical-free, GM-free, patent-free rice farming. Thousands of farmers are already showing that growing rice organically can produce more food and nutrition, not just for humans but for all species who share our planet with us. It can be done.

Rice has always been a symbol of abundance. Now we must work to prevent it becoming a symbol of scarcity. That is why, in India, we have conserved and rejuvenated more than 2,000 rice varieties through our 'Navdanya' movement. As a result, the thapachui, the ghyasu, the shalnaj are once again prospering in farmers' fields.

No corporation can reproduce the amazing diversity of rice that nature and peasants have evolved in partnership over millennia – rice that grows up to 18 feet to survive floods, rice that is salt- and drought-tolerant, rice that is aromatic and therapeutic. This diversity, and the knowledge and culture it embodies, is the real basis for future food security. We must fight to keep rice free – in all its amazing diversity. Because on the freedom of rice depends the freedom of millions of Third World farmers.

Vandana Shiva is director of the Research Foundation for Science, Technology and Ecology, in New Delhi, India, and a prominent environmental activist.

a new world view



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DOCTOR'S HANDWRITING

A monthly column that helps you decipher the medical truth.

Gallstones are one of medicine's great travesties. Nearly one in every seven adults suffers from attacks of gallstones every year, attacks in the main due to diet. Nevertheless, the primary way that medicine goes about solving this problem is to chop out the gallbladder altogether. This is akin to curing a cold by removing your nose.

Increasingly, patients are being lured into having this operation (gallbladder operations are up by nearly a third) with the assurance that they need only have a 'keyhole' operation. These are the operations where a miniature video camera is attached to the eyepiece of a laparoscope and a surgeon operates by directing the surgery on screen.

A tiny incision, a plaster over it, and the patient is back at work in a day. However, what doctors don't mention is the added risk of complications, including bile duct damage that can occur so far up the bile duct passage that it's impossible to fix. In Ontario, where an overwhelming majority of gallbladder operations are performed through laparoscopic procedures, bile-duct injuries have increased by more than 300 per cent.

A recent study showed that complications – including haemorrhage, pancreatitis, or inflammation of the pancreas, a potentially fatal condition and perforation of the bowel – occur in one in every 10 operations.¹

Mary was one such victim, and is now in constant, horrific pain, making it impossible to swim, dance or even drive. 'I feel as though something has pierced my chest and is now "digging" into my spine,' she wrote, describing her operation.

The other so-called revolutionary treatment is extracorporeal shockwave lithotripsy, where gallstones are crushed by sound waves. This commonly causes internal bleeding, sometimes so severe as to require transfusion. It's also been known to leave residues of stones in the body – a breeding ground for bacteria – or to cause high blood pressure in the kidney.²

With these types of 'easy' solutions, medicine tends to turn a blind eye to its own role in causing this disease in the form of a variety of drugs taken over the long term. It's long been shown that oestrogens, from the Pill or HRT, greatly increase a woman's chances of developing gallstones. But the most outrageous scandal of all is the role of cholesterol drugs in the development of gallstones. One such drug has been shown to cause gallstones in half of all patients.

It's well known that certain of the so-called miracle 'statin' drugs, which are now being used for everything from stroke to osteoporosis prevention, prevent the gall bladder from emptying after a meal high in fats. And in today's hysterical anti-cholesterol climate, many



GETTING STONED SOLVES NOTHING

BY LYNNE
McTAGGART

'As with tonsils, doctors of the when-in-doubt-whip-it-out persuasion act as though the gall bladder is a superfluous bit of tissue. No one stops to ask about the long-term effects of removing this organ.'

with gallstones will suffer acute gall bladder attacks.⁵ This category of drugs even predisposes children, who don't ordinarily suffer gall bladder problems, to gallstones.⁶

As with tonsils, doctors of the when-in-doubt-whip-it-out persuasion act as though the gall bladder is a superfluous bit of tissue. No one stops to ask about the long-term effects of removing this organ. The gall bladder acts as a regulator of bile from the liver, increasing or decreasing it to suit, depending on your diet. Without this handy little squeeze pump, bile trickles at an even flow from the liver into the gut. Patients who often aren't told to avoid fatty foods once their gall bladder is removed, end up feeling ill every time they have an egg or a spot of cream.

More than half of all gall bladders could be saved if people just stopped taking cholesterol or thiazide drugs or modified their diet. It's essential that patients begin looking for the solution in the cause: what they put in their mouths.

*Lynne McTaggart is editor of **What Doctors Don't Tell You**, a monthly publication which exposes the dangers of modern medicine. WDDTY is holding an Alternatives Cancer Conference on 25 November in London. For tickets and details call: 01858 438894.*

References on page 65.



PAYOUT OR PAYOFF?

INSURING DISASTER... HOW LONG BEFORE IT'S NOT WORTH IT?
PETER BUNYARD WEIGHS UP THE COSTS OF CLIMATE CHANGE.

DAY AFTER DAY of torrential rain, fierce winds, one month's precipitation in a day, few can deny that October and November in Britain have been a pretty catastrophic period. Add in the discovery that we can now traverse the North Pole without having any ice to break, and it doesn't take a genius to realise that the planet is hotting up fast, with all that entails in terms of violent storms, cloudbursts and more than the occasional tornado. Not that any of that is reassuring for those in England, particularly in York, Shropshire, Sussex, who have seen their homes swamped with 20 feet or more of water. Bangladesh it may not be, but parallels surely exist with more and more houses being erected plumb in the middle of Britain's flood plains at a time when we are desperately going to need them.

The government has plans for tens of thousands of new houses, many to be built in the flood plains of East Anglia, the south-east and close to the eastern stretches of the Thames. Time to think again, and the Association of British Insurers is now advising prospective house buyers to look into the risk of flooding before they exchange contracts. And as for those with homes in the risk areas, they will find themselves with a dwindling asset on their hands, while suffering the added insult of having to pay ever heavier insurance premiums for the privilege of hanging on. It's a moot point what should be the responsibility of local council planners and developers whose short-sightedness and greed led to houses being built in such vulnerable areas.

For those hoping for a successful COP6 (Conference of the Parties November meeting in The Hague) in which governments truly commit their countries to meaningful cuts in greenhouse gas

INSURANCE COMPANIES' policies are an intriguing barometer of the perception of climate change

emissions, the timing of the recent horrendous weather couldn't have been better. John Prescott, deputy prime minister, at least has got the 'climate message' when he told the House of Commons that 'extreme weather events must now be regarded as normal in Britain, as global warming takes hold... All these incidents of climate change are reminding everyone, wherever they are in developed or developing countries, that this affects us all. Climate issues have no boundaries'.

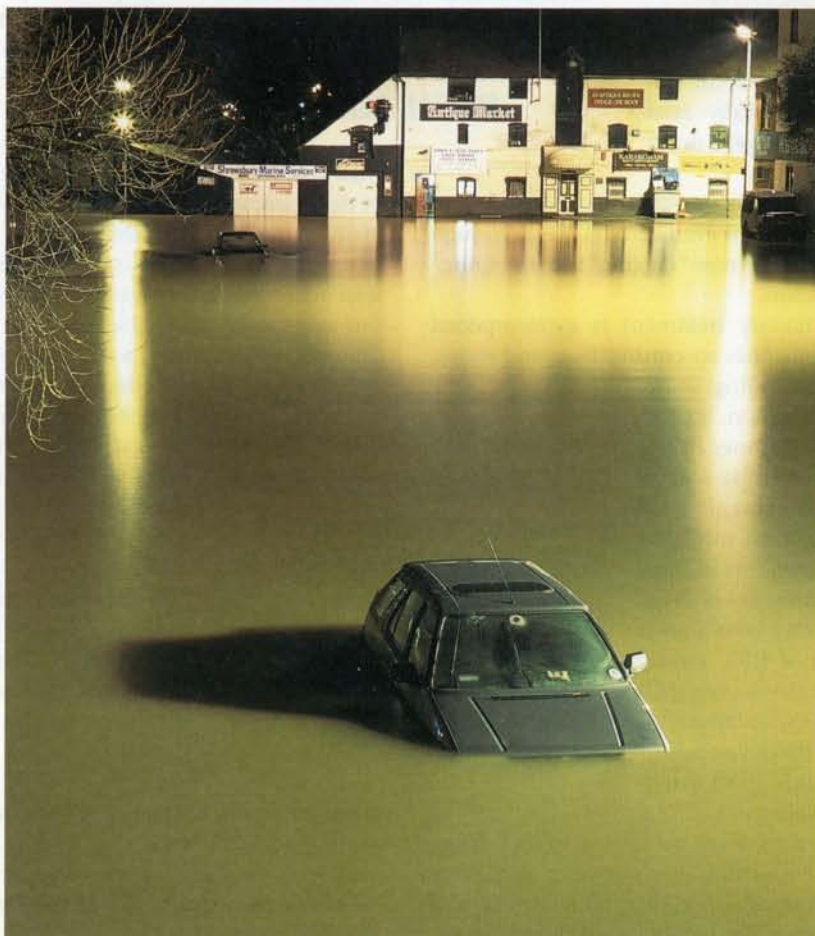
In many ways insurance companies are as good a barometer as any that climate is becoming ever more treacherous. As each year passes they are seeing the costs of weather-related disasters rise at rates far in

excess of inflation. In the 1990s the insurers worldwide had to pay out more than \$92 billion, which was four times up on the 1980s. In 1992 Hurricane Andrew alone caused \$16 billion in insured losses in Florida. Seven insurance companies went down and 44 others responded by reducing cover and increasing premiums. According to the National Hazards Center at the University of Colorado, thousands were unable to get compensation.

Then again, in 1998, Hurricane Georges caused \$3.3 billion damage in the United States and the Caribbean; another \$1.2 billion went in an ice storm that swept across Canada and the United States, bringing down power lines and plunging entire regions into darkness; meanwhile, floods in China cost the industry \$1 billion. The total bill to cover the year's insured losses amounted to \$15 billion, an amount second only to 1992, when weather-related costs topped \$25 billion.

Since 1980, according to the US National Oceanic and Atmospheric Administration (NOAA), the United States has suffered 37 'billion-dollar storms', 31 of them since 1988. The total bill for the damage is \$160 billion. 'It is only a matter of time,' says NOAA, 'before the nation experiences a \$50 billion or greater storm, with multibillion dollar losses becoming increasingly frequent'.

The Arkwright Mutual Insurance Company recently warned that the United States East Coast is vulnerable to 'unprecedented hurricane damage' because of rampant property growth over the past 50 years. That development, says the insurers, was the result of unusually low hurricane activity during that period, at least up until the 1990s, and today some \$2 trillion sits in insured properties



ENVIRONMENTAL IMAGES

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within 30 kilometres of low-lying coasts exposed to Atlantic hurricanes.

Some hurricanes and typhoons are now attaining wind speeds of up to 300km/h and causing storm surges in which an already violent sea rises by several metres. Were such a powerful storm to strike New York or Washington DC it could lead to claimed losses of up to \$100 billion. That would exceed the financial capabilities of the insurance industry, says Arkwright... 'We are an industry with a disaster waiting to happen.'

GLOBAL VIEW

Worldwide the real costs of climatically induced destruction are not getting into insurance company books, since much of the damage occurs in countries which by Western standards are basically uninsured. What a sigh of relief for the insurance companies that they did not have to pay for the devastating cyclones that struck Orissa in India in late 1999, leaving more than 10,000 dead and 7.5 million people without homes, or for the swirling torrents that tore through towns in Venezuela last Christmas, killing 30,000; or those that swept through Mozambique. In China the Yangtze floods of 1998 displaced 223 million people, just about the size of the population in the United States. No way could the insurance industry meet even a tiny fraction of the costs of such storms.

Such concerns must surely be taxing the minds of the re-insurers, those who actually insure insurance companies against catastrophic claims. What if the supposed prosperity that is coming to the developing world through free trade and globalisation were actually to happen? How would it be if your average Bangladeshi or Venezuelan had the insurance cover of a person who lived in, say, Lewes in Sussex? In fact, many insurers have either raised premiums to the point where it barely becomes worthwhile for the customer or they will no longer cover properties that lie potentially in the path of hurricanes and typhoons. But even more ironies spring to mind. The very process of development which is being fostered will of itself increase dramatically the risk of climate-change impacts.

Compared to the United States and its entrenched resistance to action to limit emissions, Europeans are supposed to be the 'nice guys'. Again intentions are tarnished by reality and according to research sponsored by WWF, six of the main emitters in the European Union, including Germany, France, UK, Spain, the Netherlands and Sweden will exceed their commitments by 10 per cent. The Kyoto Protocol calls on

developed countries to reduce carbon emissions over the next decade by 5.2 per cent compared with 1990 levels. On that basis, by 2010 the six European countries are committed to limiting their emissions to 2,818 million tonnes. Yet Ecofys (Netherlands) and the Fraunhofer Institute for Systems and Innovation Research (Germany) find that on current trends the six will be emitting up to 220 million tonnes more and therefore close to 10 per cent above their overall commitments.

'The worst offender is likely to be France, a country that only has to maintain emissions at 1990 levels by 2010 under a 1998 EU "burden sharing" agreement,' says the WWF. 'Yet France is set to increase emissions by between 9 and 20 per cent – pumping out between 50 and 108 million tonnes more carbon dioxide than it is supposed to in 2010.'

The United States is also way off target. As Kevin Gurney of Colorado State University points out, relative to 1990 emission levels of 1,632 million tonnes of car-

'The hypocritical stance of the insurance companies in investing in those very industries that underpin catastrophic climate change will ultimately cost them dear.'

bon per year, the US should be emitting 114 million tonnes per year less. However, by 1997 greenhouse gas emissions had risen to 1,814 million tonnes and by 2005 were likely to exceed 2,000 million tonnes emitted per year. The United States, if it stuck to the letter of Kyoto, would have to reduce its emissions of carbon by more than 500 million tonnes a year.

The Climatic Research Institute of the University of East Anglia finds that we are currently embarked on a scenario in which atmospheric carbon dioxide will reach concentrations of nearly 900 parts per million a century from now compared with today's 370 parts per million. Such a rise would be more than three times pre-industrial levels and unprecedented for hundreds of thousands of years. Under such a scenario sea levels could rise by well over a metre, and that not taking into account any collapse of the West Antarctic Ice Sheet. As we pointed out in *The Ecologist*, (Vol 29 No 2), a quadrupling of emissions compared to pre-industrial levels could mean that surface temperatures across the planet could rise by 10°C or more. That would be vastly more

devastating for climate than the 2.5°C of official predictions.

Such a prospect of climate change has had the insurance industry clamouring loud for countries to take seriously their Kyoto commitments. But perhaps the industry is too ready to cast stones in a greenhouse of its own making. A report for Friends of the Earth by FM Research indicates just how much the main insurance companies have investments in industries, such as the fossil fuel industry, that are the main contributors to global warming. The report is a serious indictment of the insurance industry for investing in companies that not only are major contributors to global warming, but have records of human rights abuses and of causing serious environmental degradation.

Leading UK insurance companies have investments in Chevron, which in 1998 had a revenue of close to \$30 billion and profits of more than \$1.3 billion. Chevron's record in Nigeria, Papua New Guinea and in the US itself should hardly be one to attract investment from companies claiming to be concerned with environmental and social issues. With a turnover of \$37 billion in 1998 and profits of more than \$1 billion, Elf Aquitaine is one of the world's top 10 oil companies and is another in which UK insurance companies have heavily invested. Elf is now indicted for a litany of environmental and social abuses in Africa and South America; moreover it is a member of the American Petroleum Institute which lobbies against reductions in greenhouse gas emissions.

And so the list goes on: Exxon; Mobil; Occidental Petroleum with its record of oil exploitation in Colombia; RJR Mining with its coal-mining interests; Monsanto; Glaxo Wellcome, which manufactures HFCs that are both potent greenhouse gases and ozone depleters; Great Lakes Chemical Corporation, which manufactures the highly toxic methyl bromide for pesticide use.

The hypocritical stance of the insurance companies in investing in those very industries that underpin catastrophic climate change will ultimately cost them dear. Munich Re, one of the world's largest re-insurers, states that: 'According to current estimates, the possible extent of losses caused by extreme natural catastrophes in one of the world's major metropolises or industrial centres would be so great as to cause the collapse of entire countries' economic systems and could even bring about the collapse of the world's financial markets'.

If they want to throw stones, it is time that the insurers come out of the greenhouse.

Peter Bunyard is science editor of The Ecologist.

DEATH OF A LEGEND

AMERICA'S FOREMOST ENVIRONMENTALIST, DAVID BROWER, HAS DIED AGED 88. WE TAKE A LOOK BACK AT HIS GROUNDBREAKING CAREER.

WHEN A PUBLIC figure dies, praise and platitudes always come flowing in, from friends and enemies alike. No-one likes to speak ill of the dead. But the endorsements received for David Brower, America's foremost environmentalist, who died of cancer in November, aged 88, went beyond this; reflecting the huge significance of his role as one of the founding fathers of the US green movement.

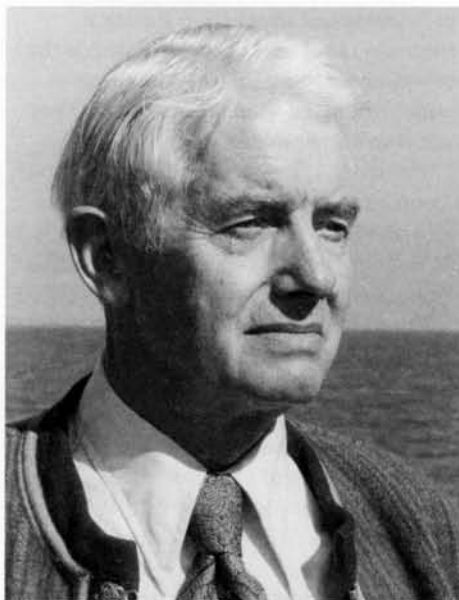
Ralph Nader, himself a key American environmentalist, and most recently the Green Party's presidential candidate, called Brower 'the greatest environmentalist and conservationist of the 20th century... an indefatigable champion of every worthwhile effort to protect the environment over the last seven decades'. Denis Hayes, international chairman of Earth Day, referred to Brower as 'the gold standard by which many leaders of the environmental movement judged themselves, and usually came up short'. Dave Phillips, director of the Earth Island Institute, said that Brower was 'the most inspirational leader of efforts to protect and restore the Earth... a latter-day John Muir'.

Maybe the compliment that Brower would have been most proud of, however, was one paid to him back in the 1970s by Russell Train, then chairman of the Council on Environmental Quality in the Nixon government. 'Thank God for David Brower,' said Train. 'He makes it so easy for the rest of us to appear reasonable.'

'Reasonable' is probably not a word that was ever associated with David Brower during his almost seven decades of activism; and this was precisely what made him such a powerful force. In his fiery career, he rarely compromised his beliefs or tacked with the wind. Right up to the end, Brower was his own man.

Born in 1912, Brower's conservationist instincts were formed by a youth spent mountain climbing and visiting America's great national parks; he made his first trip to Yosemite when he was 6. He first joined the Sierra Club, the organisation he would later transform, in 1933. After service in the Second World War he returned to become editor of the Club's magazine, rising to the directorship in 1952.

When Brower became the Club's executive director, it was still a gentle organisation of hikers and nature-lovers, with a



DAVID BROWER, *campaigner, writer and conservationist: 1912–2000*

membership of 7,000. Brower took it upon himself to radicalise the Club, turning it into one of the US's first nationwide environmental campaigning groups, which would fight tooth and nail to preserve the country's remaining wild places, and introduce a new nature dialogue into political discourse. He led the club into battle to prevent the Grand Canyon from being flooded by a series of dams; his victory preserved the Canyon in the state it is in today. By the time he left, in 1969, the Club's membership was 77,000, and its *raison d'être* had been transformed.

Brower's stormy exit from the Sierra Club was to set the tone for much of his career. Disillusioned with what he saw as its inherent caution and its compromises with corporate backers, and with his radicalism alienating members of the Board – though not ordinary members, with whom he remained immensely popular – he was fired from the director's job. Even that, though, was not his last exit from the Club; re-elected to its board in 1982, he resigned again in 1999 in disgust at what he saw as their passivity in the face of global crisis. 'The world is burning,' he said, 'and all I hear from them is violins.'

This was the story of Brower's national career; radical activism on a national scale, followed by disillusion and rejection

by more cautious forces; after which he always picked himself up and carried on, his beliefs and principles undimmed.

After transforming the Sierra Club into the force it is today, Brower founded a new organisation – Friends of the Earth (FoE) – now one of the world's leading environmental pressure groups. Their famous motto, 'think globally, act locally', came from his pen. Then, in 1986, he had a similarly stormy parting with FoE, for similar reasons; he believed their radicalism had become watered down. Again he left, and again he founded a new organisation – the Earth Island Institute – of which he remained chairman until his death.

Even if founding these organisations had been his only legacy, Brower's influence would have been great. But his international work was equally important. In founding FoE International, he personally set up national FoE organisations in many countries, including the UK. He was a key figure at the 1972 Stockholm Environment Conference – the forerunner of the Earth Summit – and helped found green groups in Africa and Asia. He was recognised for his work in 1998 when he was awarded Japan's Blue Planet Prize, and in his three nominations for the Nobel Peace Prize.

In all these ways, he was instrumental in developing 'environmentalism' as a philosophy and a political belief; moving it on from the 'conservationism' which had dominated in his youth. He saw the connections between politics, economics and environmental destruction, and he strove to make others see them too.

Brower's legacy – the organisations he founded, the ideas he championed and the vast areas of land he saved from 'development' – will live on. So too will his most famous phrase, since adopted by greens all over the world: 'We do not inherit the Earth from our fathers, we are borrowing it from our children.' A fellow environmentalist once asked him when he had said this, and Brower claimed he couldn't remember. In any case, he said, it was out of date now: 'I decided the words were too conservative for me. We're not borrowing from our children, we're stealing from them – and it's not even considered to be a crime. Let that be my epitaph when I need it.' ♦

RESISTANCE TAKES ROOT

THE GM BACKLASH HAS FINALLY TAKEN ROOT IN THE USA, AND CROP-PULLING ACTIVISTS ARE IN THE VANGUARD. JONATHAN QUERLING REPORTS.

FOR QUITE SOME time during the anti-GMO frenzy in Europe, it was common to hear activists asking the question 'why isn't this happening in the US?' America, the home of the GM revolution, was, it seemed, notoriously slow to catch up with Europe in the consumer and activist backlash against GM crops.

Yet this is not the whole story; for resistance to genetic modification (GM) in agriculture has grown steadily in North America over the last two years, and has now reached a significant level.

One interesting tactic that has taken root strongly is an export from none other than Britain: the practice of 'night-time gardening' also known as GM crop-pulling. Since November 1998, there have been roughly 40 of these events in 9 different states and provinces spread across the continent.

The first known instance of this type of protest occurred in California as far back as 1987, when a crop of transgenic strawberries were 'decontaminated' in a field near the San Francisco Bay Area on the night before a major press conference by the group Earth First!. While the action was a success in terms of destroying the actual experiment, the corporation won a PR victory by putting the plants back in the ground and claiming they were still alive and that nothing had happened! This type of action was repeated two years later by another one in the US, which in turn inspired a one-off night-time gardening incident in Holland.

The first series of anti-GM direct actions in Europe took place throughout Germany in 1996, followed next year by dozens of incidents in several countries, most notably the UK. By 1998, a campaign against GM foodstuffs was in full swing in Europe as well as other parts of the world. Yet people in North America were hardly even aware that the majority of food products sold in grocery stores contained GM ingredients. This scenario was to change swiftly.

Monsanto CEO Robert Shapiro started that year on a confident note, proclaim-



AMERICA WAS THE birthplace of GM crops; but resistance to them was slow to materialise. It appears, however, that the mood is beginning to turn.

ing that genetic engineering was the 'single most successful introduction of technology in the history of agriculture, including the plough.' The company's financial future looked promising, consumer acceptance (or rather, ignorance) of GM foods was fairly high, and Monsanto was ready to gobble up more seed and biotech research companies. And yet this promising scenario was to crumble with remarkable rapidity. By the end of the year, the corporation faced a public relations nightmare: consumers were in revolt, Wall Street had been thoroughly spooked on the future of GM food, an ethical investment fund named Monsanto the 'most unethical investment in the world,' and Shapiro had been attacked by pie-wielding activists, while other more conventional environmentalists condemned him and his corporation from all sides. It was then that crop-pulling in the US really took off.

The opening salvos were fired once again in California, where a crop of GM corn at the University of California in Berkeley was removed from the research agenda by the 'California Croppers', distant cousins of the UK's 'Lincolnshire Loppers'. The next summer, the same university plot was visited again, followed by actions in the Central Valley. A 'Seeds of Resistance' action followed at the

University of Maine, after which test sites in Vermont, California, Washington, Minnesota, New York, Hawaii, Oregon, and British Columbia were guerrilla-gardened. Communiqués from these events were sent to the GenetiX Alert Press Office in Tennessee, where a press officer sent out press releases and conducted interviews explaining the reasons behind this campaign of non-violent sabotage against biotechnology.

As the campaign gained momentum and sprouted

around the US, research losses mounted into the hundreds of thousands, and years of lost work into the dozens. No one was surprised, then, when the feds finally got involved. Last January, the FBI held a symposium in California on ecoterrorism. No, it wasn't an analysis of how Monsanto and the other gene giants are creating a second 'Green Revolution' which, according to the claims of the crop-pulling activists, will cause even more human suffering and ecological destruction than the first one. This conference covered case studies of crop-pulling and surveillance technologies for protecting research. 'Domestic crime targeting biotechnology is the emerging anti-technology crime of the new millennium' concluded the FBI, unsurprisingly. Crop-pulling had arrived.

Some see direct action as a sort of 'indicator species' of the protest ecosystem. In other words, the amount of direct action occurring around a political issue gives a good indication of the level of discontent in society about it. In this case, the large number of GM 'crop decontaminations', with the resulting massive economic and research losses, press coverage, and debate have served to vividly represent public dissent as well as to catalyse it. Today, the American public is well and truly waking up to the GM issue; and much of this awareness is due to the increasing visibility of crop-pulling activists across the USA.

Jonathan Querling is an environmental journalist. For more information on US GM crop-pulling, visit the Bioengineering Action Network website: <http://www.tao.ca/~ban>

GAULING BEHAVIOUR

WHEN IT COMES TO CANCER PREVENTION, SAYS THIERRY JACCAUD,
FRANCE IS STILL IN THE DARK.

CANCER PREVENTION POLICY? What cancer prevention policy? France doesn't have one. We make hardly any effort to prevent cancer, and we don't discuss the subject very often. Only in France would you find the president announcing one strategy, the health minister presenting another one, and one of the main cancer charities putting forward its own priorities for action, all over a few days and with no co-ordination between them.

At the beginning of this year, Jacques Chirac proclaimed a Paris Charter against Cancer.¹ A few days later, health secretary Dominique Gillot announced a series of government measures in this area.² Finally, the Ligue Nationale Contre le Cancer grandly claimed to be 'co-ordinating large-scale French cancer research in a programme to

establish a molecular identity card for tumours',³ as though this was a job for a charity rather than government. Professor Michel Marty, director of research at the Institut Gustave-Roussy in Villejuif, describes this situation as 'a caricature which illustrates the lack of overall coordination at all levels where cancer is concerned'.⁴

As early as 1994, the Inspection Générale des Affaires Sociales deplored 'the absence of a policy to combat cancer'.⁵ And the senate recently expressed profound regret that 'cancer policy is still the subject of such dispersion of resources and, most importantly, a complete lack of transparency'.⁶ In fact we know precisely what resources have been allocated by the Health Ministry: its cancer unit comprises precisely one and a half people. Yes, that's right, one and a half. As the senate finance committee notes, 'This inevitably limits its ambitions'.⁷

THE PARIS CHARTER: A SCANDALOUS FRAUD

The Paris Charter launched by President Chirac on 4 February 2000 was just one of many speeches and programmes dealing with cancer. It was certainly a very representative document, being signed by nearly 50 organisations around the world,

FRANCE IS STILL *in the process of working out its official policy on cancer. Unfortunately, the country's current tack is to concentrate on cure rather than prevention.*



including the Institut Gustave-Roussy, the Fédération Nationale des Centres de Lutte Contre le Cancer, the Salpêtrière Hospital, the ARC and heavyweight international bodies such as the National Cancer Institute and the American Cancer Society.⁸

The charter, which consists of 10 articles, reaches new heights of cynicism. The signatories begin by expressing concern at the effects of cancer on 'the productivity of nations'. They return to this theme in article 2, which describes the 'loss of productivity' caused by cancer sufferers as an 'obstacle to progress'!

Prevention is not mentioned until article 5, which makes very brief reference to pollution and the need to protect the environment. This very vague objective is then rendered completely irrelevant by the very precise following paragraph, which calls on the signatories to 'organise support for industry [sic] and governments to improve cancer prevention using medical technology [sic again] wherever possible'. It may be possible to diagnose cancer using medical technology, but not to prevent it. Medical equipment manufacturers clearly had a big say in the Paris Charter, assuming they didn't write the whole thing themselves.

Article 3 is also crystal clear: it calls on the signatories to 'make every effort to obtain increased research funding from government and industry' in order to 'push back the existing boundaries of knowledge with every passing day'. This is incredible. They're supposed to go on financing research until kingdom come, not to increase recovery rates, but to pursue knowledge for its own sake. And rightly so, because as any freelance lobbyist will tell you, overall recovery rates have increased only very slightly, whereas research spending has grown exponentially. In its editorial of February 1996, *La Recherche* wrote: 'If all the cancer research being carried out in France was stopped tomorrow, it is not certain that this would have any effect whatsoever'. It also

published an article by cancer specialist Laurent Schwartz: 'Despite the enormous resources devoted to it by the Western nations over the past 35 years, the battle against cancer has been a failure'.

The preamble to the Paris Charter also makes the scandalous statement that the signatories 'anticipate a rapid rise in the incidence of cancer throughout the world'. The Charter is therefore a means of planning the growth of what is already a huge market for cancer treatment. In order to put pressure on governments and obtain additional funding, it is also being circulated among the public with the aim of gaining one million signatures within a year. Let's be frank: people shouldn't sign this document, because it's an utter disgrace.

The Charter embodies a particular view of cancer which has long been espoused by Professor Maurice Tubiana, one of the doyens of French oncology⁹ and a lobbyist in his own right. His numerous writings have been widely read, and are regarded as authoritative, despite his explicit support for industry and 'progress' and his hostility to environmentalism. 'Prevention' means finding ways of stopping diseases from occurring, but this is not the view

expressed by Professor Tubiana in his book *La Prévention des Cancers*.¹⁰ The illustration on the cover shows a woman undergoing a mammogram which, as everyone knows, is a way of identifying cancer, not preventing it. Confusion sets in from the start, and can only be combated by oncologists who adopt a more rigorous approach; unfortunately, they tend to be less media-friendly.¹¹

More seriously, Tubiana says that prevention involves reducing the incidence of smoking, not things like chemical and nuclear pollution. To be fair, he does mention these, wondering ingenuously whether 'the fact that thousands of new chemicals have been allowed to escape into the environment' could be the cause of the cancer 'epidemic'¹² and then triumphantly concluding that this is not the case. His response is based mainly on the incorrect assertion that cancer rates are increasing solely because of the ageing population.

As an advocate of an industrialised society, Professor Tubiana's ideological reasons are even more interesting.¹³ He states: 'In fact, it is industrialisation and increased agricultural output which provide the Western nations with the financial resources they need to fight pollution... It is important not to encourage irrational fears, because they can be just as dangerous as industrial pollution, if not more so'.¹⁴ Professor Tubiana describes the victims of the Seveso accident as suffering from 'irrational anxiety'. Similarly, he cites 'experts' who claim that there has not been 'any increase in the frequency of congenital malformations, leukaemia or cancer in the region around Chernobyl'. Rather, he continues, it is fear of the effects of radiation which is the main problem. In his latest book, he generalises: 'The French are periodically subject to what can only be described as psychosis'. He believes that fear of hormone-treated veal is 'absurd', and mad cow disease is not a real problem: 'There is no biological contra-indication for the ingestion of animal proteins by a herbivore.' And he claims that GMOs are creating 'irrational fears about science', and concerns about nuclear pollution are 'a phobia'.¹⁵

When people in the forefront of French oncology are saying things like this, it is not surprising that the *Bulletin du Cancer*, a 100-page monthly published by eminent specialists at the Société Française du Cancer, rarely if ever discusses prevention. The last time it published an article on the subject was in April 1998.

It is also not surprising that when cancer specialists speak in public, they rarely make any reference to prevention. For example, a supposedly serious annual conference on

cancer¹⁶, supported by the ARC as part of a trade fair sponsored by the Ordre des Médecins, deals only with treatment and does not make a single mention of prevention. Or, to take another important example, a brochure on the prevention of major diseases, widely distributed by Paris City Council, talks about prevention in terms of reducing smoking, drinking and exposure to the sun, and does not say a single word about carcinogenic pollutants.¹⁷

A low-profile National Assembly report in 1998 noted: 'No one knows exactly what proportion of health insurance spending is devoted to cancer prevention, nor whether these sums are used effectively'.¹⁸ The first recommendation made by the senate finance committee was simply to 'identify the total public funds devoted to cancer

'Why not adopt the rule that for every franc you spend on treatment, you spend one on prevention?'

prevention'. In the year 2000, it is scarcely credible that we should not have a clear picture of the amount spent on fighting the biggest disease affecting French people.

Cancer organisations are just as vague. The accounts of the Ligue Nationale Contre le Cancer include a single expense item headed 'information, prevention and identification', which makes it impossible to work out how much it spent on prevention. An inquiry by the Cour des Comptes established that this item mainly consisted of advertising and operating costs.¹⁹ On the other hand the ARC, France's other main cancer organisation, did run its first-ever campaign on occupational cancers in 1999. But generally speaking, the lack of reference to carcinogenic pollutants by these two major bodies is very surprising.

At national level, the senate report states: 'It is not possible to isolate that proportion of spending on prevention which is specifically devoted to cancer'.²⁰ It says that 18.3 billion francs were spent on prevention in 1995, representing only 2.3 per cent of a total health expenditure of 682.3 billion francs. And it is likely that the same proportion applies as far as cancer is concerned.

In 1975, the health minister Simone Veil tried to tilt the balance between prevention and treatment in the opposite direction. She came in for a hail of criticism in the media by cancer specialists, led by Professor Georges Mathé.²¹ They used the example of the United States, where President Nixon had 'declared war on cancer' by drastically

increasing expenditure a few years previously. However, their sole aim was to increase spending on the treatment of cancer, and they had no interest in prevention.

CANCER CONTROLLED BY THE LOBBIES

According to the senate report, an estimated 1.2 billion francs is spent on cancer research, the annual cost of hospital treatment for cancer is between 20 and 30 billion francs, and 2.25 billion francs was spent on cancer medicines in 1995, a 35 per cent increase on 1990. There is a huge amount of money in cancer treatment, which is why Pierre Desproges sardonically commented that more people make a living out of cancer than die from it.²² The people who work in this sector are undoubtedly sincere and committed, but they do not appear to give any thought to tilting the balance towards spending on prevention.

For example, the senate commission notes that clinical research is dominated by the pharmaceutical industry: of 9,000 research protocols in progress, more than 6,000 were initiated by pharmaceutical laboratories. The report comments: 'The great majority of clinical research expenditure is guided by the pharmaceutical industry, although it makes only a marginal contribution to funding this spending... the industry also helps to finance clinical research by less direct routes such as peri-hospital associations and establishment competition funds, but the amounts are unknown'.

In its report on the Ligue Nationale Contre le Cancer,²³ the Cour des Comptes points out that a number of the league's committees and scientific councils are chaired by the head of the radiotherapy service or local anti-cancer centre, who collects donations with one hand and keeps them for treatment, not prevention.

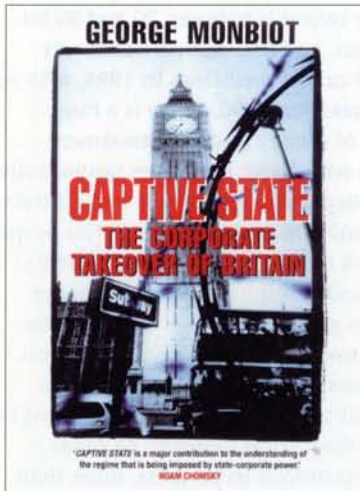
It is clear that the emphasis of cancer policy needs to be switched towards prevention. Why not adopt the rule that for every franc you spend on treatment, you spend one on prevention? Associations, government bodies and specialist institutions must carry out such reforms as quickly as possible. In the US, Dr Epstein's Cancer Prevention Coalition²⁴ launched a boycott campaign against the main US cancer association, the American Cancer Society, because of its failure to take account of industrial pollutants. Let us hope that in France, leading cancer charities will take the lead in the fight against pollution-induced cancer.

Thierry Jaccaud is editor of l'Écologiste, the sister title to The Ecologist published independently in France. For more information contact +33 1 46 287032. References on page 65.



CAPTIVE STATE THE CORPORATE TAKEOVER OF BRITAIN

By George Monbiot
MACMILLAN 2000 £12.99



If this grim, accessible and sometimes darkly hilarious book had been written about Indonesia, I dare say the author would have been shot. In France it could well have stimulated a major political debate and led to ministerial resignations. In the US it might have won a Pulitzer prize for its reportage and then been made into a celebratory defamation case. In China, Mr Monbiot would have been both censored and praised, in Russia he would have been spread across pages of *Pravda* and then have promptly disappeared. In Germany or the Nordic countries there would have been an inquiry.

It is Mr Monbiot's curse and luck to be British. Here, the intellectual and political establishment – and I include the mainstream media of which I am part – the politicians, the local authorities, the corporations, and the many individuals and institutions who he names and shames are far more subtle. They shoot with indifference. So far, almost two months after publication, *The Guardian* has run two edited extracts but has not formally reviewed it on the basis that he has a regular column in the paper, *The Times* has given it to Howard Davies, a former head of the CBI, *The Independent's* chief sage David Aaronovitch has been vicious and *New Statesman* has shamelessly asked Mick Hume to review it. The former editor of *Living Marxism*, now turned green-bashing libertarian, has long had personal scores to settle with the author.

To my knowledge, that's it. No *FT*, no comment. No *Observer*, no *Economist*, no

Telegraph, no *Express*, *Mail* or *Scotsman*, no regional press, no television, one radio spot. No mainstream political party has considered the issues it raises, no MP has raised the matter in Parliament. The left has not considered it, nor the right condemned or even celebrated it. *Hello!* has inexplicably missed it. It is neither damned with faint praise nor even faintly damned. It is, so far, a semi-official un-book.

The collective, casual indifference to the scandal that Monbiot exposes is eloquent and goes some way to proving his thesis that Britain has been comprehensively taken over by a self-serving elite. They and their fellow travellers, of course, see no reason to draw attention to their systemic corruption of the state, he would say. I do not think it is a conspiracy so much as the twin curses of the age at work – self-censorship and the politics of exclusion. If I were kind, I would say that *Captive State* induces a deep state of denial and shouts: 'I am political ebola. I am painful and deeply excruciating. I promise to give you a severe political headache leading to extremely bad dreams. Do not read me or discuss'.

But such is often the way we treat dangerous people, and Monbiot is just that. The most astute young political and ecological cartographer of his time, his analysis of the global social problematique has taken him – as an adventurous and often foolhardy environmentalist investigating land ownership in east Africa or logging and human rights abuses in Brazil and south-east Asia – to Britain, a place he clearly loves and finds deeply alarming in almost equal measure. With the help of three researchers, and over three years, he has meticulously mapped the detail of the second stages of a still unrolling revolution that only a generation ago would have seemed impossible to even contemplate.

What he shows is that the riptide of privatisation loosed in the 1980s with Thatcher, Reagan, Friedman and the Chicago School of Economics is now a broad flood of hyper capitalism reaching every nook and corner of our daily lives. The corporate infiltration of science, academe, health, the planning system, the food chain, biotechnology, the financing of everything from roads to regeneration, is now the dominant culture.

It is the subtext of what we eat, see and learn. It is deep within the culture of ministries and universities, the health service, schools, prisons and supermarkets. We travel with it, drink it, watch it, buy it. It is now defining and distorting both personal

dealings and what we would call our unwritten constitution. Private ownership is now the official creed of the age. In the establishment's view, to question that or get worked up about collective rights is now simply absurd and unrealistic. Too late, too bad. Get real, George.

But on any level *Captive State* is revealing. One chapter is called 'The Fat Cats Directory'. It is priceless. It takes the form of a table: Name of Fat Cat, Previous Gluttony, Subsequent Creamery. It shows how scores of business people have been given government posts which clash head-on with their commercial interests. In many cases they have been asked to regulate their own

'In the US it might have won a Pulitzer prize for its reportage and then been made into a celebratory defamation case. In China, Monbiot would have been both censored and praised, in Russia he would have been spread across pages of Pravda and then promptly disappeared. In Germany or the Nordic countries there would have been an inquiry. It is Monbiot's curse and luck to be British.'

On *Captive State*

industries, with disastrous results. In other cases they have been asked to implement the very policies they have been campaigning against. Snouts in the trough. Were there any honour left in public life, he says, several key government figures would have to resign.

Another chapter examines the private finance initiative (PFI), favoured first by the Tories and now pursued relentlessly by a cheapskate ideology-driven New Labour Treasury to further privatise central and local government assets, hand out windfall profits and large commission fees to the City's financial institutions and to leave local authorities and hospital trusts in hock effectively for life. It is chilling.

On biotechnology, Monbiot is devastating, charting the extraordinary relationship between government and the corporations and mapping the way the blueprints of all life have been handed over

to companies.

But Monbiot makes the big point. The corporate body, he argues from example after example, is now the most pressing threat to both British and global democracy. Britain and everywhere else is becoming, once again, a place run by and for the very few. Gradually, he suggests, the new masterplan is falling into place in international affairs, too. A series of bilateral trade agreements are being struck. The European market is being inexorably joined to America. Africa is being forcibly brought into line with American regulations. The rest of the world is under the cosh of the International Monetary Fund and the World Bank to accept the same terms of trade. A single global trading system is being devised, he says, which will systematically remove the laws defending both human beings and the environment from corporate exploitation.

Monbiot is best at making the links between what is happening here and in developing countries. As ever, the dispossessed and impoverished – and it is the same in Britain or in Kenya – are not having their interests represented. Here we are slap in the middle of some of the most profound changes in national and international economies, science and ecology and yet the fruits of the ‘advances’ are going uniquely to the few in a democratic vacuum. Hardly anyone – and that includes the workaday politicians and many high in the neo-liberal regimes – knows about what is happening, let alone understands.

But although it is a compelling political read about international politics (and, in Noam Chomsky’s words is ‘a major contribution to the understanding of the regime that is being imposed by state-corporate power’), *Captive State* is essentially a British text and never sets out to be the great defining international green or anti-capitalist work text which someone will eventually write. Nevertheless, I feel it should be read in conjunction with works of Vandana Shiva, Sub-Commandante Marcos, José Bové, Susan George, Martin Khor and a growing intellectual body of world opinion.

But beware. Monbiot works journalistically, from the minute outwards to the general. He cannot resist jokes and colour. Sometimes this heady mix of novelist-manqué and top-drawer analyst has a disjointed feel. Sometimes his intense story-telling urge gets in the way. There are occasional small repetitions and confusions. Sometimes he gets too detailed when he

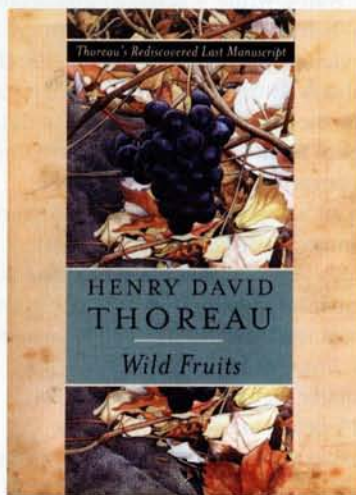
needs to step back and sometimes vice versa. There are omissions, too. What about the role of the media? The UN? Most of the fire is directed at the institutions of power rather than at the corporations who have gained from the handover of power. This is understandable given that Mr Monbiot has no intention for the moment of writing his next work from prison or becoming a legal martyr, but a companion volume on the corruption of the corporations would be welcome. I doubt it will come from Monbiot, who has other fish to fry.

But these are small cavils. *Captive State* is important for many reasons, not just in Britain but in developing countries which will be able to better understand the nature of the beast which is being thrust upon them. It reflects and fleshes out the arguments of the growing anti-capitalists – many of whom, in Britain, are furious with him for not advocating the physical overthrow of the state. It fits the growing anti-corporate, post-Seattle mood, and it sits happily between journalism, polemic and historical document.

John Vidal

WILD FRUITS THOREAU'S REDISCOVERED LAST MANUSCRIPT

Henry David Thoreau
NORTON 2000
\$29.95



This is more of a requiem than a review, though there are hints of resurrection.

Thoreau’s almost dedicatory descriptions of the wild fruits of his neighbourhood, written in the mid-19th century, have been deciphered here by Bradley P Dean and

published for the first time in a fine book. This formidable list, aided by Abigail Rorer’s exquisite line drawings, presents an invitation to read on every page. The busy day-to-day life takes second place for a while as the lacunae of memory are filled with recognition or discovery. But not many 21st century readers will be able to match the wild fruits of their lives to Thoreau’s as he goes through his year beginning with the seeds of elms and ending with the much more familiar ‘winter fruits’. We can still find around us an abundance of hips and haws and holly, but for our once proud elms, in the UK at least, we need a Constable. The fields where we knew them look a little naked.

We are led towards comparisons with our own time some 150 years beyond Thoreau’s when wildlife is constantly under the threat of concrete and monoculture. Thoreau’s observation that ‘we need the tonic of wildness’ prompts some to follow Chris Baines and Miriam Rothschild in pond-making and the sowing of tiny meadows. It may also have given impetus to the ever-growing holiday traffic around the world as travellers seek the new and unfamiliar, hoping to put a foot where none has gone before.

But it is an irony that the very strangeness and beauty of the wild and unfamiliar can be destroyed by the observation of it. Travel in the mind can be kinder to the world than going by foot, car and plane. This book is rich in description of species probably already vanished from a habitat partly destroyed. Reading *Wild Fruits* brings to mind the botanists of today, those poor souls under increasing pressure to find, describe and understand the plant world and stay one step ahead of the continual destruction of habitats and the loss of the rich biodiversity in which lies the health of our planet.

When giving *Walden* as a Christmas present E B White wrote that ‘the way to read Thoreau is to enjoy him – his enthusiasms, his acute perception’. For those who have yet to read *Walden* it, combined with *Wild Fruits*, would make a fine treat on a Christmas morning, for, as Thoreau himself said, ‘to affect the quality of the day, that is the highest of arts’.

White wrote of the *Walden* that he visited, many decades after Thoreau’s time there, about ‘the popcorn wrapper[s]... littering the place, but along with them the immemorial frog note bridging the years and tying us all together’.

More recently, in contrast to such a

popular site as today's Walden Pond one reads of a wilderness wonderfully allowed to remain wild. Cathy Smith wrote recently in *The Guardian* of Ajawaan lake in Canada where conservationist Grey Owl's beavers, 'the wilderness personified' were able to enter the one-room cabin from the lake via an underwater entrance. 'To preserve the wilderness experience the park has deliberately limited access to the trail.' In this National Park... 'There are more nesting songbirds... than anywhere else in North America... elk, badger, lynx, osprey, eagle, a flock of rare white pelicans and a free-roaming herd of plains bison'.

Whether the words and passions of such writers and observers come to us by books or film or calendar, they reinvigorate the ecological conscience. We are lucky to have such memories, but voices are not enough and tend to babble at the already converted, saying with David Malouf: 'If there is only one wild acre somewhere we will make that the place. If they take it away we will preserve it in our head. If there is no such place we will invent it. That's the way we are'.

And in a review of Malouf's *Dream Stuff*, Michael Kerrigan writes: 'All Brisbane's shopping malls and office blocks cannot concrete over a wildness which actually resides in the inhabitants' own souls'.

Although privately in an old town garden one can encourage the volunteer cocksfoot grass and garlic mustard to flourish and provide a habitat for Speckled Wood and Orange-tip butterflies, this is small comfort knowing what destruction takes place on a world scale.

Thoreau's own life lends a poignant sense of urgency to writers and workers both in the cause of 'wildness' which in his words 'is the preservation of the world'. We don't have time to waste.

On page 34 of *Wild Fruits*, Thoreau, pursuing the minute detail of his observations of high blueberry, writes:

'The winter season, when you can stand on the ice, is a good time to examine them. They bend over nearly to the ice, literally bowed with the weight of many winters' snows, yet with lusty young shoots running up perpendicularly by their sides, like erect young men destined to perpetuate the family by the side of their stooping sires... I find that many of these bushes have attained half the age of man.

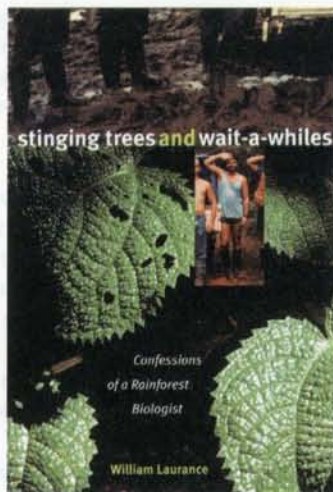
'On one... I counted pretty accurately forty-two rings.'

Thoreau died, 6 May 1862. He was 44.

Olive Tait

STINGING TREES AND WAIT-A-WHILES

By W Laurance
UNIVERSITY OF CHICAGO PRESS 2000
\$25.00



Stinging Trees and Wait-a-Whiles is the tale of William Laurance's PhD field research in the rainforests of Queensland, northern Australia. Let us start with the strange organisms of the title: they are, respectively, a tree with heart-shaped leaves sporting microscopic needles containing a powerful toxic alkaloid, and a type of rattan covered with extremely nasty, fish-hook-like spines. Merely brushing against a stinging tree can cause intense burning pains, often lasting for days, while anyone unlucky enough to fall into a patch of wait-a-whiles inevitably has to 'wait-a-while' – often a considerable while – before their clothes and skin are free of the vicious, painful barbs. Thus, the title of the book neatly sums up one of its main themes: the trials and tribulations of doing zoological fieldwork on a continent famous for its dangerous flora and fauna.

Venomous spiders, snakes and immense estuarine crocodiles may be the most notorious perils of antipodean fieldwork, but eight-inch-long venomous centipedes and rainforest leeches which attach themselves to legs, lips, eye-balls and, in one particularly memorable incident, the author's penis, are equally fearsome adversaries for the Australian field biologist.

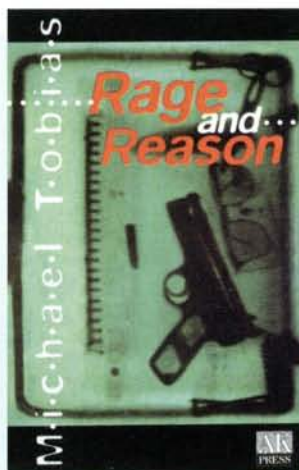
But *Stinging Trees and Wait-a-Whiles* is much more than a book about the dangers of doing fieldwork in Oz. It is also about the beautiful if forbidding rainforests of the region, the unique plants and animals that inhabit them, and the way in which the integrity and conservation value of this environment has been compromised by

human exploitation (mainly agriculture and logging). It is also about how this part of northern Australia turned into a political hot-potato after the region was nominated as a World Heritage Site, and about the ensuing unbearably tense stand-off between conservationists – Laurance and his team included – and the residents of the Atherton tablelands. It is a book that highlights many of the problems and conflicts that conservationists and indigenous peoples face right across the globe.

Although Laurance's tales of rainforest fieldwork are fascinating and often very funny, it is his gentle exploration of the relationships that developed between himself, his crew, and the down-to-earth residents of Millaa Millaa that forms the most arresting theme of the book. The outsiders, with their strange mammal traps, wild parties, and odd nocturnal behaviour, were looked upon, for the most part, with guarded but friendly curiosity by locals at first, but the controversy and paranoia that arrived arm-in-arm with the region's World Heritage nomination soon put a stop to that. Local people feared that hundreds of jobs in the logging and timber processing industries would be lost if the rainforests were designated a World Heritage Site, and that this, in turn, would lead to the slow death of their traditional way of life. These fears were stoked outrageously by politicians such as the ultraconservative developer and then premier of Queensland, Joh Bjelke Petersen, a man with no qualms about manufacturing success at the polls through scare-mongering. Laurance stood his ground on the issue of rainforest conservation in general, and on World Heritage designation in particular, while trying to maintain good and friendly relations with the people of Millaa Millaa, but it was all but inevitable that something eventually would give. As the situation turned increasingly unfriendly, the most significant things to give were the wheel-nuts on Laurance's off-roader, loosened by some unknown party in such a way that the bolts sheared through at high speed. Fortunately, no one was hurt in this or any of the other disturbing incidents that Laurance and his team had to endure.

In spite of the tense situation, Laurance managed to finish his fieldwork and leave Australia on reasonably amicable terms with the residents of Millaa Millaa. And despite prolonged obfuscation and intransigence by the Queensland Government, World Heritage listing of the region was finally achieved in 1988.

Chris Lavers



RAGE AND REASON

By Michael Tobias
A K PRESS 1998
£7.95

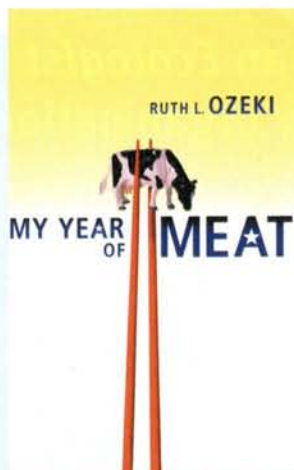
There are many exciting books out there – books that pack in much valuable information about the state of the world; books that set a new agenda; books that are in themselves essential campaign tools. But sometimes you just want to read for pleasure, and there can be little more pleasurable than curling up in front of the fire with a cup of tea and a novel.

But is it possible to get a political book with a story? Or, rather, to get a good straightforward thriller with a political edge? The answer is yes. Of the two most obvious ‘political’ novels for environmentalists up to now, one is probably Neal Stephenson’s *Zodiac* (sadly out of print, but there is a promise of a new edition next year). This involves Greenpeace-type eco-activism on the high seas coupled with political intrigue. The other is Edward Abbey’s classic account of radical eco-protest in Arizona, *The Monkeywrench Gang*. Some of the scenes from this one were played out a decade later by Earth First!, though I don’t think they ever got quite so close to blowing up dams on the Colorado River.

In the last couple of years, though, a crop of novels has appeared which, like these two classics, combine pleasure with politics, and carefully reinforce the prejudices of nonconformists everywhere.

The most recent, and perhaps the most mainstream, is Carl Hiaasen’s *Sick Puppy*. This returns to Hiaasen’s favourite stomping ground, the Florida Everglades; some of the most rapidly eroded wilderness on the planet. Hiaasen creates a host of almost unbelievable characters which are, alarmingly, based on reality. The scenario, for Hiaasen fans, follows a reassuringly similar form. Dastardly developers seeking to wipe the last vestiges of wildlife from the planet; hunters who get their kicks from taking out drugged wildlife; and corrupt political lobbyists, all receive their comeuppance.

The protagonists in Hiaasen’s thriller have a notable potential for violence when confronted by the extremes of environmental pillage that are visited upon the once pristine environment. But while the violence in *Sick Puppy* is occasional and, dare I say it, entertaining, *Rage and Reason*, by Michael Tobias, is a very different matter.



MY YEAR OF MEAT

By Ruth L Ozeki
PICADOR 1999
£9.99

Essentially this is the story of a serial killer motivated by an extreme animal rights agenda. At first, the casual manner in which death and destruction are delivered can be highly disturbing, though when the reader is drawn into the story following the process of thought that Felham, the efficient killer, has gone through, it seems more explicable, at least. It takes him from revenging the poaching of his pet jaguar to the demolition of an animal research facility with high explosives.

Nevertheless, the level of violence is enormous, and sometimes Tobias drifts into the realms of the comic book. While much of the political analysis surrounding the issues of animal exploitation are well argued, anyone who writes about a machine gun ‘discharging a bevy of death’ needs to get out a bit more.

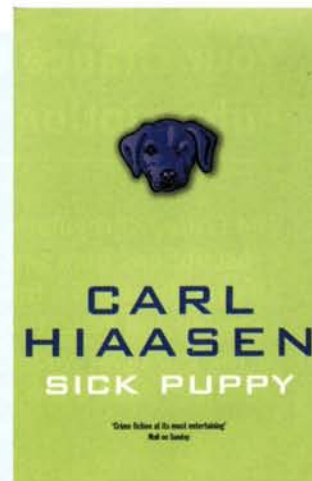
On to more gentle ground, and perhaps one of the most persuasive arguments for a non-meat diet I have read. *My Year of Meat* is a first novel from Ruth Ozeki and traces the awakening politicisation of a film-maker in the US.

Faced with the unpalatable, but lucrative, task of making documentaries for Japan about meat and society in America, Jane Takagi-Little begins to uncover a murky world of feed-lots where growth hormones and antibiotics turn the meat into little short of a toxic time bomb. Running alongside is the story of a woman in Japan who follows the documentaries and undergoes her own awakening.

This is a wonderful and sensitively written book. Issues of class, gender and sexuality are all dealt with with a degree of sophistication lacking in the more gung-ho thrillers.

But the biggest question to come from this enjoyable crop of books is: where are the books from the UK? There must be some home-grown eco-thrillers out there – if there are, I apologise for not including them, and would love to be sent a few copies! Surely, though, given the obvious and growing interest that direct action and environmental campaigns spark in the media and among the public, it must be high time to get some top quality eco-novels on the market here in the UK.

Hugh Warwick



SICK PUPPY

By Carl Hiaasen
MACMILLAN 2000
£9.99

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Page 30 *Brecon reckoning*

- 1 Chapman Warren, May 1997. Retail assessment prepared on behalf of London and Cardiff Properties Ltd and Brunswick Holdings plc.
- 2 Department of Town Planning, University of Wales, Cardiff, June 1990. *Retail Potential in Mid Wales*. Commissioned by the Development Board for Rural Wales.
- 3 op. cit. 1
- 4 Department of the Environment, Transport and the Regions, October 1998. *The Impact of Large Foodstores on Market Towns and District Centres*. (The Stationery Office, London)
- 5 op. cit. 1
- 6 Porter, Sam & Raistrick, Paul. *The impact of out-of-centre food superstores on local retail employment*. (The National Retail Planning Forum January 1998., c/o Corporate Analysis, Boots Company PLC, Nottingham).

Page 34 *One man's meat*

- 1 www.xenotransplantation.org.uk

Page 53 *Doctor's handwriting*

- 1 *New Engl J Med*, 1996; 335: 961
- 2 Heptinstall, RH. *Pathology Of The Kidney* (Little, Brown, 1992)
- 3 *Ob Gyn* 1994; 83: 5-11
- 4 *Res Comm in Chem Path & Pharm*, 1992; 75: 69-84
- 5 *BMJ*, 1984; 289: 654-55
- 6 *J Perinatology*, 1992; 12: 107-111

Page 58 *Gauling behaviour*

- 1 www.charteragaincancer.org
- 2 Bursaux, Elisabeth. "La secrétaire d'Etat à la santé a présenté un plan global de lutte contre le cancer" *Le Monde*, 3 February 2000.
- 3 Bursaux, Elisabeth. "Un programme qui sort la Ligue de son habitude discrétion" *Le Monde*, 26 January 2000.
- 4 Marty, Michel. "Cancer : une lutte désordonnée en France"—interview with Dr Martine Perez. *Le Figaro*, 31 January 2000.
- 5 IGAS, Ministère des Affaires Sociales. 1994 annual report, page 110.
- 6 French Senate budget report, 2000.
- 7 French Senate finance commission "Le financement et l'organisation de la politique de lutte contre le cancer". Presented by Senator Jacques Oudin, 21 October 1998.
- 8 see www.charteragaincancer.org
- 9 President of the French Ministry of Health's cancer committee 1975-1979, president of the European Community's expert committee on cancer 1986-1994, member of the Académie des Sciences, author of numerous works on cancer.
- 10 Maurice Tubiana. *La prévention des cancers* (Flammarion, 1997)
- 11 "Do not confuse early identification with prevention. Early identification

- seeks to spot tumours before they have given rise to any symptoms. Prevention aims to prevent normal cells becoming cancerous." Professor Lucien Israël. *Cancer, les stratégies du futur* (Editions Espace 34, 1989)
- 12 *ibid.* page 69
- 13 *La lumière dans l'ombre. Le cancer hier et demain*. (Editions Odile Jacob, 1991)
- 14 *ibid.* page 45
- 15 *L'éducation et la vie* (Editions Odile Jacob, 1999)
- 16 Salon Forme et Santé, Paris (held in November of each year). Cf. Programme Forme & Santé, 1999 *Sous le haut patronage de l'Ordre des médecins*.
- 17 Mairie de Paris, direction de l'Action sociale et de la Santé, June 1999. *La prévention des grandes maladies. Tuberculose, sida, MST, cancer*.
- 18 French Senate finance committee. *Le financement et l'organisation de la politique de lutte contre le cancer*
Presented by Senator Jacques Oudin, 21 October 1998.
- 19 Cour des comptes. *Contrôle des organismes faisant appel à la générosité publique*. La ligue nationale contre le cancer. (Les Éditions des journaux officiels. Paris, October 1999). (In 1995, the expenses item for "information, prevention and identification" was 39.5 million francs, of which 25.1 million francs was allocated to external communication and the communication departments' operating costs. See pages 16-18.)
- 20 Académie des sciences. *La pollution atmosphérique* (Lavoisier, 1999)
- 21 see, in particular, *Paris Match*, 15 November 1975
- 22 attributed to Pierre Desproges
- 23 op. cit. p 56
- 24 Cancer Prevention Coalition. www.preventcancer.com

FURTHER READING**Page 40** *Small holding up*

- 1 Altieri, MA & Farrel, JG. *Traditional farming systems of south central Chile with special emphasis on agroforestry*
- 2 Altieri, MA. *Agroecology - The Science of Sustainable Agriculture* (Westview Press/Intermediate Technology Publications, 1995)
- 3 Chellemi DO, Rhoads FM, Olson SM, Rich JR, Murray D, Murray G & Sylvia DM "An alternative low-input production system for fresh market tomatoes" (*American Journal of Alternative Agriculture* 14(2), 1999)
- 4 Lampkin, L. *Organic Farming* (Farming Press, UK, 1990)
- 5 Lampkin, N & Measures, M. *Organic Farm Management Handbook* (University of Wales, Aberystwyth, 1999)
- 6 Natarajan, M & Willey, RW "Sorghum-pigeonpea intercropping and the effects of plant population density" *Journal of Agricultural Science* 95:51-58. (1990)
- 7 Parr JF, Papendick RI, Youngberg IG & Meyer. "Sustainable agriculture in the United States" (presented at the International Conference on Sustainable Agriculture Systems, Columbus, OH, September 19-23, 1989)
- 8 Salter PJ, Akehurst JM & Morris EL. "An agronomic and economic study of intercropping Brussels sprouts and summer cabbage" *Experimental Agriculture* 21: 153-167.1985
- 9 Ugbaja, RAE. "Effect of castor oil plant/cassava/cocoyam intercrops on soil nematode populations, crop infestation and yields of component crops" *Biological Agriculture and Horticulture* 14(3): 177-185. (1997)
- 10 www.cnr.berkeley.edu/~agroeco3/sane

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THE CHINESE PEOPLE PUZZLE

THE CROW wonders why no-one except Maoists are talking about overpopulation

In a recent essay under the cryptic Crow heading, this writer (no self-respecting author should ever refer to himself in the first-person singular) expressed some misgivings about the fact that the number of people polluting Mother Earth has more than tripled in his lifetime, and is now crowding out most other species in a rapidly accelerating and ultimately self-defeating crescendo of consumerism and resource-depletion. So firmly entrenched in the public mind is the taboo against questioning people's right recklessly to procreate that even the editors of *The Ecologist* — protectors par preference of our shrinking biosphere — categorised his conclusions as 'controversial'.

Many nations — for example, Brazil, Ethiopia, India, Indonesia, and Nigeria — have even seen their populations grow by a factor of four or five in the last half-century alone, resulting in indescribable misery for hundreds of millions of helpless people. According to the World Health Organisation, some 60 million 'unplanned' babies are born each year, 12 million of them doomed to die of starvation or disease before reaching the age of five. The survivors make up more than half of the annual net growth in world population — an increase fed largely by ignorance and religious dogma. In the words of Arthur C Clarke, 'One of the greatest tragedies in human history was the hijacking of morality by religion.'

Alongside this, in the last hundred years, thanks to advances in hygiene and medical science, life expectancy has been just about doubled and infant mortality almost cut in half. But no comparable efforts have been made to reduce the human sex drive or procreative urge, calibrated at the dawn of time to ensure survival in a much more hostile environment than the one facing mankind today. On the contrary, our modern consumer culture is saturated with sexual stimuli, the pharmaceutical industry makes millions on potency-enhancing drugs like Viagra, while the aptly named, but motivationally misguided, pro-lifers contribute to the proliferation of unplanned babies by opposing any form of birth control, rather than devoting their empathy and energy toward bettering the lot of those misers who had no say in their own conception, yet are doomed to suffer the consequences of our collective imprudence.

The only large nation that so far has made a deliberate attempt at curbing its runaway birth-rate is China, whose 1.2 billion people represent one-fifth of the world's population. On

orders from Chairman Mao, one of his more mathematically-minded minions enacted a policy limiting married couples to one child per pair, the theory being that this would eventually reduce the population by half, thus doubling their 'ecological footprint' and improving their standard of living. So far, so good. But this latter-day Malthusian failed to anticipate that, given the choice, most couples would opt for a male offspring — not necessarily because of gender bias, but on the theory that a son would prove a more reliable source of support in their old age. And through the miracle of modern radiology it soon became possible for expectant mums to determine the gender of their baby. The outcome of this policy should have been obvious to even the most mule-headed Marxist: most female foetuses were promptly aborted or surreptitiously suffocated at birth.

As a result, there is already a great surplus of male comrades in Communist China — a surplus which will eventually wreak havoc, not just with the concept of a nuclear family, but with the

If Mao had studied Adam Smith, he would have realised that 'It's the law of supply and demand, stupid!'

labour market and the entire structure of society. The ramifications are endless, if still largely unpredictable.

One prediction which this writer is prepared to make, without fear of contradiction, is that the value of females in the People's Republic will soon be greatly enhanced, perhaps even to the point where expectant couples will hope for a healthy baby girl, who can one day fetch a handsome dowry for her doting parents. Meanwhile, their daughter will have no trouble finding a decent job in the free labour market, and will not have to stoop to the kind of underpaid peonage which now occupies an estimated 30 million Chinese in that country's Export Producing Zones, cranking out cheap merchandise for an uncaring and insatiable world market.

Failing all else, a comely Chinese lass should be able to make a killing in the world's oldest profession. If old man Mao had studied the writings of Adam Smith as assiduously as Marx's Communist Manifesto, he would have realised that 'It's the law of supply and demand, stupid!' — to phrase it in contemporary electoral jargon. For would-be instant millionaires, who have recently taken a financial bath with the many dotcoms going belly-up in the stock market, this opens up a whole new vista of investment opportunities: a piece of the action in the modern version of a Beijing Bath House! To learn how you can get in on this bonanza, just log onto www.tianenmensquaredeal.com and click on 'chick'. Have fun...

The Crow is a mouthpiece for thinkers with individual and strong views. This month, the role of The Crow was taken by Gard Binney.

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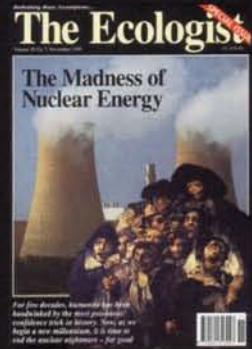
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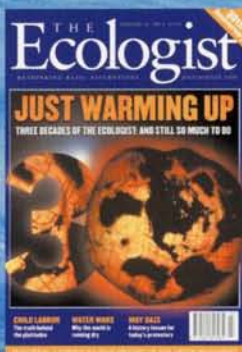
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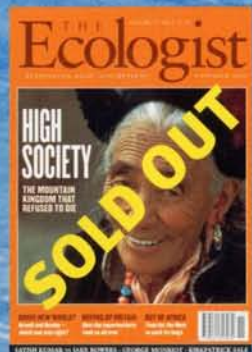
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