

30th Anniversary

THE Ecologist

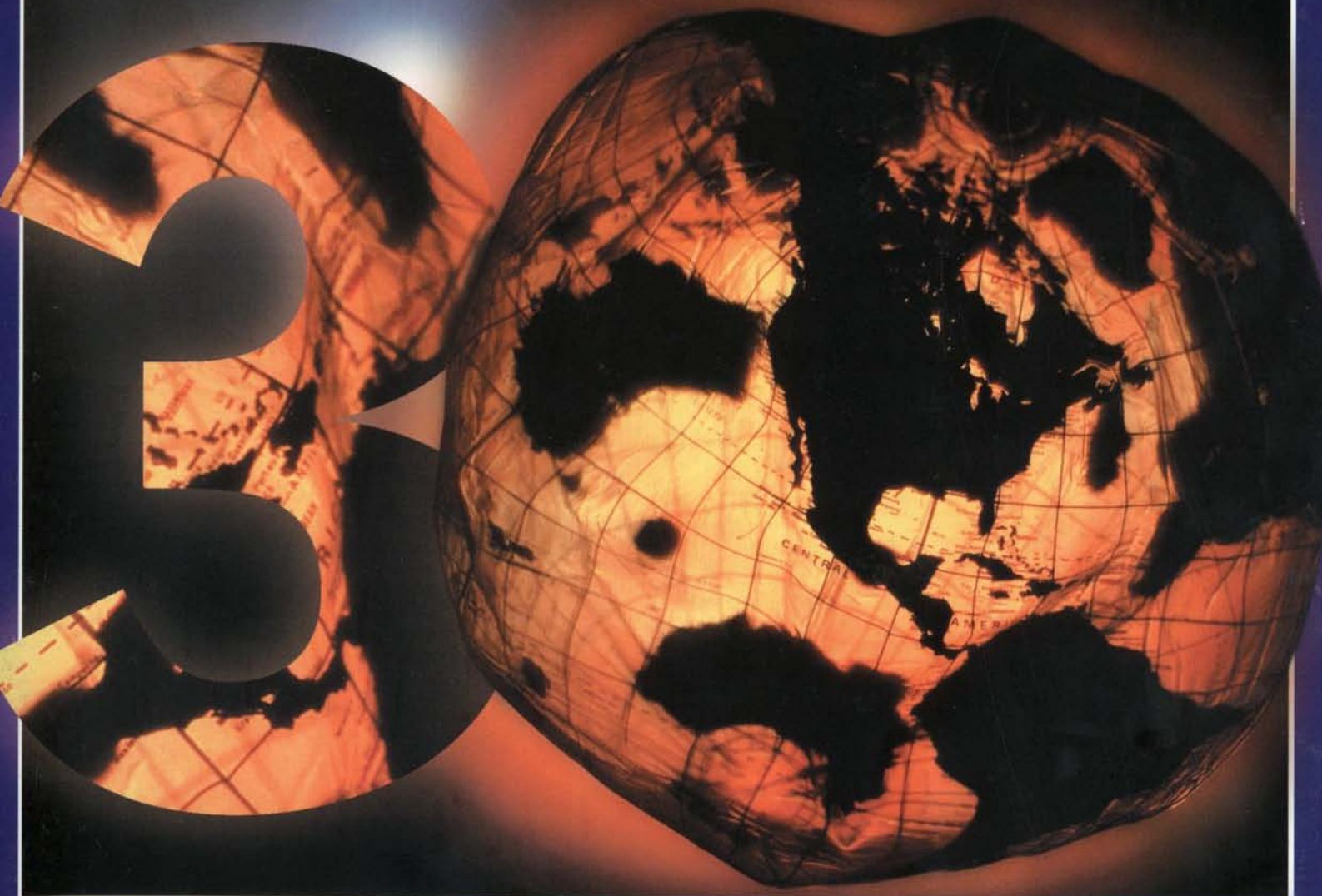
VOLUME 30 NO 5 £3.50

RETHINKING BASIC ASSUMPTIONS

JULY/AUGUST 2000

JUST WARMING UP

THREE DECADES OF THE ECOLOGIST: AND STILL SO MUCH TO DO



CHILD LABOUR

The truth behind the platitudes

WATER WARS

Why the world is running dry

MAY DAZE

A history lesson for today's protesters





photograph by Adrian Brookes

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MODIFYING THE ARGUMENT

The biotechnology debate is a lesson in the art of intellectual acrobatics. GM critics are being characterised as Goliath, while the little old industry is portraying itself as David. It is the industry, apparently, which stands on the fringe, attempting to improve the world against all odds. It is we who stand tall and strong on the inside, defending the status quo.

All this, of course, is little more than the latest dishonest industry strategy, no doubt designed by highly-paid PR consultants. Before we all extract tissues from our pockets and violins from our cupboards, we would do well to recall one or two recent trends.

A few months ago, it was announced that the major biotech corporations had agreed to pool their resources to persuade consumers in the US that biotechnology alone would save humanity from the four horsemen of the apocalypse. They have agreed to spend a cool \$50 million every year for three to five years for this purpose.

In this context, a decentralised, pathetically-funded, and routinely-rubbished gaggle of environmentalist critics seems fairly inconsequential. And our successes so far have come not because the playing field is tilted in our favour, but because we have nothing to sell or hide, no history to rewrite, and no vested interests to defend. The biotech industry, however, exists to sell, at any cost, a technology from which it will harvest great profits, and with which it will wield great power. Their marketing reflects this.

In the beginning, the main argument used by the industry was environmental: GM will reduce the use of pesticides. Most of the field trials, however, as the public soon learnt, were of crops specifically designed to resist the spraying of pesticides manufactured by the same companies that owned the crop patents.

Foiled, they moved on to 'feeding the world'. This, too, has been rumbled, not least because Third World citizens whose images the companies used in their propaganda have soundly rejected such exploitation, but also because traditional agriculture is demonstrably more productive and better structured to feed local people than export-based monoculture – the avenue for which biotech is tailored.

Next on the list of arguments came the 'it's nothing new' line, which is currently being touted around by scientists and corporate spokesmen. Breaking down, in less than a generation, biological barriers that have evolved over millions of years, is apparently now the same thing as traditional plant breeding, an ongoing, incremental process with a 10,000 year trial period, whose ultimate judge is nature herself. This is like comparing a pat on the back with the application of a sledgehammer to the head.

In fact, while industry attempts to discredit the arguments of its critics as 'emotional', not 'scientific'; as 'intuitive' not 'rational',

it has selected as its main weapons arguments that could not be more emotive or unsubstantiated.

The GM fiasco reached new heights in recent weeks with the news that up to 30,000 acres of British farmland have been 'accidentally' contaminated by GM seeds. Let us assume firstly that the planting really was an accident – despite the obvious advantages this has brought the industry ('...see, no one died!' etc). Let's ignore the fact that our government waited more than a month before announcing the mistake, and unlike some of our European neighbours, has done nothing to punish the company responsible, or to ensure that what happened doesn't happen again.

Even assuming all this, government reaction to the event speaks volumes about what we are faced with. Agriculture Minister Baroness Hayman managed the astonishing claim that 'this is not a safety issue'. Considering that the technology has neither been tried nor properly tested, and considering most independent scientists advocate extreme caution when dealing with products of such an unpredictable nature, she either has access to divine knowledge or she is dressing her questionable opinion as scientific fact, consequently putting us all at risk.

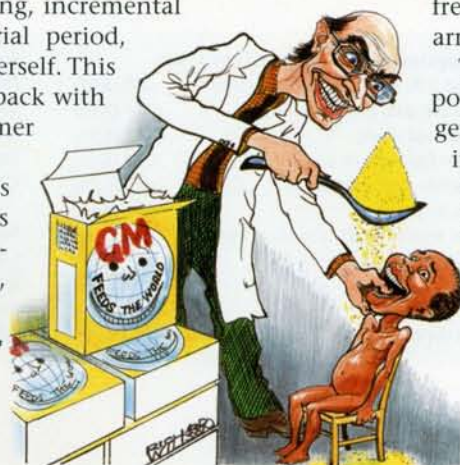
Generally when mistakes are made, apologies follow. Not this time. Instead Agriculture Secretary Nick Brown issued gushing praise for Advanta, the guilty company, for promising to cover, to some extent, the costs of their own mistake by compensating farmers. Then, finally, came a flicker of honesty in the form of Environment Minister Michael Meacher, who admitted that there is no way we can control pollen from GM plants.

And what are we to make of the regulators? Does it not seem odd that small farmers are being regulated into redundancy while literally mountains of untested, illegal GM seeds manage to cross our sturdy borders? No doubt Mr Ismail Sergageldin, Vice President of the World Bank, has the answer. 'Small farmers are,' he explained recently, 'uninteresting customers'.

On another note, what better 30th birthday present could the magazine wish for? Minutes before sending this issue to print, news reached us of the German government's decision to phase out the use of nuclear power over the next 30 years. This momentous step means that one of Europe's leading economies will be nuclear-free by the time *The Ecologist's* 60th birthday arrives.

This is the first time any leading economic power has announced its intention to end nuclear generation, and it sets a precedent which other industrial economies should now follow. The German Green Party should be congratulated on what is probably the Greens' major political achievement on the world stage so far.

ZAC GOLDSMITH



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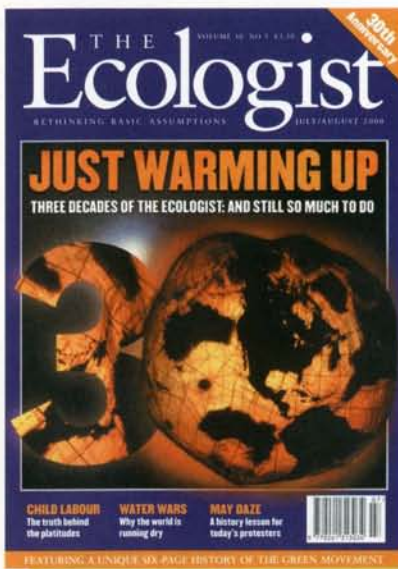
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COVER STORY

Thirty years ago this month, a new magazine began life, dedicated to challenging the entire basis of industrial society, and rooting out the facts about the declining state of the world. Thirty years on, *The Ecologist* is still here. In this special fifteen-page analysis, we chart its progress, and that of the wider environment movement over the last three decades. We look at the ever-accelerating destruction of the planet's life-support systems and at the continued rise of activism dedicated to preventing it. And we look ahead to the next thirty years – where do we go from here, and what needs to happen to safeguard life on Earth? Page 26.

Cover photograph: Tony Stone



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Coming soon...

- ◆ There will be no issue of *The Ecologist* next month as we take our summer break, preparing campaigns and features for the rest of the year, including the following:
- ◆ Bill Joy, technological guru, discusses his fears about our technological future.
- ◆ Does working with corporations compromise environmental integrity? George Monbiot and Jonathon Porritt battle it out.
- ◆ Special report on biotechnology corporations moving into eastern Europe.
- ◆ We launch our search for new ecological writers and thinkers.



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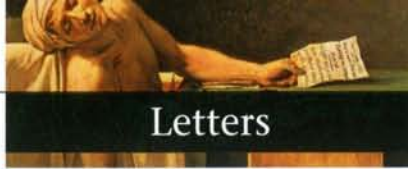
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Letters

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Email: letters@theecologist.org – please attach your name and postal address, even when sending by email. The editor reserves the right to shorten or edit correspondence where necessary.

MAY DAY WAYS

It seems that Zac Goldsmith took his information (*Own Goal*, Vol 30 No 4) – and his line – about the May Day protests from those mainstream media which he normally regards with suspicion. Trashing a McDonald's and putting a Mohican on Churchill's statue hardly merit his alarmingly hysterical and Conservative outburst: 'they are against community, family, tradition of any sort'. The TV cameras and the photographers will always home in on 'violence' at any street demonstration, however little there is; and if there is none they don't snap anything: as GND supporters have discovered over the years.

More surprisingly still, he cannot tell the difference between Marxism and Anarchism. Anarchists are, quintessential-

ly, 'against the state', and against 'imposed structures of any kind'. They do not 'elect leaders' because they prefer a participatory democratic control (something *The Ecologist* surely approves of). There was nothing 'undefined' about the protestors' attitude: Mr Goldsmith merely hasn't taken the trouble to read what they say and write in their several 'alternative' papers.

As has been pointed out in the States, the Seattle demonstration, which Mr Goldsmith approves of, learnt from Reclaim the Streets, the anti-roads campaign and other British anarchistic movements. May Day outbursts have for centuries been derisive of the authorities. The difference nowadays is that the reaction, from a government that wants to extend

the martial law ethic of the temporary Northern Ireland 'Repression of Terrorism' to ordinary everyday life, permanently, is far more dangerous to freedom, decency, the stable family, etc, than any attempt to garden Parliament Square.

It is sad to find the editor of one of the few outlets in favour of radical change adopting the attitude, and language, of a Colonel Blimp.

JOHN ROE

Rio de Janeiro, Brazil

MEDIA AND THE MESSAGE

I was pleased to see David Edwards and Caspar Henderson debate the question *Can we trust the media on the environment?* (Vol 30 No 4). However, it was a frustrating exchange. While Edwards presented a cogent analysis of how and why the media limits the impact of environmental activism – in fact, any radical action that threatens the status quo – Henderson eloquently released a shoal of red herrings into the discussion.

Henderson's debating tactic appears to be: agree with the proposition that the media *does* filter and distort the truth, but then claim 'well, it's not that bad'. It is. Where are the daily headlines fingering the International Chamber of Commerce, the European Roundtable of Industrialists and all the other corporate lobby groups – crammed full of all the household business names you care to mention – for endangering the climate, attempting to foist GM foods upon us, and exploiting the world's poor? Not even Henderson's favourite newspaper, the *Guardian*, gives us this.

It is deeply ironic that Henderson cites John Pilger's TV documentary, *Paying the Price: Killing the Children of Iraq* as an example of how good the media can be. Pilger is one of the few journalists anywhere who consistently highlights and counters the propaganda system that manufactures consent and suppresses the truth about the environment, human rights and social justice. Just read any of his books and articles and you will see where he stands on the topic under discussion.

The propaganda system is at once so powerful and yet so subtle, that to accept its existence is to question just how 'free'

Cultural Discussion

Aidan Rankin's article *Why greens should be politically incorrect* (Vol 30 No 4) was perhaps deliberately provocative. No-one ever advocates political correctness: it is a term used by those who oppose a number of 'progressive' ways of thinking. And most of us can groan at some of the excesses that it has been identified with. But as hypocrisy is the tribute that vice pays to virtue, so also the excesses of over-enthusiasm can suggest that excesses are precisely that – excesses – and that ideas of non-violence, feminism, and recognition of rights, should not be lightly discarded.

If ecology shows that everything is connected to everything else, we cannot ignore the connections which suggest that a society which oppresses women and accepts militarism is a society which will have few qualms in destroying the environment. So when Aidan complains that 'those who believe in a strong defence policy' are accused of being 'militaristic' are we to understand that he wants a strong defence policy when military power and its desire to exalt itself has been one of the main driving forces behind nuclear weapons? When he complains that 'those who reject the idea that the male and female role are interchangeable' are accused of being 'sexist', are we to understand that he advocates non-interchangeable roles, which will be widely understood as a way of defending male supremacy? Are greens to defend male supremacy because it is part of almost all cultures? Are we not allowed to welcome the fact that modern ways of life make it possible for the roles of men and women to be much more similar and thereby allow the relationship between the sexes (as opposed to the role of the sexes, which is something different) to return to the more equal relationship that existed during the 95 per cent of our species' history when we lived as hunter-gatherers and during which human nature was formed?

So much of culture is actually a culture of war, of oppression. It is Conservative to defend everything which exists. It is Green to question those bits of culture which actually aid the destruction of the environment and seek to change them.

None of this means that we have to remove every imperialist book from the reach of children, or that the Innu or the Inuit cannot continue hunting if a sustainable form of hunting is a possibility for them. But culture includes the culture of environmental destruction and must not be treated as sacred.

JOHN GOODWILLIE

Dublin, Ireland

we are in the 'liberal democratic west'. That is such a scary proposition that it is no wonder that many of us would rather reject it outright. But then, as George Orwell once wrote: 'If liberty means anything at all, it means the right to tell people what they do not want to hear.'

DAVID CROMWELL
Southampton, UK

VALUE JUDGMENTS

Oliver James' article *Consuming Misery* (Vol 30 No 3) ended up by leaving me feeling pretty unhappy!

James' analysis of capitalism and mental health was full of truisms. However, aspects of his argument must be challenged as they exhibited a profoundly prejudiced perspective. James' comments that 'previously oppressed groups, such as women and low income people, have come not only to believe that they can enjoy hitherto unimaginable wealth, but to regard them as an entitlement' is disturbing.

Why stop there Mr James? Why not include blacks, Asians and disabled people? The implications of this argument are that parity of aspiration is not possible within capitalism and that ultimately any oppressed group would do better to settle for its lot.

Oliver James is right that capitalism has wreaked havoc on our mental health but the reason is not overheated aspirations or unreal social comparisons as he describes. Aspirations and dreams are essential for all our lives. Capitalism and the media machine distort our desires and aspirations and confuse our values but to imply that we should therefore cool our overheated aspirations and ground our unreal social comparisons is dangerous hegemony. What is needed is not a reassertion of social hierarchy and the oppressed groups knowing their place, but rather a genuine movement to work against the power of the media and alert people to a real sense of their own value and their own skills in the world.

Moreover a great deal can be done to promote good mental health in a world that is constantly gnawing away at our self-esteem and serotonin levels.

RUTH QUINN
UK

MODIFIED ARGUMENT

'And what is wrong with GM foods?' asks Professor Lewis Wolpert rhetorically in your debate (*Is Science Neutral?* Vol 30 No 3).

Meanwhile, the *Sunday Times* (21 May) summarises an article by professor of phi-

losophy David Cooper, who asks: 'We applaud advances in medicine, so why do we scorn their efforts with GM crops?'

The answer to both professors is strikingly simple: medicines are needed only by unwell people, case by case, but *all* of us, well or unwell, eat food. If a person needs a drug it seems fair and ethical that science should take risks to provide the medicine needed. That person is already damaged – but most of us are not. And the person can always refuse the prescribed medicine.

Not so with food. It is specious as well as ridiculous for professors to go around comparing food production to medicine production. Science makes discoveries but also mistakes, so it is criminally unethical for populations to be subjected, covertly, to unproven advantages backed by money-seeking companies.

We've already had this with asbestos, DDT, cigarettes – and just recently 'Scotchguard' – being withdrawn as an unacceptable risk to health. When I was young everyone in the world squeezed toothpaste out of lead-lined plastic tubes. One day scientists realised we were all poisoning ourselves – but how could it have been that lead was allowed to be used in the first place?

Professor Wolpert repeats the cliché of 'hysteria' over GM foods and of what he breezily calls their 'supposed dangers'. He asks for reasoned argument, but he has not provided one single reasoned argument why our daily food should be assumed to be safe in the long term, after having its genes manipulated by purblind, egocentric, glory-motivated Nobel types.

NICHOLAS CUMMINS
London, UK

RE-GLOBALISATION

Reading your May issue (Vol 30 No 3), it is clear that some concerted international action on globalisation is required. It might be better to maintain and strengthen individual nations' regulation of trade and technological interactivity, but if this is not a realistic option, then international competition regulation must be established to prevent dominance in world markets.

As part of this, public interest considerations must restrict environmental transgression, as well as economic abuse. Founders of modern economic thought mentioned the need to work within long-term natural constraints, but presumably thought it too obvious to need stressing!

DAN LEWIS
Stratford-on-Avon, UK

WITHIN AND WITHOUT

The Ecologist is about rethinking basic assumptions, so the debate (Vol 30 No 3) about the claims of Science to be objective and impartial, was very relevant. Most of us were educated on the principle that the subject and the object, the perceiver and perceived, are independent entities, the one existing 'in here' and the other 'out there'. We never stopped to think that if this were so, all the objects out there must be colourless, soundless, tasteless and odourless for a start, since all these attributes arise in the minds of the perceivers. Furthermore, no subject could be said to exist in the absence of any objects to perceive, so all subjects and objects must be interdependent. If this were generally realised we might begin to use science in more appropriate ways.

T B MILLS
Cerne Abbas, UK

Just a Quick Word

DRUG ABUSE

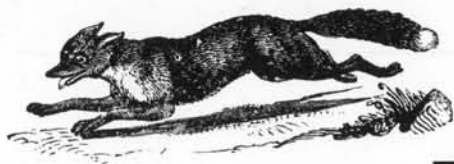
In the midst of the generally excellent piece *Consuming Misery* (Vol 30 No 3), the author made a glaring error, listing the use of marijuana alongside the use of cocaine and heroin as example of the rise of 'compulsive behaviour': making it seem as if any regular use is 'abuse'. Cannabis has long been regarded as an essential ingredient of spiritual practice in much of Asia and Africa; maybe ancient Europe and America as well. This is in contrast to the chemically refined or synthesised cocaine and heroin.

JEFFREY G STRAHL
Berkeley, US

IT CAN BE DONE

Britain has people in the WTO, is a member of the UN and EU: links that could be severed by Blair. Corporations could be tamed if political will was there; governments still have enormous powers. The reason we are in a mess is people still believe in them.

JOHN ROGERSON
Lockerbie, UK



THE HUNTING DEBATE

Robin Page's article *Hunting Down The Facts*, (Vol. 30 No 3, May 2000) has encouraged a lively debate among readers on the subject of hunting with hounds. Here, we print a selection of your letters.

SOPHISTICATED?

I don't think people who eat meat can really counter Page's views, as they are eating several dozens of the '800,000,000 broilers [chickens] killed in horrific conditions'. However, for vegetarians, his arguments don't make a lot of sense. For people who love animals, and who depart from the view that it is wrong to kill them, hunting can never be justified.

'Those who hunt today are doing so in a sophisticated form,' writes Page. But how can killing ever be sophisticated? Are we killing people in a 'sophisticated' way today? Or can one only 'sophisticatedly' kill animals?

TOBIAS LEENAERT,
Ghent, Belgium

HUNTING CAUSES SUFFERING

Robin Page's argument takes the biscuit. Low-intensity subsistence hunting is utilitarian, and the aim is to catch and kill the animal as quickly as possible. Hunting with hounds is totally different: animals are hunted for sport and the ritualised chase is designed to be as long as possible. This is neither natural nor green; people who condemn such activities are not 'condemning nature and condemning their own past'. They are recognising the practice for what it is: cruel and unnecessary.

Deer hunting has been shown to involve considerable suffering, and Lord Burns (huntinginquiry.gov.uk) commissioned independent veterinarians to document the injuries suffered by hunted foxes and hares. These were extensive, and demolished the 'quick nip to the back of the neck' bunkum that was put out by the hunting lobby and is still peddled by Robin Page in his latest book.

The rest of his arguments are equally muddled. A ban on hunting will have no negative impact on nature conservation: English Nature considered hunting so irrelevant to conservation that they did not even send a submission to Lord Burns' Committee. The social cohesion of hunting is another myth: badger digging was a great social activity in rural communities (see Henry Williamson's *Tales of a Devon Village*) but an end to badger digging had no impact on village social life.

PROFESSOR STEPHEN HARRIS
University of Bristol, UK

DOMESTICATING NATURE

The real issue raised by fox-hunting is a sad one. We have destroyed all the predators of the fox in these islands by our own expansion into natural habitats. Having done so, we now talk of removing the one remaining predator of the fox – humans on horses with dogs. It is the final domestication of the countryside, and a poignant irony.

JANE BUCHANAN
Watlington, UK

SPURIOUS GENETICS

In the 15 or so years I have worked in the Norfolk countryside, I have seen that – with perhaps a few exceptions – the influence of the hunting and shooting fraternity is at best neutral and at worst destructive.

The farms and estates belonging to Norfolk's hunting and shooting enthusiasts conform to the usual ultra-intensive pattern. And where woods are retained, it is more likely due to the fact that the land they cover is of poor agricultural value than to any interest in conservation. It is because the 'custodians of the countryside' have presided over such appalling destruction and neglect of our hedgerows, woods and grasslands that so many schemes now exist to cajole them with generous grant assistance into conserving what little is left.

On the ridiculous argument that *Homo Sapiens* is genetically predisposed to hunt: even if so, what does this prove? It may well be a genetic trait of the male of our species to copulate with as many women as possible, regardless of their consent, but 'I was only obeying my genes' is not considered an excuse for rape. Among our genetic predispositions are many which we need to strive to overcome for the sake of a decent society in which we can all live.

JOHN ALLAWAY
Norwich, UK

LEGAL VANDALISM

Mr Page mentions hunting headlands that enable horsemen to ride around the field edges without cutting up the centre. Do these headlands run through people's back gardens, as the Heythrop Hunt he mentions seems to have difficulty telling cats in private gardens and foxes apart? In January, the Hunt killed a domestic cat outside Chipping Norton. Time and again foxhunts have run roughshod over private property.

The Chiddingfold, Leconfield and Cowdray Hunt has hunted foxes across Sussex Wildlife Trust land, despite being banned for the last five years. The Beaufort Hunt was condemned after its hounds caused the death of a pregnant horse. The Old Surrey Burstow and West Kent Hunt sent dogs across the Last Chance Animal Sanctuary at Edenbridge to chase foxes in the sanctuary.

MR B MORRIS
Kent, UK

TACKLING TABOOS

At last a radical ecological magazine with the guts to address taboo subjects. Robin Page's handling of one of ecology's most sensitive issues is worthy of praise. I would make just one observation.

Has anyone stopped to wonder why it is that our State has become so deeply embroiled in what is essentially a regional issue? Government is clearly using the fox-hunting debate for political ends – to distract attention from their other heinous activities and to appear 'radical'. Hunt critics are pawns in this political area, whose activities have been diverted from real issues of cruelty (vivisection and factory farming, for instance).

Whether hunting is right, wrong, good or bad, is irrelevant within the global context. What is important is that local people, and not an abstract and increasingly invisible State, should determine their own standards according to their own needs and world view.

EDWYNN RASCHBOTTOM,
Tavistock, UK

PROFESSIONAL JUDGMENT

I understand your worthy urge to stir up a spot of controversy from time to time, but your enthusiasm has endangered professionalism by allowing Robin Page to unleash such nonsense.

If Mr Page was one iota concerned about cruelty, he would know from the vast literature of the responsible world movement for humane education that the issues of halal and other forms of needless slaughter, and the conditions of broiler fowl and other intensively-exploited animals, rate equally in the concern of those seeking a more compassionate society.

JON WYNNE-TYSON
Arundel, UK

Happy 30th anniversary from the other Ecologist

Only two magazines in the UK have been green for so long

When *BBC Wildlife* was launched in 1963 – as *Animals* magazine – the first issue was full of articles and stories on conservation and the environment. Those were far from fashionable causes then, and not until *The Ecologist* appeared in 1970 did any other national magazine also champion them.

Like *The Ecologist*, *BBC Wildlife* is still doing that. Though many of its features are pure natural history, the editors have always understood that much of nature as we know it won't survive unless humanity as a whole changes its attitude to it.

There's still the news section – News of the Earth – that carries exclusive environmental stories from around the world. In every issue there's an environmental feature and a profile of a positive environmental project. And there's always at least one major conservation article.

But most important is the green thread that runs through everything *BBC Wildlife* publishes. It's our attitude and our angle, and we're proud of it. And we think, as we've always thought, that *The Ecologist* and *BBC Wildlife* excellently complement each other.



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Order by credit card: ☎ 01795 414718 quoting TE700; or e-mail: wildlife@galleon.co.uk.
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Anup Shah

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TE700

LOGGING FOCUS: CORRUPTION IN THE FORESTS?

The Worldwide Fund for Nature (WWF) has been accused of helping to cover up a report on the damage done by illegal logging.

The peer-reviewed report, prepared by well-respected researchers from WWF and the World Resources Institute, found that 'remaining virgin primary forests in the Caribbean rim, Central Africa and Pacific will be lost within five to 10 years, due to the expansion of unsustainable logging operations'.

But the European Commission, which funded the report, has been accused of deliberately suppressing it for the last three years, for fear of repercussions from multinational logging firms – many of whom are based in Europe. And the top levels of WWF have been accused of colluding in this sup-

pression. WWF, though, says the report was delayed by bureaucracy and official nerves.

The report accuses multinational loggers of devastating forests with their activities, and of oppressing local people. It also blames the donors of the projects, like the World Bank, the EU, and the UK and US governments, for failing to enforce policies on conservation and quotas.

Forests around the world are still being ravaged to meet the industrialised world's insatiable demand for timber and pulp. Between 1997 to 1999, Amaplac, part of the Malaysian logging company WTK, was found to be among the 10 top companies fined for possessing illegal logs. According to Greenpeace, some 14 of its suppliers were fined during this period for the illegal

exploitation, transport and sale of logs. As recently as May 1999, Amaplac was charged with buying logs without necessary permission for transport. The majority of its plywood and veneer is exported to the UK.

Meanwhile, as the Indonesian islands of Sumatra, Kalimantan and Sulawesi have been virtually stripped bare, timber companies are homing in on West Papua. According to Bapedal, the Indonesian government's environment agency, 57 timber companies are logging a massive 11 million hectare area in the region. The total allocated for logging is ten million hectares, meaning that protected areas have been included in concessions. Earlier this year, conflicts between the logging companies and local communities brought logging to a halt.

AMAZON VICTORY

The Brazilian Congress has shelved proposed legislation to increase the area and rate of Amazon rainforest destruction.

Ranchers and landowners in Congress had pushed a draft law through a House/Senate Committee that would have loosened restrictions on deforestation and caused an increase of up to 25 per cent in annual rates of clearing and burning. But massive email and fax protests to Congress and the President, and broad media coverage orchestrated by environment groups, killed the measure before it could come to the House. The government at one point blocked the massive flux of emails to the Senate, but backed down under public pressure.



LA BURNING

Fire set by the US National Parks Service to control vegetation ran out of control near the Los Alamos nuclear base.

The flames took a devastating toll on over 47,000 acres of land, burning homes and threatening the Los Alamos Nuclear Laboratories. More than 1,500 archaeological sites, of which the most ancient are 7,500 years old, were also damaged or destroyed. The area used to pride itself on the beautiful rock paintings made by the Anasazi peoples of New Mexico over 1,000 years ago; many are now gone. In addition, the Los Alamos Study Group has warned that, due to erosion, there is now a serious risk of charred contaminants being flushed into the Rio Grande.

NEWS IN BRIEF

RONALD ROLLS ON

McDonald's has outlined its global expansion plans. Averaging around five per day, the company intends to open 650 outlets in Asia, 550 in Europe, 350 in Latin America, 200 in the US and 250 in the rest of the world this year alone. It intends to have 1,500 new restaurants in Asia over the next two years.

INTENSIVE FARMING ATTACKED

The UK environment select committee has attacked the Ministry of Agriculture for its 'outmoded' and 'misplaced' attachment to

intensive farming. The ministry, says the committee, has already lost control over food and safety because it regards the food and farming industry's interests above the consumers.

JAPAN LIMITS MOBILES

Japan, the world's second largest market for mobile phones, plans to enforce strict new standards. The move comes in response to growing concerns about the impact of electromagnetic radiation on the brain. About 45 per cent of its population uses mobile phones.

EMISSIONS ADMISSIONS

A long-awaited draft report by the US Environmental Protection Agency has for the first time admitted that dioxin is a 'human carcinogen'; a substance that produces

cancer. Dioxins are released by incinerators burning waste and in industrial processes such as steel-making.

DYING TURTLES

Pacific leatherback turtles are nearing extinction. According to Nature, the number of females dropped from 1,367 in 1988 to 117 just ten years later. Researchers predict that there will be fewer than 50 by 2004.

OU GM

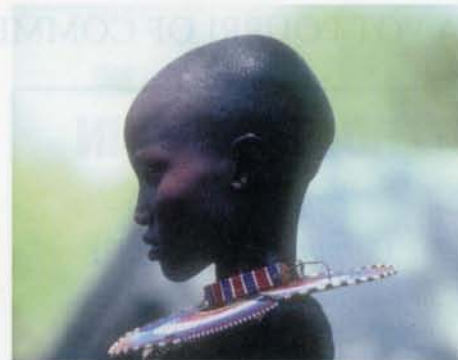
An Open University-led survey of ten EU member states shows that some governments were never convinced that all the potential adverse effects of genetically modified (GM) crops had been satisfactorily considered. The research found that this atti-

BANK BACKS DESTRUCTIVE PIPELINE

The World Bank agreed in June to fund an oil pipeline which could open Chad and Cameroon's rainforests to industrial development.

The 670-mile pipeline, which will transport oil from the Chad oilfields to a new port being built on the Cameroon coast, has been under consideration for 10 years, and has been opposed by environmental and human rights groups. Nevertheless, the Bank voted to lend money to the project, which is operated by oil giants Exxon and Petronas.

Critics foresee spills and evictions, and are concerned that the infrastructure which will go with the project – including new roads to be built through Cameroon's rainforest – will have devastating effects. Meanwhile, human rights groups are concerned that much of the Bank's money will go straight to Chad's military, which has been fighting a civil war for years. But Bank president James Wolfensohn defends the project as 'remarkable' and ecologically-sound.



ENVIRONMENTAL IMAGES

MAASAI PROTEST

Tanzania's Maasai say their lands are being destroyed by government-sanctioned hunting.

The Government of Tanzania is investigating the activities of Ortello, a United Arab Emirates-based hunting company licensed in 1993 by the then government of former president Ali Hassan Mwinyi. The matter was brought to government by 13 elders of the semi-nomadic Maasai community, who are demanding that punitive action is taken. The elders, who inhabit the area where Ortello is hunting, say that unless they are heard, the whole tribe will migrate to neighbouring Kenya.

According to Sandet ole Reya, a Maasai spokesperson, the Loliondo area, once home to many different species of plants and animals, is now barren, due to the excessive slaughter of animals and uncontrolled tree-felling by Ortello. The felling of trees is further destroying water sources, and upsetting the whole of the area's ecological balance. Scores of villagers have been arrested following a demonstration to protest the degradation. Loliondo is adjacent to the famous Serengeti National Park.

GULF WAR SYNDROME: NEW EVIDENCE

A new report reveals that veterans who became ill after fighting in the Gulf War now show evidence of significant brain cell loss.

Dr. Robert Haley from the university of Texas, lead author of the study, found that veterans suffering from

'Gulf War Syndrome' had 20 per cent fewer brain cells in the brain stem than healthy survivors. These brain cell losses are similar to those found in patients with brain diseases like amyotrophic lateral sclerosis and multiple sclerosis, as well as dementia and other degenerative neurological disorders.

'When you sustain such brain-cell losses,' Haley

remarked, 'you get a host of subtle malfunctions of all systems of the body.'

Using magnetic resonance (MR) spectroscopy, the tests were concluded on 22 members of a Naval Reserve construction battalion in the south-eastern United States.

The tests were also done on 18 healthy veterans from the same battalion. The findings were replicated among a small sample of six Gulf War Army veterans living in Dallas who have been diagnosed with Gulf War Syndrome 2, the worst form of Gulf War related illnesses.



MPL INTERNATIONAL

tude was particularly evident in France and the UK – the two countries that most frequently recommended approval of GM crops submitted for market release.

SHORT OF ANSWERS

According to The Pesticides Trust, Clare Short's Department for International Development is supporting the development of GM technologies in 'developing' countries to the tune of around £600,000.

MONSANTO STRIKES AGAIN

Despite objections, the US government recently appointed a former Monsanto lobbyist, Carol Foreman, as the US 'consumer advocate' to the Global Biotech Consultative Forum. 'The PR assault against biotech

activists has just scored its most important victory,' said John Stauber of PR Watch.

WHALE OF A TIME

Japan wants to extend its programme of so-called 'scientific' whaling. For the first time since the global moratorium on whaling was imposed in 1986, it plans to hunt sperm and Bryde's whales. It will put proposals to do so to the AGM of the International Whaling Commission in July.

UPDATE: INDIAN PORT VICTORY

US multinational Unocal has announced that it is pulling out of the US\$300 million port project planned for the Indian state of Gujarat (see Campaigns, Vol 30 No 4) following pressure from campaigners around the world.

UPDATE: U'WA SETBACK

Last month, the Colombian high court revoked the recent injunction that suspended Occidental Petroleum's drilling project on the ancestral lands of the beleaguered U'wa tribe – dismaying campaigners and the U'wa themselves.

UPDATE: UN DUMPS BIG BUSINESS

The UN Development Programme is to abandon its controversial 'Global Sustainable Development Facility', which would have allied it with some of the world's biggest and most destructive corporations (see *The Ecologist*, Vol 29, no 5).

The move comes following global pressure from environmentalists and human rights groups.

A POT-POURRI OF COMMENT ON ECOLOGICAL ISSUES *from* THE WORLD'S PRESS

ROADS TO RUIN - AGAIN

Corporate Watch, UK

The Blair government, says Stephen Joseph of the research and campaign group Transport 2000, is about to break all its promises and embark on a major road-building programme. Following the massive road protests of the 1990s, and the collapse of the former Tory government's 'Roads to Prosperity' national road-building programme, Labour came to power promising to cut traffic, protect the countryside and massively boost public transport. But pressure from right-wing newspapers, the roads lobby and dissatisfied car drivers has led to a series of retreats on all these commitments. We can now expect not only a renewed road-building programme, but possibly also privatisation of the government's construction responsibilities. The real irony is that the alternatives have barely been tried at all. So much for New Labour's radicalism.

DON'T BOTTLE IT UP

Mojo Wire, USA

Clever marketing aside, the health benefits of the bottled water which is becoming more and more popular in the wealthy West are increasingly uncertain. A recent survey by the US National Resources Defense Council found that 22 out of 100 brands tested contained chemical contaminants associated with cancer and other health risks. In

addition, there's the wider problem of water use, as springs and aquifers are diverted and depleted. Environmentalists are drawing attention to dry rivers and dead springs caused by water bottling companies, and communities in the US are beginning to fight back against Perrier and friends for hijacking their public resources.

REDEFINING CONTENTMENT

Resurgence, UK

The British people are not, after all, a materialistic, technocratic nation, but 'a people searching for fun, spirituality and better relationships'. So says *Resurgence* magazine, which draws these conclusions from an opinion poll on 'British aspirations', published in July. It discovered that a mere 2 per cent of the British want to be remembered as successful in business, whilst 36 per cent want to be remembered for their kindness. 56 per cent choose to spend free time with loved ones or in the

countryside, and 20 per cent were apparently having fun whilst being questioned. The poll also demonstrated a deep-seated disillusionment with mainstream politics. According to the NOP sample, 56 per cent of people believe that individuals should take their own action rather than leave it to others. 32 per cent of us believe that boycotting products can help, but just 5 per cent trust big business to sort out environmental problems.

STAN AT EASE
by Stan Eales

SURREPTITIOUS FORMS OF HUMAN SUBSTITUTION

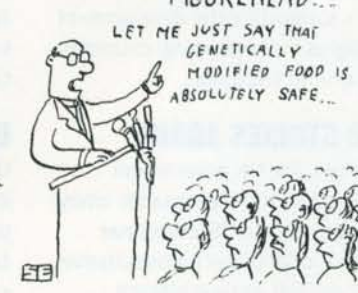
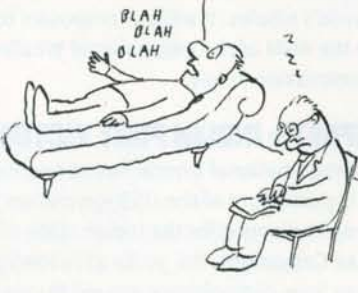
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SUBSTITUTE GIRLFRIEND...

..SUBSTITUTE BEST FRIEND..

...SUBSTITUTE MORAL FIGUREHEAD...



TITLE PROGRAM ART LIBRARY

CONSUMERISM: THE CURE

Sunday Telegraph, UK

'Millions of compulsive shoppers', reported the Sunday Telegraph on 11th June, 'might soon be cured of their addiction simply by popping a pill'. An as-yet-unnamed pharmaceutical giant has developed a 'cure' for what is becoming a rampant social disease in the US, where

over 15 million people 'struggle with compulsive shopping'. The pill is being tested on a trial group of 24 'shopaholics', and if it works, will be marketed as 'the first antidote to shopping addiction'. The problem of how the shopaholics will buy it has apparently not yet been considered.

RA RA RAS-PUTIN

International Herald Tribune, USA, and elsewhere

Russia's environment is in trouble, and the new regime of President Putin is making things worse. In May, Putin, fresh from election victory, decided to abolish Russia's environment agency. With one presidential stroke, all environmental responsibility was handed over to the Ministry of Natural Resources. The reason is simple: Putin sees environmentalism as a threat to his regime. 'Unfortunately' the media quoted him as saying, 'foreign special services... actively use various ecological and public organisations in their work'. Meanwhile, Russia is bleeding. During the period of a single month the International Herald Tribune alone reported numerous aspects of Russia's ecological tragedy. First, the slow death of Lake Baikal, which is believed to be 25 million years old and contains one-fifth of the Earth's fresh water, together with unique life forms. Due to chlorine discharges from the Baikalsk



Pulp and Paper Mill, the lake is dying. Meanwhile, the city of Vladivostok pumps raw sewage into its bay, the Aral Sea has been shrunk and polluted by agricultural runoff and the navy dumps radioactive waste into the White Sea and the Sea of Japan. The Caspian Sea is dying and, according to Azerbaijan's Deputy Prime Minister, 60 per cent of his country is polluted. Another 10,000 hectares on the Absheron peninsula are polluted with oil.

Unfortunately, points out the *Tribune*, the Caspian Sea also contains some of the world's largest oil fields. The US is already promoting further routes for Caspian oil and Britain's BP-Amoco heads the main consortium in the area. The story is the same everywhere. As industry flocks to newly-capitalist Russia, with its lax or non-existent environmental controls, things look likely to get worse.

ZIMBABWE: WHO ARE THE REAL CRIMINALS?

Third World Resurgence, Malaysia

There's no doubt, writes Jeremy Seabrook, that Zimbabwean President Robert Mugabe is shamelessly exploiting the fate of landless blacks in Zimbabwe for political gain. There's no doubt either that there is a serious land problem in Zimbabwe, or that some of the violence there is about race and power as much as land. But step back and look at the deeper currents too. For the seizure of land by those with no official title to it is no more or less than what was done a thousand

times over by European pioneers, explorers, colonialists and Empire builders throughout Africa. It's galling to listen to solemn denunciations of land-grabbing by the former colonial powers, or from the Americans, most of whose country was stolen from indigenous tribes. What is actually happening in Zimbabwe is that many of the landless poor are striking back against generations of inequality and exploitation – and the powerful don't like it. But the powerful never do.

“NOTES & QUOTES”

The UK Home Office has disclosed that 270 monkeys and 10,000 pigs have been killed to date in development work on xenotransplantation – the use of animal body parts in humans.

In Thailand's industrial areas, rain collectors wait an hour before collecting, since the rain is generally as acidic as tomato juice.

The annual number of passenger journeys by air on scheduled flights is forecast to exceed 2.3 billion by 2010, as against 1.6 billion last year, according to the *Financial Times*.

A study, analysing more than 100 medical trials which covered at least 200,000 patients concluded that the regular, long term use of non-steroidal anti-inflammatory drugs (like Aspirin, Nurofen, Advil and Ibuleve) is killing about 2,000 people per annum in Britain alone.

50 per cent of the water used in toilet flushing is saved during the annual 'Pee Outside Day' in Sigmota, Sweden.

Every year, California spends as much money on prisons as it does on education. Professor Manuel Castells, University of California at Berkeley.

We feel hurt and we feel angry... We had... faith in this science when others were dubious, and it all seemed to be working. So we painted a big bullseye on our chest, and we went over the top of the hill. Robert Shapiro, former CEO of Monsanto, quoted in *The New Yorker*.

Small farmers are uninteresting customers Ismail Sergageldin, Vice-President of the World Bank.

It is false to pretend that there is any distance which is going to prevent some contamination UK Environment Minister Michael Meacher, belatedly accepting that environmentalists were right all along about the ineffectiveness of 'buffer zones' around GM crops.



Campaigns

CAMPAIGNS & EVENTS

30 June-1 July 2000

French Farmers protest... again!

Millau, France.

CPE, the European Farmers Coordination and 30,000 supporters are staging a rally in support of the five farmers who dismantled McDonald's last August. Call +3222173112 or email cpe@agoronet.be

1-7 July 2000

World Renewable Energy Congress & Exhibition

Metropole Hotel, Brighton, UK.

Call +44 1189 611364 or visit www.wrenuk.co.uk

3-6 July 2000

Annual Meeting of the Whaling Commission

Adelaide, Australia.

Call +44 1223232876 or email iwc@iwcoffice.org

3-6 July 2000

Asia-Pacific Conference on Algal Biotechnology

Hong Kong, China.

Call +852 25599973 or visit www.hku.hk/botany/algae

6-7 July 2000

War Tax Resistance

Washington, USA.

Conference on war tax resistance and peace tax campaigns. Call the Peace Tax Foundation on +1 202 483 3751 or email peacetaxfund@igc.org

7-9 July 2000

Intersolar 2000

Freiburg, Germany.

The latest developments in photovoltaics, solar thermal engineering and solar construction. Call +49 7231351380 or visit www.intersolar.de

16 July 2000

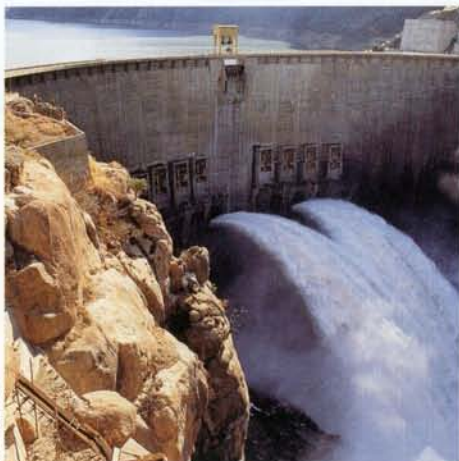
Organic Open Day

Chiddingstone, Kent, UK.

Bore Place, a 500 hectare organic dairy farm, is home to a group of rural enterprises and charities known as Commonwork. Call +44 1732463255 or visit www.commonwork.org

WORLDWIDE BIG DAMS SPECIAL

A series of big dams planned for north-east India threatens people and biodiversity in a massive way. The Subansiri and Dehang dam projects in the Brahmaputra valley will require nearly 28,000 hectares of forest alone. Two Biosphere Reserves lie within the proposed impact zone. Meanwhile, the Kameng



STILL PICTURES

dam project threatens the Namheri National Park and the Pakui Wildlife Sanctuary, both of which harbour endangered tigers. And the planned Leshka dam in southern Meghalaya will drown over 50 hectares of forest. Proper environmental assessments have not been conducted, and the cumulative effect of so many dams concentrated in a relatively small area has not even been considered.

In Thailand, more than 100 large dams have been proposed on the Mekong river, some of which are already under construc-

tion. They are contributing to fish stock reduction, salination, the drowning of important forests and the displacement of over 15,000 people: and that's just the start.

Meanwhile, in Uganda, US-based AES corporation, the largest independent power producer in the world, wants to build a \$520 million dam near Bujagali Falls on the Nile. The dam will create a socially and environmentally destructive reservoir and is likely to drown the spectacular Bujagali Falls. According to AES's own environmental impact assessment, 820 people would be permanently displaced and an additional 6,000 would be affected by the submerging of communal and highly productive agricultural land.

What you can do: Write letters asking for these dams to be stopped or reconsidered, to: The Prime Minister of India, South Block, New Delhi 110 001, and to Mr T R Baalu, Minister for the Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi 110 003. Send an online fax to Thailand's Prime Minister, asking him to stop the dams: www.irm.org or call on +1 510 848 1155. Write to Dennis Bakke, AES's CEO, fax: +1 703 538 4510, urging him to preserve the Bujagali Falls. Copy your letter to the IFC on 2121 Pennsylvania Av. NW Washington, DC 20433 USA. For information on the Bujagali Crusade visit www.uganda.co.ug/bujagali or www.irm.org

BRAZIL LAND AND FREEDOM

While 54 per cent of Brazil's farmland lies idle, millions of landless peasants struggle to survive. Those who can't survive flee into city slums. The Landless Rural Workers Movement (MST), the largest social movement in Latin America, is a response to these inequalities. In 1985, with the support of the Catholic Church, hundreds of landless rural Brazilians took over an unused plantation in the south and successfully established a cooperative. In 1987, they gained the title to the land. Presently more than 250,000 families have won land titles to over 15 million acres after MST land takeovers. The Movement has created 60 food cooperatives and 1,000 primary schools, where 2,000 teachers work with 50,000 children.

But violent clashes between MST, police and large landowners have claimed the lives of many peasants. Over the last 12 years, 1,167 rural workers have been killed. The

most serious incident was the massacre of Eldorado dos Carajás in 1996. During a road blockade, MST members were fired on by the state military police of Para. Nineteen people died and 69 were seriously injured.

Last year, a trial found three police commandants innocent but after national and international outrage, the trial was suspended. The next session will commence this August, but the judge is well known for his opposition to the MST.

What you can do: Write to Fernando Henrique Cardoso, President of the Republic and demand a fair trial - pr@planalto.gov.br or fax: +55 613222314. Send a copy to José Gregori, Minister for Justice on acs@mj.gov.br or fax: +55 61 321 1565 and to MST on semterra@mst.org.br or fax: + 5511 33613866.

MEXICO/USA FOREST CASCADES

In 1995, US timber giant Boise Cascade began purchasing logs from local villagers in the Mexican State of Guerrero; one of the last so-called 'frontier forest' areas. Boise Cascade's goal was to extract 20 million board feet of softwood over the next five years.

From the beginning, logging in the Petatlán area of Guerrero was wrought with corruption. Alarmed by the effects of rampant logging, Rodolfo Montiel Flores and other landless farmers formed 'Campesinos Ecológicos de la Sierra de Petatlán y Coyoaca de Catalan' and began registering complaints with officials in hope of evoking change. They waited in vain. Being ignored by the authorities they decided to take matters into their own hands. On several they have pre-

vented logging trucks from leaving with cargo and obliged local mills supplying Boise Cascade to suspend operations.

In early 1998 Boise Cascade suspended its operation in the area, declaring that it could no longer depend on a steady supply of logs. However, domestic buyers have filled the void.

What you can do: Boise Cascade is still operating elsewhere with the same policies. Send a letter to CEO George J Harad, and ask him to change his company's practices. All details and products on www.bc.com or fax: +1 6307737107. Updates and action alerts on www.goldmanprize.org or tel: +1 415 7889090.

TIBET/CHINA BP 'DEVELOPS' TIBET

CNPC/PetroChina is planning to develop the gas fields of the Tsaidam Basin in north-eastern Tibet. This area is indigenous to Tibetan and Mongolian nomads. Gas reserves are estimated to be 250 million cubic metres, and the environmental implications involved with operations of this scale are extremely worrying; particularly given China's history of destructive oil extraction in other parts of the region.

Because BP Amoco is the largest equity shareholder in PetroChina, it remains one of the most significant supporters of the pipeline project. BP Amoco says it ascribes to

the UN Declaration on Human Rights; yet this involvement clearly undermines their commitment.

What you can do: Write a letter to Sir John Browne, Chief Executive, BP Amoco, Brittanica House, 1 Finsbury Circus, London EC2. Fax: +44 207 4965656 or email on www.bpamoco.com/_nav/email/; click 'comment on our policies ...' then 'Human rights and...'. Please send copies of your letter and replies to Free Tibet Campaign on tibetsupport@gn.apc.org or fax 020 78333838.



21-23 July 2000

Jubilee 2000 G8 Summit Watch
UK

A vigil demanding that the world leaders cancel the debts of the world's poorest countries will be held at the same time as some of the world's richest creditor nations meet at the G8 summit in Japan.

Call Christian Aid on +44 207 523 2225 or email info@christian-aid.org

23-28 July 2000

Global Energy Exposition & ENERGEX 2000
Las Vegas, Nevada, USA.

Call +1 7023170777 or email claydon@ntsdev.com

29-30 July 2000

From Kosovo to Seattle: What is the role of nonviolent action?

Oxford, UK.

Call +44 2072784040 or visit www.gn.apc.org/warresisters

30 July - 2 August 2000

International Symposium on Deep Sea Corals
Halifax, Nova Scotia, Canada.

Call +1 9024292202 or email coral@is.dal.ca

30 July- 4 August 2000

IPS 2000: Conference on Photochemical Conversion & Storage of Solar Energy
Aspen, Colorado, USA.

Call +1 3033846611 or email ips2000@nrel.gov

6-12 August 2000

Québec 2000: Millennium Wetland Event
Quebec, Canada.

Symposiums and conferences on wetland and peatland conservation.

Call +1 4186573853 or email cqvb@cqvb.qc.ca

7 August 2000

Non-violent action against the UN sanctions on Iraq

London, UK.

Call Voices in the Wilderness on +44 1865 243232 or email voices@viwuk.freemove.co.uk

18 August 2000

Monsanto Day of Action
TBA, St. Louis, USA.

Non-violent parade with puppets and street theatre. For more information email morage!@unbounded.com

1-23 August 2000

International Future Transportation Technology Conference

Costa Mesa, California, USA.

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www.oxybusters.com

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www.cokespotlight.org

Take on Coca Cola for its use of hydrofluorocarbons (HFCs), a greenhouse gas used in refrigeration systems.

www.saav.virconn.com/get.htm

Sign to stop South Africa's Medical Research Council breeding primates for vivisection.

www.earthisland.org

Tell the US Fish & Wildlife Service to list the Tibetan antelope as 'endangered' throughout its entire range.

UK WORLDS APART

In May this year, Baroness Hayman of the Ministry of Agriculture, Fisheries and Food launched a consultation on the future of the food chain. As a result, the Food Chain and Crops for Industry Panel produced a report outlining various possible scenarios of what life might be like with or without biotechnology.

There are many possible future worlds, they say. There is the Brave World, 'where the benefits of scientific advances have been realised throughout the food chain, generating enormous commercial opportunities from technology transfers and attended benefits to consumers'. Then there is the New World where 'the population has resented and resisted many applications of biotechnology... A healthy diet is related to per capita income... many thousands of people suffer the consequences of dietary deficiencies'.

Also, there is the Lost World, where 'the mass media control the flow of information to members of the general public, who are sufficiently educated to distinguish between entertainment and important health messages'. Finally there is the Stone World, 'a primitive existence, where populations are controlled by famine, disease and war, rather than humane planning.' Presented thus, which future would you choose?

What you can do: The government is inviting comments from the public on the future of food. Get a copy of the report from the DTI Office of Science & Technology on tel +44 207 215 6705 or fax +44 207 2156760. www.foresight.gov.uk Respond by 31 July.



USA WHERE THE BUFFALO ROAM

North America once supported more than sixty million bison. By 1900 just a few hundred buffalo remained, nearly all in captivity. In the remote backcountry of Yellowstone National Park, 23 wild bison survived; the ancestors of today's herd.

Bison in the Greater Yellowstone ecosystem are forced to leave the park in order to find adequate forage for winter survival. This brings them into conflict with ranchers and State authorities. As a consequence more wild bison have been slaughtered in America in the past ten years than any time in the last century. During the winter of 1996/97, over a thousand Yellowstone bison were slaughtered by the Montana Department of

Livestock (DOL) when they crossed the arbitrary Park boundary into the State.

The DOL justifies the killings by saying that the bison may transmit brucellosis – a bacterial disease. But conservationists see this as a smokescreen, saying that no other wildlife are targeted in this way. The real incentive is probably the huge vested interests of local ranchers, whose subsidies are threatened by roaming bison on their lands.

What you can do: The Buffalo Field Campaign has masterminded great ideas for bison protection. Contact them on www.wildrockies.org/buffalo or phone +1 406 6460070 / 71 fax.

World-Wise Web: The five best bookmarks

www.x21.org/s26 or www.imf2000.webjump.org

All you need to get ready for the September 26-28 IMF/World Bank meeting.

www.rprogress.org

In order to live, people consume what nature offers. Already humanity's 'footprint' may be over 30 per cent larger than what the world has to offer. Get on this site and calculate your own footprint.

www.oneworld.org/globalwitness

Global Witness works to expose the link between environmental exploitation and human rights abuses. Get their first class reports.

www.dig-it-up.uk.net

A call to remove GM oilseed rape from Britain's countryside.

www.earthjustice.org

A site dedicated to challenging the trend of giving 'free' trade priority over environmental protection. Great reports on WTO & the environment.

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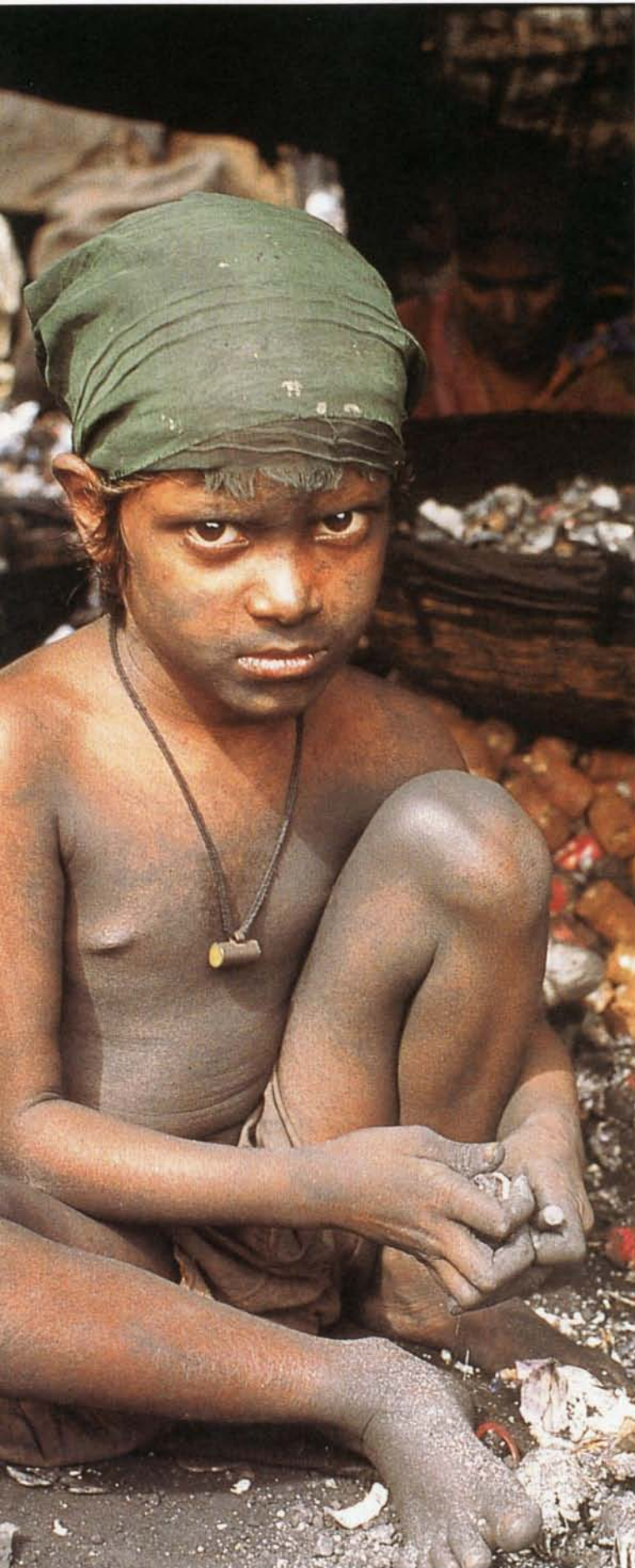
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LABOURING UNDER ILLUSIONS

Western NGOs say that both of these children are being equally exploited. Beatrice Newbery finds that the reality behind child labour is far more complex – and disturbing.

Fifteen-year-old Khalid Hussein is one of hundreds of children in his Pakistan village who stitch footballs for a living for a Western corporation. As a child labourer, his plight evokes strong sympathy in the 'developed' world. Western newspapers get great mileage out of headlines about child slaves and sweatshops. Western consumers are horrified by the idea of little fingers at work, and are ready to boycott goods made by the likes of Khalid. Meanwhile, NGO campaigners are issuing strongly worded messages about 'removing children from servitude and restoring their rights to childhood'. In fact, when it comes to images of the 'developing' world, child labour has always been among the greatest tear-jerkers. As Dan Rees, manager of the Ethical Trading Initiative (ETI) explains: 'Child labour arouses more emotion in people than any other issue we deal with'.

Nobody should have to be in Khalid's position. And, as we all know by now, child labour is A Bad Thing. In order to help Khalid and his kind, it must be stopped. Now. This has been the message emanating from Western campaigners for years now. The Ethical Trading Initiative speaks for the vast majority of aid agencies and Western NGOs in its base code, which begins with the announcement that 'Child Labour Shall Not be Used'. The International Labour Organisation, meanwhile, aims to 'work towards the progressive elimination of child labour by strengthening national capacities to address child labour, and by creating a worldwide movement to combat it'. Good news for children everywhere, then.

The trouble is that Khalid doesn't agree.

SAVING THE CHILDREN?

Confusingly, the UK Save The Children Fund (SCF) has taken up Khalid's case. Take a look at their website (www.oneworld.org/scf) and you'll find Khalid's story. 'I stitch one football per day after school. Most of the people in my village stitch footballs. If there was a ban on child labour, most of the people in my village would go hungry.'

SCF, it seems, has decided that the issue of child labour is more complex than it first seems. Prompted by recent campaigns against

child labour that backfired badly, they have gone back to the drawing board. At the forefront of their minds was the debacle in 1994 when the US threatened to boycott garments made by children in Bangladeshi factories. Scared of losing business, the factories turfed nearly 50,000 Bangladeshi children, mainly girls, out of work. Most ended up breaking bricks for a living, or in begging, even prostitution. Rachel Marcus, research and policy adviser at SCF, says 'those who initiated the boycott believed they were combating an abuse of human rights. In Bangladesh it was seen as a case of Westerners selectively applying universal principles to a situation they did not understand'.

THE REAL EXPLOITATION

One might reasonably ask what an organisation called 'Save The Children' is doing apparently supporting the rights of multinational corporations to exploit the children of the poor rather than pay adult workers decent wages to do a decent job. But it is not alone in its rethink of what 'child labour' is. For in the 'Third World' attitudes to this subject are often very different – and Westerners parachuting in with their distinctly Euro-American views of the role of children in society are often seen to be doing more harm than good.

Take these words, from an editorial published in *Vigil*, the newsletter of a grassroots Indian NGO:

'No parent will willingly let their children toil for a pittance if they had the means to give them a good life. [But] How many campaigners stop to ask who deprived these parents of their means of livelihood and thus forced them to make their children toil? ... Only a total destruction of the monstrous economic system that dominates the earth today will help us put an end to child labour and starvation. This is what all well-wishers and friends of children in India and the world should strive for.'

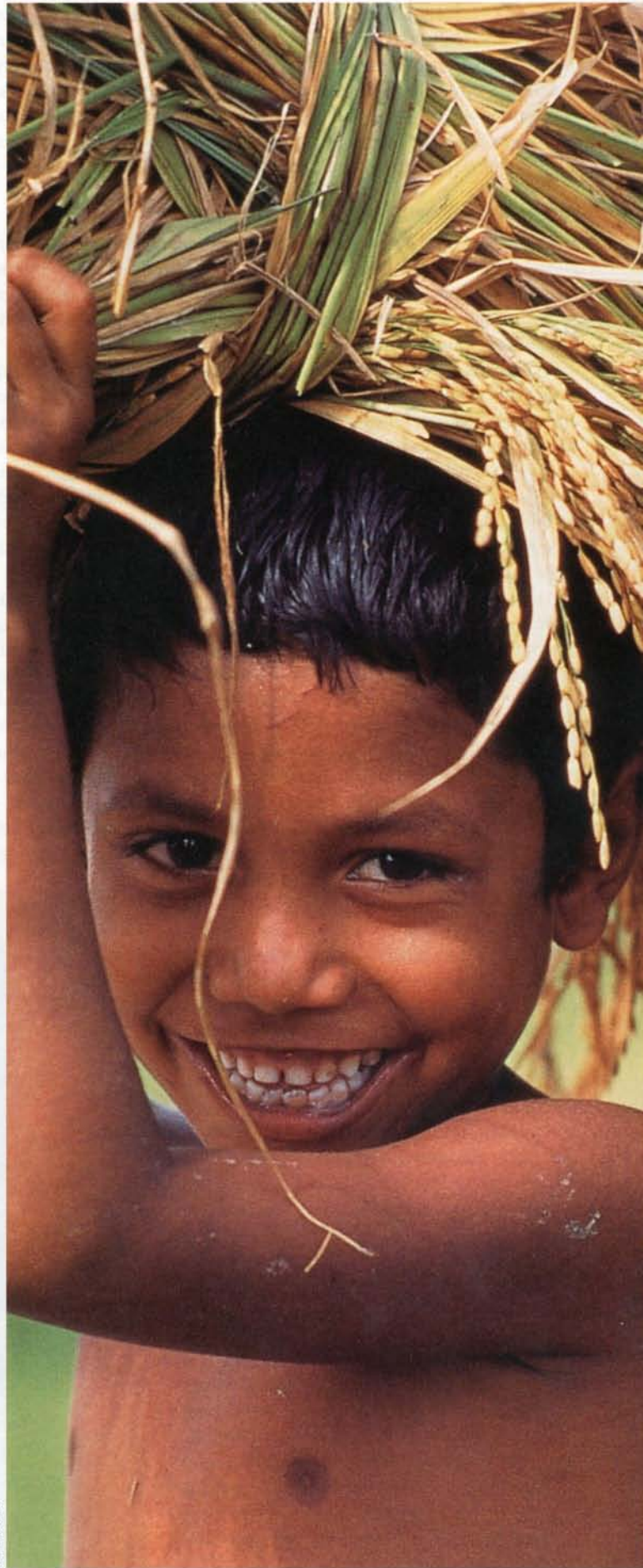
In other words, the type of 'child labour' exploited by multinationals is merely a symptom of an unjust economics that continues to exploit the poor. Banning that form of child labour will not tackle the root causes that brought it about in the first place – and it might even make the poor poorer. This is a message that many NGOs, studiously avoiding the economic 'big picture' in favour of sticking-plaster solutions, do not want to hear.

WHAT IS CHILD LABOUR?

But the issue of child labour goes much deeper than the high-profile exploitation of the young in the sweatshops of multinationals. In fact, a closer look at available statistics reveals that just five per cent of all the world's 'child workers' are involved in the production of internationally traded goods, such as the footballs and trainers that have caused such a furore in recent years. Many of the rest are working for their families, on the land, in small artisanal businesses, or as apprentices in trades that their families have carried out for generations. And some people are now arguing that attempting to 'ban' such work is not only a supreme example of Western cultural arrogance, but will also facilitate the destruction of small and local economies and aid the march of the global market.

In Ladakh, a small Buddhist kingdom in the Indian Himalayas, one mother, or 'Ama-Le', voices the concerns of many of the local people: 'Education is important,' she says, 'but we should not lose our agricultural way of life which has been practised for centuries. It is also an education to have knowledge about farming, cooking and gardening. Here, for instance, a man has to know a lot to run a home and farm, and women also have a lot of skills like spinning, weaving, cooking and maintaining relationships with the community.'

What, in other words, is 'labour' and what is 'education'? What is the proper role of a child in a community? What is educational and what is damaging? Who decides? These vastly complex questions go to the heart of the 'child labour' debate. ❖



STILL PICTURES

✦ Helena Norberg-Hodge, director of the International Society for Ecology and Culture (ISEC) which has studied the subject of children and work in Ladakh for many years, says the issue cannot be simply defined. 'There is a blanket assumption that wherever children work, it is an abuse,' she says. 'But working with the family and community helps to shape their identity, gives them a vital role in life and a feeling of responsibility and belonging.'

LEARNING BY EXAMPLE

She is backed up by what has happened to Ladakh since its children were taken from the fields and lined up on school benches in the name of progress. For high attendance at school and a low incidence of traditional children's work has had ruinous effects on both children and the community at large.

In Ladakhi culture, children used to play a valuable part working in the fields, and grew up learning skills such as threshing, planting and storing crops. They could milk and herd the dzo, the cross between a yak and a cow, that meets most of Ladakh's dairy needs. Today, few children can boast of any agricultural knowledge. Their time is spent learning geography, maths, Urdu and English instead. As Becky Tarbotton, also from ISEC, explains: 'Children go to school in summer and miss out on the harvest. They are losing touch with their roots, the skills of farming and looking after the land'.

Meanwhile, the 'education' is doing its pupils few favours. 'It is Victorian,' says Norberg-Hodge. 'Children are beaten into learning by rote. It is very crude.' The failure rate is 95 per cent. Even pupils who leave school with qualifications have no use for their knowledge at home. A few run businesses or become tour guides in the capital, Leh, but most are unemployed. 'School gives them the skills to go to Delhi and be unemployed,' says Norberg-Hodge. 'It is not giving them the skills to live in their locality, and live healthy, fulfilled lives.'

The results are two-fold. The impact on the community is vast – there is nobody left to look after agriculture in Ladakh which until recently was a self-reliant agricultural economy. The removal of young people from the fields is shaking Ladakhi culture and sense of identity. But the impact on the personal development of children is also significant. What they learn in school only serves to make them dissatisfied with the lives of their parents, and the traditional Ladakhi lifestyle. Tarbotton says: 'Their textbooks say that roads and dams are progress, so the children go home and think they live in complete squalor. Education has created a generation of young people who are dissatisfied with what they have but can't become stockbrokers in New York either'. As Norberg-Hodge adds: 'They are segregated into age-classes and learn to be competitive. They no longer exercise and run about, and symptoms of attention deficit disorder are showing. They feel ashamed of their unique culture. They are without a role in society – a role which Ladakhi children used to have'.

Yet, while the symptoms are there for Ladakhi parents to see, they continue to put hard-earned and scarce funds towards school fees. 'Everybody tells them that school is vital,' says Norberg-Hodge. 'The pressure comes from conventional development agencies, from the media, government, and foreign aid-workers in the field, who see any 'education' as a universal good.'

EDUCATION FOR POVERTY

While Ladakh serves to illustrate the point, rural communities all over the 'developing' world are undergoing these changes. Poor schooling is ruining the lifestyles of small-scale fishermen and farmers in China, Africa and Mongolia as children 'unlearn' traditional trades and join the rest of the class on the road to Western-style unemployment. It's hardly surprising that many parents fail to see the purpose of such a schooling. 'Why should kids read Neruda or go to the theatre if they're just going to end up picking oranges?' asks one exhausted Chilean mother. In the words of Mohamed Idris, co-ordinator of the Third World Network in Malaysia: 'The school education system as practised in most countries today is totally devoid of relevance to day-to-day life in rural areas, de-skills children and interferes with the agricultural system that is vital in rural communities.'

In the eyes of Jeremy Seabrook, an author and journalist specialising in development issues, the situation is ludicrous. 'Every country in the world is saying we must get an educated workforce, but what for?' he asks. 'Why is child labour such a terrible thing? At least they are learning something. If you look at the graduates joining the criminal sub-classes in Bangladesh and elsewhere in Asia because there are no jobs for them, you start thinking education is a hoax upon them. Are we to impose our own model of the West, where children lead lives of gilded uselessness, are turned into idle spending machines, suffering inevitable social diseases such as crime and eating disorders? For a child to have a function in society is no small thing.'

ASK THE CHILDREN

Duncan Green is author of *Hidden Lives*, a book that gives a voice to the children of Latin America and the Caribbean. In his research, he found that child workers often enthused about their jobs. Thirteen-year-old Marina, from Honduras, makes the dough in a tortilla market stall where her father is a porter. 'I like working,' she says. 'We were always bored at home. Here in the market, I see a lot of people,

not just my mother and brothers. At home there was nothing much to eat – here I eat all the time!'

This is a million miles away from working long hours in sweatshop conditions for the benefit of a foreign corporation. But the blanket Western horror of 'child labour', in Green's view, is Eurocentrism. In the West, we believe in happy, carefree young years, where children are left the space to play and learn, without work. But the vast majority of Third World child workers are involved in the 'informal sector', a catch-all category that includes those working on their own account, rather than for a wage. Much of this is family work, on small-scale farms, or in the urban informal sector like Marina. Green says that this can – under the right circumstances – be a good thing.

'The hours are flexible and can be fitted around school or other commitments,' he explains, 'and often it can take place under the supervision of a parent, relative or friend, which in Latin America's perilous streets is a reassurance to both family and the child.' He quotes one Lima woman who announced: 'I don't want my daughter to go out to work. The temptation of the devil is on all sides. I prefer her to sell potatoes here where I can keep an eye on her'.



STILL PICTURES

CHILDHOOD ECONOMICS

Just as the informal sector contains positive examples of working children like Marina, it also contains horror stories. But, though multinationals may employ only a small proportion of all the world's 'working' children, the global economy, skewed as it is in favour of big business, is still the main reason for genuine child exploitation. Every day, globalisation is swelling the ranks of exploited child workers. The ILO's Child Labour Programme admits that 'specific evaluations of the precise impact of globalisation on child labour have yet to be made'. However, as Green explains: 'most observers agree that the number of child workers is increasing and the reasons for the increase are not hard to find'.

Green takes Nicaragua as an extreme but illustrative example. After the election of the anti-Sandinista candidate, Violeta Chamorro, to the presidency in 1990, the country was rewarded with a rush of US and other aid. By 1997, the country had been flooded with nearly \$5 billion – but it came with strings attached, and the Government was forced to sign a series of agreements with the IMF, World Bank and others, promising to implement painful structural adjustment 'reforms' in exchange for aid.

The main aims of the reforms were to end hyperinflation and to turn Nicaragua from a state-led economy, dominated by government-owned farms, state-regulation and nationalised industries, into a system where 'market forces' decide the fate of the country. Under pressure, the Government raised interest rates and cut public spending to the bone, duly reducing inflation from 13,000 per cent to just 19 per cent by 1993. It privatised companies, removed trade and banking regulations, and pushed up interest rates to squeeze inflation out of the system.

The result was disastrous for Nicaragua. Interest rates rocketed. Lay-offs among thousands of state employees pushed unemployment up to 52 per cent. By 1994, three out of four Nicaraguans were living below the poverty line. The state, on the orders of the cash providers, ended all food subsidies and cut most school feeding programmes, so children ate less. Green says the results today are clearly visible. 'The social impact of such measures is felt throughout the country, not least in shanty towns like Acagualinca, next to the main garbage dump in the capital, Managua. Here, most bread-winners have lost their jobs in recent years, turning whole families into rubbish-pickers, scavenging the dump for recyclable materials.' That, unfortunately, includes children.

HYPOCRISY

Across the region, and indeed the developing world, governments have followed Nicaragua's example, enlisting aid by embracing the global market, to the delight of Western corporations and their governments. 'Growing poverty and inequality, combined with the rising cost of schooling as governments cut back on education spending and introduce user fees to parents, have driven families to pull their children out of school and put them to work,' says Green. This, then, is the face of genuinely exploitative child labour. And it is the result, not of 'backward' lifestyles or a lack of 'good' (ie Western-modelled)



education, but of exploitative global economics. And some see a clear element of hypocrisy when Western governments, even aid agencies and NGOs, offer solutions to the problem of child labour that ignore its economic root causes. As Seabrook puts it: 'No one – not UNICEF, not the ILO, not national governments, not NGOs – offers any alternative to these structures of injustice, other than platitudes about education and humanitarian pieties'.

He adds that the rich world is doubly hypocritical in offering solutions based on our own past, while forgetting the distinct advantages that we had when Lord Shaftesbury abolished child labour in the UK in the nineteenth century. 'We put our own child chimney sweeps in school by growing wealthy. And we grew wealthy in part from colonial extraction. That dishonesty lies behind all our recommendations and concerns on the issue of child labour.'

MAKING A START

For all the theories, the arguments and the complexities, there are at least some temporary solutions making a difference to children's lives. In Ferozabad, India, CRE-

ATE, an SCF partner, is helping glass-bangle producers to form co-operatives and deal directly with company owners, rather than middlemen. Through a combination of measures including skills training for older children and schooling for younger children, CRE-ATE is aiming to eradicate child labour in harmful operations such as welding, and is working with company owners to reduce the health hazards suffered by children working in the industry.

Projects like CREATE allow children and their families some flexibility in juggling work, school and home life. In Green's experience, consultation with children themselves often reveals that such a combination is what they enjoy most. Such consultation, which is a growing trend among agencies and NGOs, should also lead to an appreciation of the value of child work. As Green points out: 'When Paraguayan child workers were asked what they liked most about their lives, the most popular response was their jobs – well ahead of school, family and playing ball.'

But ultimately, the issue of child labour cannot be addressed without fundamentally re-examining the deeper currents and problems that contribute to its existence.

This means not only addressing the increasingly obvious inequalities of the global economy, but also questioning Western assumptions about the value systems and lifestyles of other societies, along with the homogenous view of 'education' which increasingly dominates around the world.

The real tragedy for the world's child workers is that, until such undercurrents are seriously addressed, positive steps to alleviate the misery of genuinely exploitative child labour – as opposed to valued and valuable child work – are likely to be drops in a bigger, darker and ever-expanding ocean. ♦

Beatrice Newbery is a freelance journalist specialising in development and gender issues.

IS PARLIAMENT THE BEST WAY TO ACHIEVE ENVIRONMENTAL CHANGE?

EFFECTIVE CHANGE: DOES IT COME FROM THE GRASS ROOTS UP, OR THE SEAT OF GOVERNMENT DOWN? CHARLES KENNEDY MP AND CAMPAIGNER ANDREW WOOD MOUNT THEIR OPPOSING SOAPBOXES.



Charles Kennedy is leader of the Liberal Democrats and MP for Ross, Skye and Inverness West. He is also party spokesman on agricultural and rural affairs.

Dear Andrew Wood,

Whether you live on a croft or on the 14th floor of a tower block, you are a steward of the environment on behalf of future generations – and it is emphatically the role of government to make every man, woman and child conscious of that responsibility.

The environment is regarded by the market as an externality, and therefore action by government to bring about change is essential. Politicians have the capability of getting the message across to individuals, communities and businesses that green politics are not part of the fringe. Politicians can convey environmental policies in terms of gain, not pain, and make people understand that their actions count as much as their opinions. If the decision makers and policy makers cannot rise to this challenge, there is little hope for change.

There is no denying that groups such as Friends of the Earth, RSPB and Greenpeace are very successful in pushing the environmental agenda forward. They have a role in raising awareness and campaigning for changes in policy, as indeed do opposition parties in Westminster. The difference between us is the various methods we each have at our disposal. The parliamentary process should not be underestimated as a tool for achieving change. Parliamentarians are lobbied heavily by pressure groups on a daily basis to focus pressure on ministers to influence policy. If they did not think the parliamentary process had anything to offer they would not engage in government relations.

That does not mean that the Whitehall machine delivers everything the environmental lobby desires, far from it. Politics is about compromise, but ultimately the political process can shape and develop policy before the ultimate decision is formulated and presented by government. And above all, politicians are accountable and subject to scrutiny.

At present people and businesses are not given the right incentives to protect the environment. Sustainable development is not built into economic activity and industrial decision-making. Natural resources are not used efficiently. Energy is wasted. Pollution is not included in the cost of making goods. This must change, and it requires a fundamental shift in the way economic progress is measured.

Governments can make this happen by leading by

example if we are serious about getting to grips with the causes of environmental destruction. We must stop treating the environment as an afterthought or a tag-on. The key is to understand that the environment is central to economic, social and health policy. The issues are interlinked and impact on all of our lives whether we are young, old, rich or poor.

But the environment is not just an issue for parliamentary institutions. We have a long way to go, and we must engage people in this crusade. My notion of democracy is not just about everyone having rights. It's also about everyone having responsibilities. We must make certain, in terms of the environment, that everyone knows what their duties are, and is given strong incentives to fulfil them.

I am optimistic that all this can happen – not least because I know that today's young people are very different from their parents. Even very young children have a depth and level of environmental awareness that is awe-inspiring. That, in turn, means that the Parliaments of the future will be forced to stick to the green road by a new generation of politicians, for whom the planet is a precious inheritance.

There is also a wider political issue. I firmly believe that politicians should engage with people on the issues that concern people. If the political process does not address environmental issues, then people will disengage from politics, as they will see it as irrelevant to their real concerns.

The environmental challenges we face today are as great and as real as the risks posed by nuclear arms and the Cold War between the 40s and the 80s. Recent events in Mozambique are a stark reminder of this.

Attitudes can certainly be changed, and Parliament is a strong vehicle for this. But the approach we employ is crucial to changing perceptions and achieving success. For example, climate-change policy is an opportunity for business and industry, rather than a burden. I accept that no amount of legislation is going to prevent people from owning or using cars, but that makes it all the more pressing for us to promote sustainable alternatives such as the use of fuel-efficient vehicles, and proper investment in public transport.

We must stop being timid. Fresh, inventive ideas are needed, and that is what the Liberal Democrats are contributing to the process. Having a healthy

YES

environment is an essential part of the Liberal Democrat aim of ensuring that individuals and communities realise their talents and take control of their destinies. Government has a vital role in making sure people have the information and alternatives on offer to choose a greener lifestyle. The potential Parliament has in meeting the environmental challenge is vast. Politicians must ensure this potential is harnessed and utilised to the fullest.

Charles Kennedy

Dear Charles Kennedy,

When supermarkets started emptying their shelves of genetically modified food, was that due to a government action or parliamentary legislation? No, it was due to consumer action in refusing to buy GM food products. When Shell decided not to sink the Brent Spar, was that due to government action or parliamentary legislation? No, it was due to a boycott of Shell by consumers.

Of course, this doesn't mean that consumers always act for the better. Indeed consumption and its consequences is one of the environmental problems which we face. But the point is that Parliament/government was ineffective in these cases, and it was consumers acting collectively which succeeded. When the Chancellor fails to introduce a pesticide tax, then it will be consumers again who reduce the use of pesticides by choosing organic foods.

What other ways can citizens take effective action? During the construction of the Newbury Bypass, over a thousand people were arrested as they took non-violent direct action to stop its construction. What other choice had they? Parliament was hardly galloping to their rescue. The public inquiry into the road's construction considered no other option than road building. And who was one of the loudest proponents of the road? Liberal Democrat David Rendel, MP for Newbury.

Meanwhile, the European Union has taken over decision-making on many environmental matters from the British government/Parliament. The EU is a legislator bound not only by the European Parliament but by co-decision-making with the Council of Ministers. Many other decisions made by the European Commission are not subject to parliamentary scrutiny at all. For each representative of an environmental organisation, there are literally hundreds of industry lobbyists. And when the clients of those industrial lobbyists are corporations whose turnover exceeds many countries' GDP (Mitsubishi's turnover exceeds the GDP of Norway) then it's easy to see why the environment often comes a poor second. Where there is economic power there is by definition political power.

Finally, let us not forget the 'revolving door' between government and industry – both in Europe and here in Britain. Power is increasingly ebbing from the British government/legislature. When in 1998 Jeff Rooker, the former Minister for Food Safety,

said of genetically modified crops that 'We're not in the driving seat on this one', then who did he think was doing the driving? The EU perhaps? The agrochemical companies? Either way, his statement was honest about the impotence of Britain's government to implement the will of its people.

Increasingly, the British Parliament/government is becoming ineffective as real power shifts to corporations and global institutions. When 60,000 people demonstrated on the streets of Seattle at the meeting of the World Trade Organisation last November, they did so because they knew that its decisions were consistently pro-business and anti-environment. Decision-making on trade by national governments has been surrendered to an organisation that is unelected, unaccountable and fails to enact the principles agreed at the 1992 Earth Summit. In a globalised economy, the ability of companies to play off one country against another does little to encourage rising environmental standards, instead creating a 'race to the bottom'. It's well and good for you to talk of legislation to incorporate environmental externalities in costs to industry, but what country will take this on when there are others that don't? Look how Gordon Brown backed down on the date and extent of his proposed Climate Change levy. I wonder why?

If we want to include environmental externalities in the company spreadsheet, then let me entertain you with a radical option. If the corporate veil of unlimited liability of companies were removed, then how would those company directors act when liability fell upon them personally? Proposals to impose liability on companies for damage caused by GM crops were rejected by the European Parliament. A similar private member's bill by Alan Simpson MP failed because New Labour, the party of business, would not support it.

I agree with you, Charles, about citizens having both rights and responsibilities. However, citizenship must be about active participation in democracy, and not simply the passive abdication of responsibilities to elected representatives. At times, this will mean taking action when government/parliament fails. And why should we expect anything more from such a blunt instrument as central government? Unless our local democracies are strengthened by greater autonomy and decision-making, central government actually prevents individuals and communities from exercising their citizenship. How many communities would like to introduce 20 mph speed limits in their local areas – and not just around schools as is proposed by central government? Why should those communities not decide such things?

Charles, I would love to think that young people today – the politicians of tomorrow – are more green-minded, as you suggest. But today's politicians are children of the sixties, who were also supposedly more green-minded than their parents. The problem is not the people themselves but the coercive straitjacket



Andrew Wood is a grass roots campaigner who opposed road and airport expansion at Newbury and Manchester. He has worked with Corporate Watch and most recently *genetiX snowball*.

NO

Direct action is not a political fad, but an economic and environmental necessity. Parliament must respond by taking tough policy decisions that are visionary and sustainable.
Charles Kennedy

of representative democracy as it exists today. When we have a truly participatory democracy, then those children of the flower-power generation can begin to bloom.

Andrew Wood

Dear Andrew,

I acknowledge the high-profile examples of consumer power that you refer to. The Government was slow to act on GMOs, but it was political pressure coupled with consumer pressure that put the issue on the agenda. I believe that the two processes are not mutually exclusive, they are indeed often complementary in achieving change.

You argue that Parliament/government is ineffective, yet consumers do not and cannot adopt all environmental causes. It is often only the big, single-issue campaigns that capture the media's attention and excite the public. Beyond the headlines and media frenzy, the parliamentary process is absolutely vital in taking environmental responsibility and accountability forward. For example, many newspapers are printed on paper consisting of over 50 per cent recycled paper; to rise to 70 per cent by 2006. People are not going to stop buying newspapers because they are not printed on recycled material – in truth the majority of the public have probably never even thought about it. But this is an excellent illustration of where pressure from government results in voluntary agreements with industry, introducing sustainable production processes.

That said, voluntary agreements are not always appropriate to encourage people to embrace environmental habits. Regulation and legislation are equally pivotal in the process of encouraging industry to adopt new responsibilities and practices. Parliament not only creates the regulatory framework, but is also the enforcer of obligations. Although environmental liability has not been imposed on seed producers for damage caused by GM crops, the Liberal Democrats support the proposal. It's our job as a political force to campaign for the law to be changed. I assure you, Andrew, that the show is not over yet.

You say that the EU is taking action on the environment and making decisions. What is wrong in that? I agree that EU institutions need to be more democratic and accountable, which is why the Liberal Democrats have been very vocal in calling for reform. But the environment is a global issue that does not adhere to geographical boundaries, and co-operation is required at international level. Let's not forget that before countries are allowed to join the EU they have to meet environmental criteria. Given the present climate of enlargement, it is important to ensure that new members take their environmental responsibilities seriously. Would they do it themselves if left to it? You must admit it's doubtful.

The Kyoto Protocol to reduce greenhouse gas emissions was not signed up to because of consumer/public pressure. It was because governments decided to

take action, accepting the evidence that human activity causes climate change. It was the first time that Europe acted as a political force internationally, with the UK Government playing a leading role. Targets have been set internationally, and the UK now has a binding treaty obligation to achieve a cut of 12.5 per cent below 1990 levels by 2010. This may not have been as radical as the Liberal Democrats would have wanted, but it's a step in the right direction. We must now all be on the Government's back at every opportunity to ensure that these targets are reflected in policy decisions.

Direct action is not a political fad, but an economic and environmental necessity. High-profile campaigns help enormously in emphasising the urgency of situations. Parliament must respond by taking tough policy decisions that are visionary and sustainable. Parliament has the tools to drive forward new ways of thinking about the environment, but, as you rightly point out, so do individuals. Andrew, we are all empowered to make decisions. I believe power should be devolved to the lowest level so people are empowered to take control over their lives. So let's pool resources and get on with the job in hand. There is not much time.

Charles Kennedy

Dear Charles,

Let me introduce you to Tanya Jowett, a young mother in Maidenhead, with a child at junior school. Faced with the problem of getting her child to school, she didn't reach for the car, nor complain bitterly then reach for the car. Instead she started the 'walking school bus'. On 8 June last year, 26 children, dressed in fluorescent green tops, walked to school in a line, accompanied by four parents. Like a bus, children get on and off the bus as they join or leave it from home.

The 'walking school bus' initiative (some would call it direct action) took, as Tanya Jowett said, 'one committed individual' to get started, but the participation of the wider community to succeed. The environmental benefits are obvious: fewer car journeys, safer streets, less pollution and healthy children – both physically and mentally. What has this got to do with Parliament? Nothing. And though they may not have realised it, those parents were quite literally exercising political power.

This is a local alternative to leaving it to the politicians. There are legal avenues too. When the European Habitats Directive was introduced, the British government set the marine area for which this was applicable to 12 miles offshore. It was only when that decision was challenged by judicial review that the applicable area was increased to 200 miles offshore. Thus it was legal action that delivered the 'better' environmental solution.

In 1998, John Prescott announced that radioactive discharges into the sea from Sellafield would be 'close to zero' within 20 years. Now, a glut of uranium on the world market means that reprocessing is uneconomical. As British Electric cancels its reprocessing

contracts with BNFL in favour of dry storage it seems it is economics rather than government action (or inaction) that will reduce Sellafield's discharges. But who got us into this nuclear mess anyway? Who subsidised this environmental nightmare over decades?

As for climate change – the environment movement has been raising awareness on this for 30 years. It was the resulting public pressure that brought governments to the negotiating table. It's encouraging that action is being taken internationally on climate change, even if it's not the 60 to 70 per cent cut in emissions of carbon dioxide needed to stabilise global concentrations. But what sanctions are applied if a country fails to meet its environmental commitments in this or other agreements such as the Convention on Biological Diversity? None. Compare that with the sanctions available if a country fails to meet its commitments to 'free trade' at the World Trade Organisation. Is this something the Liberal Democrats in government will seek to change?

In April, 13.5 per cent of BP-Amoco shareholders voted in favour of a resolution to 'cancel future drilling plans for the coastal plain of the Arctic National Wildlife Refuge, abandon their drilling plans for the offshore oil field at Northstar, and go solar'. The resolution may not have been successful, but are shareholder actions like this less valuable than parliamentary action?

And what do the wider public believe is the 'best way to protect the environment'? Recently, *Resurgence* magazine commissioned the NOP research group to put just that question to the public. Only 15 per cent of the public thought that 'writing to your MP' was most effective. 'Public protest or personal action such as joining a campaign group' was chosen by 24 per cent, while 32 per cent preferred 'boycotting products'. In total, 56 per cent of people want to take action themselves rather than leaving it to someone else. Is there anything left to discuss?

Andrew Wood

Dear Andrew,

A walking crocodile, or the walking school bus as it is otherwise known, is a excellent initiative that has been adopted as a joint project between councils, schools and parents throughout the country. Parliament has a wider role than to simply pass legislation. It has a part to play in recognising initiatives and encouraging council groups to share best practice for the good of the local community. What kind of democracy would we live in if people were not able to exercise ideas and solutions to the challenges they face in their everyday lives?

Andrew, politicians do not pretend to have all the answers. Let's examine the issue of nuclear power that you raise. I agree that the absence of a long-term solution to deal with radioactive waste is a very pressing concern, but we cannot just shut the door on Sellafield and throw away the key. Politicians, environmental groups and the nuclear industry must work together on a national and international plat-

form to tackle the issues of decommissioning, storage and the disposal of nuclear waste. Huge quantities of hazardous waste need to be dealt with for the sake of future generations, and all of us, as decision-makers in our own right, must ensure that we get it right.

Action by individuals is equally as valuable as action by Parliament. But progress will only be made through an integrated approach to saving the planet. You talk of legally binding environmental obligations, but only Parliament can create that framework. A Liberal Democrat government would press the WTO to give more weight to environmental considerations. We would also establish an 'Environmental Responsibility Act'.

So, at the same time as considering individuals vital in achieving environmental change, it is essential that Parliament provides the overall structure for legal and individual activities, applying pressure in the right places.

Charles Kennedy

Dear Charles,

I'm confused. You recognise the value of action outside of Parliament, yet I thought you were supporting the motion: Parliament is the BEST WAY to achieve environmental change.

When one considers the legitimacy of Parliament, it's ironic that it has largely come about through extra-parliamentary action: the Levellers, the Chartists, the suffragettes, etc. Parliamentarians in general have overlooked this and indeed legislated against it. Witness the 1994 Criminal Justice Act and its criminalisation of trespass, or the Terrorism Bill passing through Parliament which will potentially brand some environmental campaigners as terrorists and give the police greater powers over them than suspected serial killers. (To be fair, I believe Liberal Democrats voted against both sets of legislation.)

Of course reform of the WTO as you suggest is better than nothing – or is it? Isn't international trade inherently undesirable in terms of sustainability, involving movements of goods over great distances? Should not we be encouraging local and regional economies instead – the work of the New Economics Foundation in this respect is well worth studying.

Furthermore, when consumers and producers of goods become distinct then the power of those people, which includes us, is also inherently reduced. Shouldn't power reside in civil society rather than the institutions or corporations that mediate trade?

I've touched on a few of the ways of effecting environmental change outside of Parliament: direct action of various forms, consumer action, shareholder action, legal action and campaigning in general. Of course there are many others; I've not mentioned the arts: poetry, literature, etc; nor education; nor the work of conservation groups like BTCV, RSPB, RSPCA, etc. Curiously, membership of these bodies and other environment groups exceeds membership of all political parties. Need I say more?

Andrew Wood

When one considers the legitimacy of Parliament, it's ironic that it has largely come about through extra-parliamentary action: the Levellers, the Chartists, the suffragettes, etc

Andrew Wood



THE SPIRIT OF THE AGE

It is exactly 30 years since *The Ecologist* first waved its campaigning fist at the self-destructive tendencies of mankind. Much has been achieved since then; but much remains to be done. To open our anniversary special on the events and effects of the last – and next – three decades, Fred Pearce traces the magazine's history, successes, conflicts and influence.

In a world where even saving the planet can be made to sound mundane – a matter of switching off the lights and recycling old cans – *The Ecologist*, in its 30 years of fitful, fretful existence has always offered the wider picture, the apocalyptic vision and the intellectual pyrotechnics. It has championed big causes and made big enemies. Why take on mere governments when you can broadside the World Bank? Why tackle humble ecosystems when the real subject is Gaia herself?

The spider at the centre of this web throughout has been founder, publisher and sometime editor Edward, better known as Teddy, Goldsmith. His origins explain much about the eclectic and uncompromising makeup of the magazine.

The Goldschmidts were for centuries one of Europe's second-league banking families – poor cousins of the Rothschilds. In the late 19th century, Adolf Goldschmidt, grandfather of Teddy, came to Britain, bought an estate in Suffolk and set about becoming British. His son Frank went into politics, becoming, by 1910, the Conservative MP for Stowmarket. But anti-German hysteria at the start of the First World War forced him abroad where he ran a string of French hotels, and met a girl from the Auvergne called Marcelle Moullier, who became the mother of Teddy and his brother, the future financier James.

Back in England, Teddy sporadically studied Philosophy, Politics and Economics at Oxford before becoming disillusioned with the subject. He began a long period of reading and travelling the world alone or with his friend Jack Aspinall, during which his own highly personal world view was forged. Aspinall and Teddy shared a love of the primitive. Aspinall divided his time between his London gambling club and collecting animals for his zoo, Howletts near Canterbury. Meanwhile, Teddy's enthusiasms turned to anthropology. In the 1960s he served on the committee that founded the Primitive Peoples' Fund, which later became Survival International.

But he was developing 'green' views, too. 'I began to realise that survival of primitive peoples and of the environment were inseparable. Primitive people were disappearing; so was wildlife. I realised that the root problem was economic development. So I decided to start a paper to explore these issues.'

THE ECOLOGIST IS BORN

Goldsmith launched *The Ecologist* in 1970 on a wave of concern for the fate of the planet. Rachel Carson had published her seminal book on pesticides, *Silent*

Spring; British economist Barbara Ward had coined the phrase 'Spaceship Earth' in an equally influential work on the links between economics and the environment; in California biologist Paul Ehrlich had just brought out his controversial tract, *The Population Bomb*. The first issue of *The Ecologist* fizzed with these issues and many more. Its cover showed a man drowning in a sea of rubble, reaching out for a life-line. Its main features covered themes that would become familiar to regular readers.

There was the anthropological 'survival' strand, with Robert Allen reporting on Eskimos and the Alaskan oil boom, while predicting the Exxon Valdez pollution disaster of two decades later. Toxins featured in stories on the dangers of the drugs pumped into modern farm animals and on radiation being released into the atmosphere, with its warning of a Chernobyl-like disaster. There were two pieces on the number-one fear of the time: the population explosion. One, by Michael Allaby, asked 'can we avoid a world famine?' It concluded that the only way out was to reduce the world's population by at least a half.

Goldsmith himself wrote a piece entitled 'Cybernetics, society and the ecosystem', drawing together some of the ideas that nine years later formed the heart of James Lovelock's first book on Gaia, in which he postulated that the planet's biosphere operated as a single self-sustaining organism.

BLUEPRINT FOR SURVIVAL

The magazine hit the ground running. Within months it had carried a long tract called *A Blueprint for Survival*, written by Goldsmith and Allen, which was later published as a book, selling three-quarters of a million copies in seventeen languages. The money kept *The Ecologist*, whose own sales were poor, afloat for many years. It was a full-throated call for a new world order founded on zero growth, stable populations and the kind of small, self-sufficient communities that Goldsmith had seen in traditional societies on his travels.

In the years immediately before the first global oil crisis in 1974, the world's post-war economic juggernaut seemed unstoppable. But the *Blueprint*, and a similar manifesto to emerge in the US called *The Limits to Growth*, were the first detailed articulations of a new vision. And they hit the mood of growing eco-anxiety – appearing as both Friends of the Earth and Greenpeace were established, as governments in the US, Britain and elsewhere set up the first environment agencies, and in the run-up to the 1972



In the thick of it all: Teddy Goldsmith campaigning for the People Party in 1974 (top); with Jerry Mander, International Forum on Globalisation, and Mohammed Idris of the Consumers' Association of Penang in 1995 (centre); and with Jonathon Porritt in New Zealand in 1995 (bottom).

Stockholm Environment Conference – the first Earth Summit.

The *Blueprint* gained widespread support from such influential figures as Sir Julian Huxley and Peter Scott. Goldsmith was invited to meet Britain's first environment secretary Peter Walker to discuss the implications. 'At the time, we genuinely believed that if politicians were alerted to what was happening to the planet, they would do something about it,' Goldsmith says now. He is no longer so trusting.

The *Blueprint* called for the formation of a 'Movement for Survival.' This led directly to the creation in Britain of the People Party, later renamed the Ecology Party and later still the Green Party. Goldsmith stood for the People Party in his father's old Suffolk constituency in the 1974 general election, campaigning against industrial agriculture with a camel supplied by Aspinall that bore a sandwich board reading 'No deserts in Suffolk. Vote Goldsmith'. He lost his deposit.

Sensing the tide turning against them, Goldsmith and the *Ecologist* team retreated from London to a group of small Cornish farm cottages – a small, largely self-contained community from where the magazine sought to practise what it preached.

THINKING THE UNTHINKABLE

Inevitably, there were feuds. Michael Allaby, who joined Goldsmith in Cornwall as managing editor, remembers: 'Over the months that followed I found it increasingly difficult to work with Teddy. There were many rows. I disagreed with more and more of his views.' There was an article by Robert Allen that appeared to support Pol Pot's Khmer Rouge in Cambodia, a dispute about Darwinian evolution and more.

According to Peter Bunyard – who besides Teddy is the one person to have contributed editorially to the magazine throughout its life – many of the rows related to 'Teddy's deterministic adherence to the notion that traditional societies alone have the key to sustainable living'. But Goldsmith's unshakeable belief on this point was the grit in the oyster. And other later-influential figures joined to replace those lost. Nick Hildyard, for instance, who worked full-time for the magazine for 20 years, much of that time as editor, arrived after being inspired when Goldsmith and his team visited his school to discuss the *Blueprint*.

The test for any magazine with radical pretensions is not its ideological purity, or whether its determination to pursue its radicalism lures it into occasional unhealthy alliances. The test is whether it becomes a place where new ideas can flourish and find expression. And, when the time comes, whether it can renew itself. Here *The Ecologist* has been spectacularly successful.

First to say...

THE Ecologist

INDUSTRIAL FARMING: 1970

'The use of fertilisers is limited because pest species develop immunities to them, and the cost to the environment and possibly to the health of man is too high to be borne.'

GETTING THERE FIRST

Graham Searle, founder of Friends of the Earth in the UK and an early associate editor, was able to say on the magazine's 20th anniversary in 1990 that the early editions 'contained virtually all the issues we are talking about now'. He might have added that it was by then full of many ideas that Friends of the Earth, Greenpeace and others would only latch onto far into the 1990s.

For any environmental journalist, myself included, a rummage through

30 years of the magazine is a salutary experience. Global warming, the destruction of rainforests, the politics of seeds and genetic modification, the economics of nuclear power, the lethal impacts of large dams, the apparent impossibility of reforming the World Bank – all are topics on which *The Ecologist* ranged far and wide years before the rest of us caught up.

It was discussing climate change during the African droughts of the mid-1970s, at least 10 years before the topic became common currency. The world woke up to the crisis in the world's rainforests in the late 1980s, but look through *The Ecologist* and you find a cover feature entitled 'Who's destroying the rainforests – peasants or profits?' back in 1982. Not only had it identified a critical global problem, it had tied down a central dilemma in addressing it.

Or take the issue of large dams. For many years environmentalists had liked dams. They appeared to be temples of clean, renewable energy. They provided water for the 'greening of the deserts'. A few lovers of wilderness shed tears over the loss of a particularly beautiful valley beneath a reservoir. But wider environmental and social issues were barely discussed. Until, that is, Goldsmith and Hildyard went to work.

It was around 1980 that Goldsmith, during one of his periodic bouts of wanderlust, stumbled on plans to flood valleys in Sri Lanka for a complex of hydro-electric dams known as the Mahaweli scheme. He was appalled at the destructive folly of it. 'These dams destroy so much in return for a few decades of electricity,' he said later. 'I came back from Sri Lanka determined to fight such projects.'

And he did, to immense effect. Over the next four years, he and Hildyard commissioned an extraordinary series of papers from around the world on the social and environmental impacts of large dams. What emerged was a picture that previously very few had even suspected – that most dams in most places at most times do more harm than good, using State power to steal the ecological wealth of rivers from poor, rural communities and redistribute it to the rich, urban and landed. In case after case, the academic contributors demonstrated the scale of environmental destruction

First to say...

THE Ecologist

WATER SCARCITY: 1970

'Large scale irrigation will produce violent ecological changes whose results are largely unpredictable, and will place an intolerable strain on water resources.'

'Every time I get the latest issue of The Ecologist I feel a great surge of gratitude for its integrity, uncompromising radicalism and sheer bloody-mindedness! It was one of the formative influences on my thinking thirty years ago, and still is today'

Jonathon Porritt

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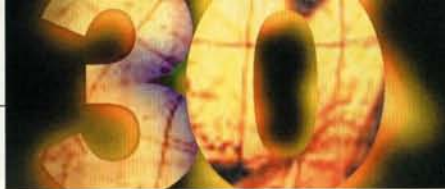


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✦ affecting the lives of millions of people, the spread of disease and corruption and the unfulfilled promises of the engineers.

Goldsmith and Hildyard underlined these themes in a three-volume book published in 1985, which became a seminal text for what has become a worldwide movement to oppose large dams. As Phil Williams, a hydrologist from California, put it in his introduction to *The Social and Environmental Effects of Large Dams*: 'Dams transform the social life of a country, destroying indigenous, traditional cultures and accelerating the change to a cash economy centred on cities... The promise of radically changing a country's economy is frequently used to justify the destruction of communities, ecosystems and traditional agricultural systems.'

This analysis is now accepted wisdom in the environment movement. But 20 years ago, it was not. And it was the energy and single-mindedness of *The Ecologist's* critique that set the new paradigm. Many 1990s campaigners against dams on the Narmada in India or the Three Gorges mega-project in China, US greens working to tear down old dams in the mid-west, and British opponents of the Ilisu dam on the River Tigris in Turkey, will be unaware that in all probability none of this would have happened but for *The Ecologist's* pioneering work.

ECO-NOMICS

The Ecologist has also been remarkably good with its economics. It got dams right. It also long argued the case that nuclear power made no economic sense. 'We exposed the fallacy of cheap nuclear power and anticipated the City's analysis by eight years,' says Bunyard. Emboldened, it attempted a similar destabilising act on the World Bank itself. Many environmental and other groups, anxious not to be seen as opponents of economic development in poor countries, continued for many years to try and seduce the bank into greener ways. *The Ecologist*, having no truck with the conventional development agenda, had no time for its agencies either. It broke with the post-war economic consensus of the World Bank and IMF, Bretton Woods, the Marshall Plan and the rest long before most greens.

'Development may be designed to combat poverty,' Goldsmith wrote. 'But it is in fact creating poverty. The main cause of poverty today is environmental degradation caused by economic development. Most people who live in the world's great slums and shanty towns are development refugees.' Only at the World Trade Organisation conference in Seattle last year did many environmentalists catch up with that analysis.

The magazine thundered in an open letter to the World Bank's President Barber Conable in 1987: 'More than half of the inhabitants of the third world live

outside the market system. Such people you cannot and never will be able to help. All you can do is further impoverish them by financing projects that must deprive them of their basic resources, such as the natural forests, fertile land and uncontaminated water.' Goldsmith's authority, which by now included many friends on Capitol Hill, ensured that the Bank's President replied in detail, knowing full well that the magazine would print a withering riposte on the facing page.

It was not just the Bank. Globalisation was emerging as the real target of *The Ecologist*. It was the unifying theme behind opposition to nuclear power and the green revolution, world trade and large dams, deforestation and consumerism. And the anti-globalisation agenda also helped the magazine to declare as bogus the arguments of other greens. Some, for instance, became seduced by 'green consumerism' in the late 1980s – on the back of the runaway success of a now-forgotten book, *The Green Consumer Guide*. *The Ecologist* had no truck. 'Underlying the current green consumer boom,' it wrote in 1989, 'is the idea that with careful housekeeping, we can somehow have our cake and eat it. [This is] no different to a belief in perpetual motion.'

CHANGING TIMES

The Ecologist has always taken itself very seriously. By and large it has been right to do so. Its fire, intellectual verve and occasional fanaticism are almost unique in British journalism. But such serious purpose can create problems.

Some, for example, have found that Goldsmith's lifelong search in print for a 'bio-ethic' has sometimes got in the way of the campaigns. Bunyard puts it best. 'Teddy sees wisdom and purpose in the universe and that in a series of nested levels the purpose of the parts is to shore up and maintain the whole. Hence the need for a stable family to shore up the community, and the community the environment of which it is part. Such a way of thinking upsets those post-modernists who muddy the waters with their cultural relativism.'

Through the late 1980s and early 1990s, this theme became increasingly at odds with Hildyard's emerging agenda on 'Third World' development, in which he sought hard to make the magazine serve progressive community groups round the world and to give them a voice. He embraced feminism and fought racism. He was proud that its offices became the temporary headquarters of the Twyford Down anti-motorway protesters, while still helping to sustain anti-logging tribespeople in the Borneo rainforests and anti-dam protesters in India.

'It took me a long time to realise the power the magazine had and to use it in a way that is sensitive to the needs of movement building,' he says today. 'We never went for newspaper headlines – no doubt to the detriment of sales.'

For some this earnestness made the magazine boring. It could be. It could also trigger conflict. And after many years of working together, Hildyard and

First to say...

THE Ecologist

PCB POLLUTION: 1971

'A very disturbing finding about the biological effects of PCB is that they can have an insidious effect on hormonal systems.'

'For years The Ecologist has been the first on the scene, covering issues long before they have been understood or even registered by the rest of the media. It remains far ahead of its time, provocative, profound and visionary'

George Monbiot

First to say...

THE Ecologist

GENETIC ENGINEERING: 1977

'In the face of all the ethical difficulties that genetic engineering creates... we should take a long, hard look at it before it goes any further.'



First to say...

THE Ecologist

RAINFOREST

DESTRUCTION: 1980

'If present trends continue... there will be no more tropical moist forests in 60 years' time.'

Goldsmith's diverging political views made it inevitable that at some stage they would part. That parting came in mid-1997, when Hildyard and fellow editor Sarah Sexton left the magazine, claiming irreconcilable differences with Teddy Goldsmith.

STILL STANDING

The magazine is now in the process of being reborn – as all magazines must. Its cover rubric says it is 'rethinking basic assumptions'. It looks more like a conventional monthly magazine. It even has a science editor – the evergreen Peter Bunyard. But that is not to say scientists get an easier ride. Especially cancer scientists. Ask their doyen Sir Richard Doll, a pioneer in identifying links between smoking and lung cancer. His assertions that environmental pollution is a minor cause of cancer earned him the epithets 'defender of corporate interests' and 'questionable pillar of the cancer establishment'. He responded by calling *The Ecologist* 'a child's fiction magazine'.

The magazine has noticeably returned to the warpath on issues of immediacy to its European and American readers, including the toxic threats of life such as dioxin and radiation, while retreating as a mouthpiece for development issues in the poor world. But the eclecticism remains. Recent features include 'Maori Religion and the natural world', 'The Cosmic Covenant', 'The madness of nuclear energy' and 'In bed with Dr Jack [Cunningham].'

But some things don't change. The estimable

Richard Willson still does the cartoons. Indian radical green feminist Vandana Shiva may now be a star name writer, her name emblazoned on the cover - but it was *The Ecologist* in its less headline-grabbing days, that gave Shiva the column inches to become a fully-fledged mainstream pundit.

And even disgruntled ex-editors have been quick to praise recent coverage of climate change and the 'headline-grabbing' Monsanto Files, which pursued the company's record through a checklist of issues from Agent Orange and PCBs to herbicides, genetic engineering and 'terminator' seeds. The investigation resulted in an issue so caustic that big magazine distributors refused to handle it. Its uncompromising opening lines: 'Genetic engineering threatens to upset the Earth's ecological balance, and to undermine the livelihoods of millions of people around the world. It is a technology that is almost entirely controlled by a handful of giant transnational corporations, and its effects are often irreversible' could have come out of any era of the magazine's past.

Indeed, the new *Ecologist* looks remarkably like the 1970s version with a design and journalistic makeover. The magazine that has championed rickshaws and the Khmer Rouge, Zulus and Gaia, peasants and feminism, sterilisation and rainforest rubber tappers, is not done yet. ♦

Fred Pearce is a regular contributor to New Scientist and a long-time reader of The Ecologist.

WAY BACK WHEN...

Co-founder Peter Bunyard (left, with Teddy Goldsmith) remembers the magazine's origins, and wonders how the world has changed.



Like a bombshell, early in 1969 an article appeared in the *Sunday Times* colour supplement, which spoke of unbelievable atrocities committed by government authorities, especially the Agency for Indigenous Affairs (FUNAI) in Brazil. Norman Lewis, the author, told of disease-infected blankets dropped from the air, machine-gunning and even bombings carried out against indigenous tribes in the Amazon. It was horrendous stuff. One result of this revelation was Survival International (then, can you credit it, known as the Primitive Peoples' Fund).

Another was *The Ecologist* and, as the first editors and contributors, we used to meet in the same building as our anthropologist brethren, down Craven Street, just off London's Charing Cross Road.

What has really changed since then? One thing is for sure; we are far more enlightened about environmental issues than we ever were in 1970. Global warming didn't exist then – not as an issue – and the ozone hole hadn't appeared like an unseen curse above our heads. Nor did we have the London Dumping Convention, the International Whaling Commission,

the Montreal Protocol, the Biodiversity Convention, the Convention on Climate Change and a host of other treaties.

But has all that flurry of post-1960s activity changed much? Or are the current number of environmental organisations simply a reflection of the poor state of the world? Like the supposed final triumph of communism when the state is no longer required, we environmentalists should welcome our obsolescence – the time when we are no longer needed to shout at the WTO, or root up genetically-modified organisms. But it's not yet time for us to retire: for the human impact on the planet is greater than ever.

We humans have now transformed 50 per cent of the planet's land surface, with all that entails in terms of loss of forest cover and extinctions. We are contaminating 50 per cent of all freshwater sources. In less than a century one-quarter of all bird species have become extinct. We now use more than two-thirds of marine fish resources. The rate of global warming is unprecedentedly high. As if this wasn't enough, we can add acid rain, ozone holes, and massive amounts of PCBs and other chemicals swilling around our rivers and oceans. It's not a pretty story.

It all takes me back to the people of the Amazon, such as those with whom I have stayed in the western reaches in Colombia. Their ecological 'footprint' has been negligible, or even non-existent. It is possible to improve, not destroy, this planet we all find ourselves on. It is possible to learn from it, respect it. It can be done. The question is whether modern humanity can learn this lesson in time.

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TIMELINE: Key Events in the 1970s

GLOBAL ENVIRONMENT



1971

Agent Orange defoliant spraying ceases in Vietnam after studies show health effects on servicemen (not to mention the Vietnamese and Cambodians being sprayed). It was the biggest sign yet of the predictions of Rachel Carson in her book *Silent Spring* coming true. Other persistent organic pollutants such as DDT soon join the banned list.

1973

CITES signed. The conclusion of the Convention on Trade in Endangered Species recognises that world trade is a major cause of species extinctions. CITES bans trade in animal products such as tiger skins and turtle shells, while imposing controls on other trades deemed to threaten plant and animal species.

1973

Trans-Amazon Highway completed. Roads destroy rainforests by providing access to the jungle for loggers, ranchers and the landless poor. The first Trans-Amazon Highway opens up an orgy of forest destruction in the world's largest rainforest, home to up to half of the world's species.



1973

Sahel drought. Famine kills millions across a wide area of arid Africa. Some blame a change in the continent's climate, warning that it may be part of a global climatic shift. Others blame overgrazing. All agree there is widespread ecological breakdown, a phenomenon quickly titled 'desertification'.

THE ECOLOGIST



1972

'A Blueprint for Survival' published in the January issue of the magazine. It goes on to become one of the decade's most important environmental books, selling 120,000 copies in 17 languages, and influencing the formation of Green Parties around the world.

1972

Ecologist editors among the founders of the UK Ecology Party – later to become the Green Party.



July 1970

First issue launched by Edward Goldsmith, Peter Bunyard, Michael Allaby and Robert

Allan. 'The Planet Earth is unique in our solar system in displaying those environmental conditions required to sustain complex forms of life,' writes Goldsmith, going on to describe Man's effects on the planet as 'cataclysmic.'

ENVIRONMENTAL MOVEMENT

1971

Formation of Greenpeace and Friends of the Earth International, which become the dominant environmental campaigners of the following three decades. Greenpeace is the reformation of the Don't Make a Wave Committee of Vancouver, which opposed nuclear testing in the Pacific. FoE is a radical splinter of the US Sierra Club.



1972

Limits to Growth published. Authors Dennis and Donella Meadows make early computer projections of global trends in population, pollution and scarcity of raw materials and predict a population crash and ecological meltdown unless pollution is severely curtailed. Backed by an Italian millionaire and his private foundation The Club of Rome.



1972

Stockholm Environment Conference. The first 'Earth Summit', it has a huge public impact. Makes first call for a whaling moratorium. Creates the UN Environment Programme and leads to the first Green Party, in New Zealand. Its warnings are widely ignored after 1974 oil crisis brings economic growth to a juddering halt.

1973

Small is Beautiful published. Subtitled 'a study of economics as if people mattered', EF Schumacher's visionary book links environmental thinking and opposition to globalisation – laying the intellectual groundwork for Seattle 26 years later. Schumacher is also founder of Intermediate Technology and President of the Soil Association.

The rising tide of environmental destruction and economic inequality over the last three decades has sparked the rise of a new and radical political movement – the greens. The progress of *The Ecologist* has mirrored, and even spurred, that development. Over the next six pages we trace the progress of the global environment, the green movement, and *The Ecologist* itself, since 1970. Research by Fred Pearce.



1974

First oil crisis. OPEC nations impose huge rises in oil prices and trigger a halt to post-war economic growth. Many fear the moment marks the end of a world of cheap and plentiful resources. But later, global markets reassert control, causing poverty and debt in poor nations dependent on selling resources to survive.

1976

Seveso accident. Dioxin is released in an industrial accident at a pesticides factory in the Italian town. Already known as the most dangerous compound in Agent Orange, it now becomes known as mankind's most deadly chemical and is subsequently found in humans and animals worldwide. How many does it kill? Nobody knows.



1977

Love Canal. Rising concern about dioxin and related chemicals is heightened by the discovery of leaks from a chemical dump in the US into the basements of houses built on top. Triggers the hugely expensive 'Superfund' programme in the US to detoxify chemical dumps and contaminated land, and similar programmes in Europe.

1979

Three Mile Island. Major accident at a US nuclear power plant. Meltdown almost occurs as cooling systems fail after emergency shutdown of reactor. Massive radioactive releases narrowly avoided, but public confidence in nuclear power is fatally undermined and new plant orders in the US almost cease.



1973

The magazine moves from London to Cornwall, where the editors set up the Wadebridge Ecological Centre to help put sustainable living ideas into practice.

1975

Teddy Goldsmith returns from a five month stay with the Gandhi Peace Foundation in India to produce a special issue of the magazine on the continuing relevance of Gandhi's ideas.

1975

'Atlanta 2000' conference on building a green future and responding to the energy crisis. Teddy Goldsmith a key speaker, with David Brower, head of Friends of the Earth and other key greens.



1977

Special issue on 'The Future of America', dedicated to President Jimmy Carter. It is a manifesto for a sustainable US future, which is also presented at a conference in the US chaired by leading ecologist Eugene Odum.

1978

The *Ecologist* splits in two. The *Ecologist* becomes a more detailed quarterly, while The *New Ecologist* becomes a monthly, more mainstream magazine. The experiment lasts less than a year.



1975

Greenpeace's first anti-whaling campaign sets sail from Vancouver. By taking camera crews and physically putting themselves between harpoon and whale, Greenpeace's eco-warriors give the public a heroic icon of environmental activism far removed from the old images of sandals, brown bread and paper recycling.



1977

Green Belt Movement established in Kenya. Africa's first genuinely non-governmental environment group is formed by a woman, Wangari Maathai (left). It pays poor rural women to plant trees across the country to protect their farms from soil erosion and desertification. Over the next 20 years, more than 20 million trees are planted.

1979

Die Grünen founded. Though not the first Green Party, the German Die Grünen swiftly becomes the biggest and most influential, riding a tide of opposition to pollution in the heart of Europe's post-war 'economic miracle'. Soon winning parliamentary seats, the Greens are the heirs to 1960s student protests and the anti-nuclear movement.



1977

Windscale Inquiry starts. Greens scale new heights in public debate when the long public inquiry into nuclear reprocessing at Windscale (now Sellafield) is dominated by FoE, whose opposition is based as much on economics as safety. FoE loses the inquiry but wins the argument. The resulting THORP plant remains a lame duck.



TIMELINE: Key Events in the 1980s

GLOBAL ENVIRONMENT

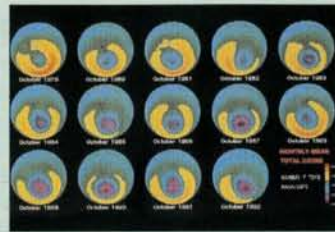
1982

Acid rain scandal in Europe. Widespread tree deaths in Germany caused by air pollution trigger major electoral gains for Die Grünen in 1983 and add to pollution fears raised by fish deaths in acid streams and lakes in Scandinavia. Most of Europe joins '30% Club' of nations committed to cutting acid emissions from power plants.



1984

Ethiopian famine. The second great famine in Africa in just over a decade brings growing concern about climate change. The drought belt of Africa has had almost two decades of exceptionally dry weather. And it is clear that traditional coping strategies among poor farmers and herding communities have broken down.



1985

Ozone hole observed. British scientists in Antarctica discover a gaping 'hole' in the stratospheric ozone layer above the continent. In it, the majority of the ozone that shields the Earth from dangerous ultraviolet radiation is destroyed. It emerges that the culprit is man-made chemicals, especially CFCs, confirming a theory first propounded in the 1970s.

1986

Chernobyl. The world's worst nuclear disaster, with an expected final death toll numbering 10,000 or more, occurs at a power station in Ukraine. The accident, not acknowledged by Soviet authorities until the fallout cloud passes over Scandinavia, confirms fears about the worsening environmental crisis in the Soviet empire.

1980

A special issue containing a detailed 'Plan To Save the Tropical Forests'. The plan is signed by eminent ecologists and conservationists from around the world. The magazine sets up the World Ecological Areas Programme to push for the plan's acceptance.

THE ECOLOGIST



1984

Teddy Goldsmith and Nicholas Hildyard publish the first volume of their groundbreaking three-volume study of the effects of large dams. It inspires anti-dam protests around the world.



1981

The Ecologist sets up the Committee on the Future of Nuclear Energy, which produces a report exposing the economic fallacies underpinning nuclear power. The report is presented to parliament by former energy minister Tony Benn.

1985

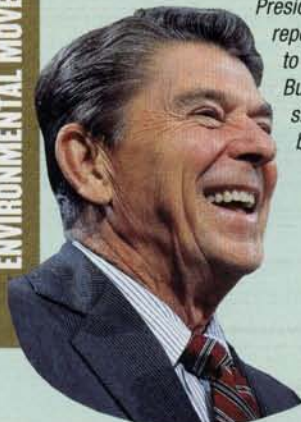
The magazine features responses from prominent world figures – including Margaret Thatcher, the Minister for Overseas Development and the World Bank's President – to the magazine's recently-launched campaign against the World Bank.

ENVIRONMENTAL MOVEMENT

1980

Global 2000 report published. It is the first government report forecasting ecological crisis, drawn up by US scientists over three years.

President Carter receives the report, as he leaves office – to be replaced by Ronald Reagan. But its warnings of raw materials shortages prompt a US buildup of 'strategic metals'.



1984

Danube Circle formed in Hungary. The most potent East European green group, it opposes the Nagymaros dam on the beautiful Danube Bend. Taps political dissent and brings huge demonstrations to the streets of Budapest. Defeats both the dam and Communist rule in Hungary, leading to a domino effect among neighbours.



1980

Polish Ecology Club formed. Through the 1980s, environmentalism is a focus of opposition to Communist rule in Eastern Europe. The Polish Ecology Club is the pioneer, formed by supporters of the Solidarity movement, initially to oppose Krakow's horrendous air pollution. Survives after Solidarity crushed, and shapes green agenda for reformists in 1989.

1985

Rainbow Warrior sunk. French government commandos attach limpet mines to the hull of the Greenpeace flagship as it sits in Auckland Harbour, New Zealand, preparing to harass French nuclear tests at the Mururoa atoll in the Pacific. The boat sinks and one crew member dies in the blast. International outcry.

The 1980s was the decade of Thatcherism, Reaganomics and the ruthless expansion of the global market. It was also a decade of rising environmental concern, as ozone loss, rainforest destruction and the first signs of global warming sank into the public consciousness, and the greens began to register on the political radar.



1987

Montreal Protocol signed. Scientific concern that the whole of the ozone layer could soon disappear forces governments to agree an emergency phase-out programme for the most damaging chemicals – but only after major manufacturers such as DuPont and ICI withdraw their opposition at the last minute.



1988

North Sea seal deaths. A mystery epidemic kills 18,000 seals in the North and Baltic Seas. Canine distemper is later diagnosed, but a buildup of poisonous organic chemicals is widely blamed for disabling the seals' immune systems. An upsurge in unexplained deaths among other marine mammals may have had a similar cause.

1989

Fall of Berlin Wall. The collapse of Communism and the symbolic fall of the Wall follows the mass emigration of East Europeans via Hungary, where a government undermined by environmental campaigns opens the borders to the West. Greens are prominent among opposition groups in several countries who took power.

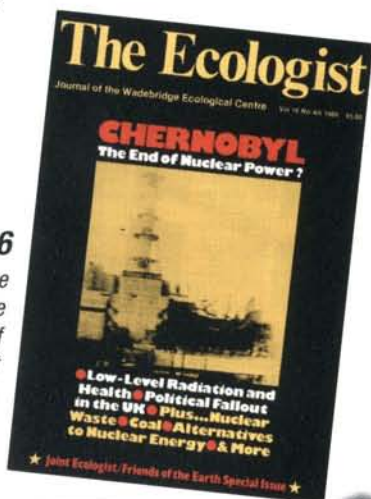


1989

Exxon Valdez. A tanker carrying crude oil from Alaskan oil fields runs aground in Prince William Sound, releasing 12 million gallons of oil across a huge area of pristine Arctic habitat. The clean-up bill is dwarfed by compensation claims from fishing communities and others whose lives are wrecked.

1986

One thousand copies of an issue focusing on Indonesia's destructive transmigration policy are smuggled into Indonesia. Some are obtained by the government, and the dictator Suharto declares that *The Ecologist* is a 'conspiracy' against his regime.



1986

A special issue of the magazine focuses on the after-effects of the Chernobyl disaster – the like of which it had been warning about for more than a decade.

1989

Editor Nick Hildyard attends the Altimira gathering of Brazilian Indians in Brazil protesting against rainforest destruction.

1989

At the height of the global concern about rainforest destruction, *The Ecologist's* editors invade a session of the UN Security Council with a 3 million signature petition urging the UN to act on forests. The Secretary General is forced to concede a meeting with Teddy Goldsmith to discuss the issue.



1986

Whaling moratorium signed. After a long campaign by several environment groups, the International Whaling Commission imposes a moratorium on commercial whaling. Critics say the coup shows how environment groups could 'capture' an international body set up to manage wildlife stocks.



1987

Brundtland Report published. The UN's World Commission on Environment and Development, under Norwegian prime minister Gro Harlem Brundtland (above), puts forward a strategy for 'sustainable development', arguing that economic growth and environmental protection can coexist. Thus sets framework for 1992 Earth Summit.

1988

Green Consumer Guide published. The UK publishing phenomenon comes at the height of Thatcherite consumerism and suggests you can 'buy' environmental protection. Various 'green' consumer products are launched in the following months and a new group, Ark, is formed to both campaign on green issues and market green products.

1989

Crescendo of environmental activity worldwide (and the British Green Party winning 15 per cent of vote in European elections) pushes governments into a range of promises, including saving the Amazon rainforest and halting the pollution that causes climate change. More tangibly, international trade in elephant tusks is banned.



TIMELINE: Key Events in the 1990s

GLOBAL ENVIRONMENT

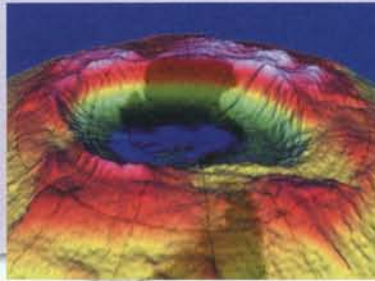


1991

Gulf War unleashes oil fires. Saddam sabotages the oil wells of Kuwait during the Gulf War. Fires burn for many months, unleashing clouds of black smoke across the region, causing lung diseases and polluting the desert with oil lakes. Allied bombing releases more oil into the Gulf.

1992

Now an Arctic ozone hole. Though less deep than the Antarctic hole, the first appearance of an Arctic hole threatens heavily populated areas as far south as the British Isles, reviving fears that UV radiation streaming through the thinning ozone layer may be partly to blame for a rising toll of skin cancers.



1994

Desertification Convention signed. Growing concern about environmental degradation in the dry lands of Africa triggers the signing of the Convention, which was promised to Africa during the 1992 Earth Summit. But donors fail to back the treaty with cash.

1994

Uruguay Round concluded. The long-running world trade talks conclude with the creation of a World Trade Organisation with wide powers to force countries to open their borders to all and any trade in the post-Cold War 'new world order'. The decision is condemned by environment, consumer and labour groups.

THE ECOLOGIST



1990

Teddy Goldsmith, Nick Hildyard, Peter Bunyard and Patrick McCully launch '500 Days to Save The Planet', an *Ecologist* book which sells over 350,000 copies.

1990

The magazine produces a special issue on GATT and the dangers of globalisation, more than half a decade before the wider green movement catches up.

1991

Publication of Teddy Goldsmith's book *The Way – An Ecological World View*.



1992

The Twyford Down anti-motorway campaign, the first of the British road protests of the 1990s, is briefly based in *The Ecologist's* office in Dorset, and supported by the editorial team.

ENVIRONMENTAL MOVEMENT

1990

First report of the UN's Intergovernmental Panel on Climate Change. It finds that the greenhouse effect will raise global temperatures – and that a recent warming trend could have been due to human activity. The 'consensus report' is a landmark for environmental scientists acting in unison to advise the world.



1992

Earth Summit held in Rio de Janeiro. The largest ever gathering of heads of state on any topic agrees a huge 'wish list' on 'sustainable development'. They also sign two major environmental conventions demanded by greens – on limiting greenhouse gas emissions and on protecting biodiversity.

1991

Antarctic protocol on environmental protection agreed. The nations that lay claim to parts of the frozen continent agree to ban most economic activity there, creating in effect a 'world park' – another victory for campaigners such as Greenpeace, whose ships took their demands to the continent in person.

1994

World population conference. The conference in Cairo breaks with the authoritarian demographic tradition that coerces people to adopt contraception and demands lower reproduction in developing countries. Instead, it redefines population as a human rights issue, stressing women's rights to reproductive health and control over their bodies.



The 1990s saw the green movement grow in confidence, stature and, in some cases, radicalism. As environmental concerns moved out of the ghetto and began connecting with economic and social issues, so public support for new approaches to the world's problems began, slowly, to grow. Meanwhile, the globalisation of 'development' went on much as before, throwing up new problems like genetic engineering.



1997

Kyoto Protocol signed. Industrial nations agree to cut their emissions of greenhouse gases by 5 per cent by 2010 as a first practical step to stemming global warming. But controversial rules to allow countries to trade their emissions entitlements, insisted on by the US, remain to be finalised and threaten to undermine the deal.

1998

Millennium's hottest year. Analysis of thermometer records along with tree rings, ice cores and lake sediments confirms that the penultimate year of the millennium is also its hottest, coming in the hottest decade of the hottest century. Few now doubt that the world is on a warming trend, nor that human activity is to blame.



2000

Biosafety Protocol signed. Nations agree a deal that gives countries the right to refuse entry to genetically modified organisms. For the first time, a 'precautionary principle' is enshrined in an international treaty. Forced on the US by the row over GM crops, it is seen as a victory against the forces of globalisation.

1998

Borneo forest fires. Landowners on the Indonesian island set huge areas of forest on fire as they clear land for palm oil plantations. The fires spread out of control in an unusual dry spell caused by the El Niño climatic anomaly, which climate scientists believe is being intensified by global warming.



1992

Another special issue – *Whose Common Future?* – makes a strong plea for 'rejecting development and reclaiming the commons'. Its ideas resonate strongly with many other sections of the Green movement.



1998

'The Monsanto Files' – a 60 page exposé of the world's major biotech company – becomes the best-selling issue of *The Ecologist* ever – selling over 400,000 copies in a dozen languages. The printer's decision to pulp an early printing of the issue, fearing legal action, is reported around the world.

1994

The magazine helps launch a 'Fifty Years Is Enough' campaign against the World Bank, on the fiftieth anniversary of the Bretton Woods agreement.

1999

Special issue of the magazine on climate change is distributed widely around the world, and is used by policymakers and environmentalists to fuel the campaign for stronger action on greenhouse gas emissions

1995

Arsenic poisoning uncovered in West Bengal and Bangladesh. Environmentalists reveal a major outbreak of mass poisoning as arsenic in underground rocks is dissolving into water pumped to the surface by wells dug by foreign aid agencies. Probably millions are being poisoned, but governments are slow to accept the threat – and even slower to act.



1999

Storm over 'Frankenstein foods'. European environmental, health and food groups bring the international seed industry to its knees over the safety of genetically modified crops. Consumers boycott the products, most from the US; European field trials are trashed and chief antagonist Monsanto is forced to renounce the 'terminator gene'.

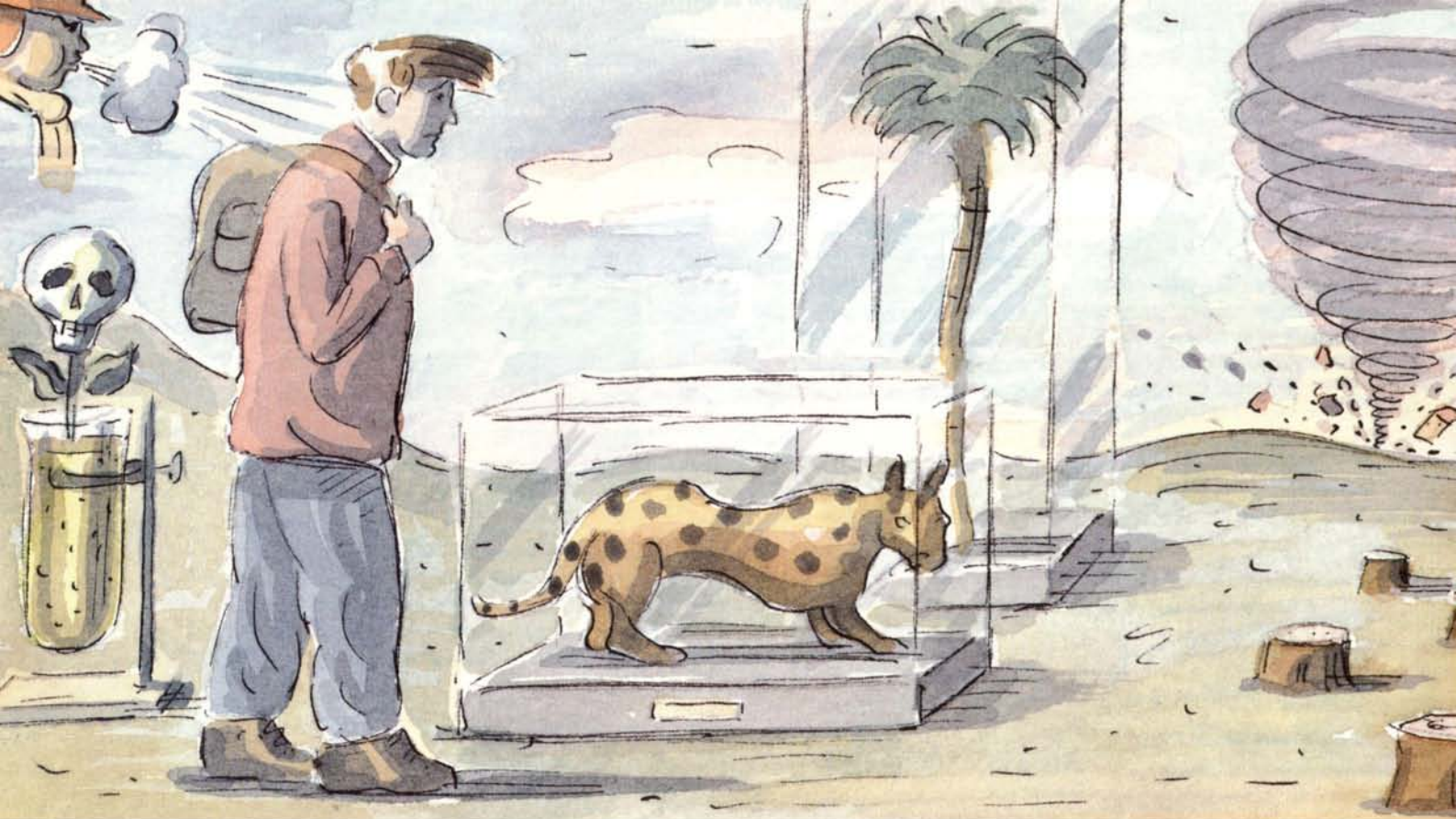
1995

Brent Spar scuttling called off. In probably its most dramatic and successful action, Greenpeace boards Shell's giant North Sea oil structure as it is towed to an Atlantic dumping ground. And as consumers boycott the company's products across Europe, they force it to abandon the dumping and bring the structure ashore for recycling.

1999

Mass protests in Seattle during a meeting of the World Trade Organisation shatters the WTO's dogmatic belief that globalisation will benefit all, and brings promises of a fundamental rethink of its strategies to impose open trade whatever the consequences for farmers, consumers and workers.





JULY 2030: GOING BACK TO THE FUTURE

Today's way of life is tomorrow's inheritance. In this ecological fable of the future, Rob Edwards introduces us to Leo, a man of his time.

It was when he looked up, halfway across the slope, that it first hit him. An icy blast of wind from the Arctic swirled down the hillside and froze the skin on his face. He grimaced, hunched his shoulders, and trudged on.

Leo had been planning this walk for weeks, and was not about to let a cold breeze put him off. Besides, a bitter wind chill factor was not exactly a surprise in Scottish summers these days. At least, not since the Gulf Stream stopped washing the shores of northern Europe with the warm waters of the Caribbean thirteen years ago.

Leo remembered that year. He was just finishing school and was thinking of studying to be a climate scientist. The first sign was the crocuses that never seemed to bloom, followed by the 24-hour snow storm at the beginning of the summer term. Then the web announcement by some sombre government minister that the melting of the ice at the North Pole had disrupted the complex system of currents that drove the Gulf Stream.

From his studies, Leo later discovered that just such a change had been predicted by a few oceanographers in the late 1990s. They had suggested a drop in the average temperature in northern Europe of about five degrees as a result. According to his hand-held computer assistant, it was only just above freezing now. 'Global warming' they used to call it, he smiled to himself.

As Leo climbed the mountain, he cast his mind back. The dissipation of the Gulf Stream was only one of a series of environmental catastrophes forecast by scientists which still seemed to have taken the world by surprise. The ferocity of 'Hurricane Hilary' in 2006 had frightened the whole eastern seaboard of the United States. The unprecedented floods in northern India during 2010, helped by deforestation, had prompted mass migrations. This had sparked a new conflict between India and Pakistan which led to the nuclear explosions in Kashmir and their terrible aftermath.

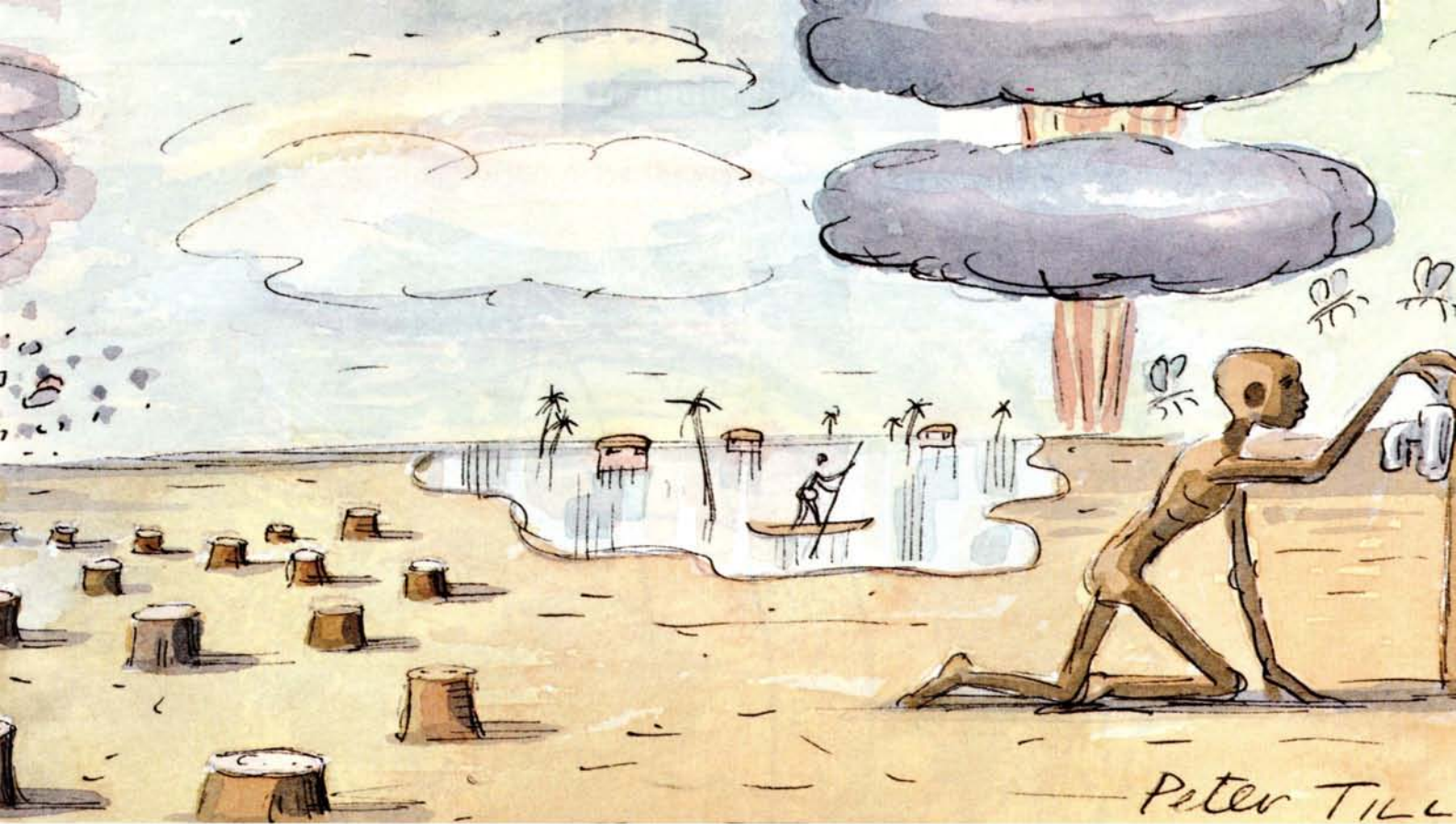
Then there had been the devastating famines of 2015 and 2016 which had wiped out millions in East Africa. They had been blamed on soil erosion, prolonged droughts and the failure of 'sorg10' – the genetically engineered crop that the multinational seed companies had promised would feed the world. A fast-adapting new disease had found a way past all the implanted resistance genes.

In South America there had been the genetically modified virus scare. The virus was thought to have escaped from an old potato research centre in the Andes, combined with a natural toxin and then infected monkeys.

Despite the usual reassurances to the contrary, it had jumped to humans in 2026 and was now proving lethal to mankind. But governments round the world were still hopeful that the ultimate death toll

‘According to his hand-held computer assistant, it was only just above freezing now. ‘Global warming’ they used to call it, he smiled to himself.’

ILLUSTRATION BY PETER TILL



would not be as high as in the 20-year 'mad cow' epidemic.

Unfortunately, the search for a cure for the GM virus was proving difficult. The most likely source of an antidote was somewhere amidst the teeming natural diversity of wildlife. But over the last three decades nearly a fifth of the world's 10 million plant and animal species had been driven to extinction because their habitats had been destroyed by development, agriculture and pollution.

The hubris of the human race. That was the problem, reasoned Leo as he crested the ridge – along with the complacency of governments, the greed of the multinational companies and the arrogance of some of the scientists. The tragedy was that it had all been so predictable, especially the 'Water Wars' that were now brewing in the Middle East.

The endless UN emergency missions and the repeated promises of desalination aid seemed to Leo to be missing the point. The region had lost the global power it once had because of its oil, and was now deteriorating into a struggle for survival over nature's most precious commodity – fresh water. The only sensible thing to do, as people were beginning to realise, was to move to pastures new.

That, of course, was going to create new strains. The European Commission for Environmental Refugees, established after the scorching Mediterranean summer of 2014, was already under growing pressure from the northern countries to restrict immigration. What with the food shortages, malaria outbreaks and skin cancers, large parts of Greece and southern Italy were becoming uninhabitable.

Britain and Scandinavia were freezing and sought-after, while the eastern Mediterranean was so baked it was being deserted. It was all so ironic, reflected Leo. At 30 one of the rising stars of the European weather prediction unit, he knew that the climatological

stresses this generated meant that there could be worse to come. According to one of his unit's models, a tornado over the English Channel was a distinct possibility. He had argued with his boss that the managers of the European nuclear waste dump at La Hague in France should be warned, but he had been overruled.

The trouble was that no one had done enough when it really mattered, Leo thought. All the world's attempts to curb carbon emissions had amounted to in the end was scores of new nuclear power stations which had never worked as well as expected. The burning of oil and coal hadn't declined fast enough, renewable energies hadn't expanded as they should have and climate chaos had spiralled out of control. No one had heeded the early warnings about the spread of nuclear weapons, the risks of GM technologies or the loss of biodiversity.

Increasingly of late, Leo had found his sympathies drawn towards what he regarded as one of the few hopeful signs in a disintegrating world: the Green Cyber Guerrillas. Formed by dissident members of established conservation groups in 2020, they had grown into a powerful, if ragged, international force of protest against environmental degradation. Their last action against GM beef had closed down three banks and a dozen fast-food chains with a deceptively simple computer virus that had been christened 'Swampy'.

Rather to his surprise, Leo was seriously considering giving up his job to join them. As well as atoning for his parents, whom he blamed for helping to create the mess the world was in, it might give him a chance to make a real difference. At the top of the mountain, he surveyed the soul-stirring majesty of the last of Europe's wild land, and made a decision. To the west, he could see a big storm approaching. It was time to go down.

‘The tragedy was that it had all been so predictable, especially the ‘Water Wars’ that were now brewing in the Middle East.’



THE FIGHT MUST GO ON

ECOLOGIST FOUNDER EDWARD GOLDSMITH PREDICTS HARD TIMES OVER THE NEXT THREE DECADES UNLESS RADICAL ACTION IS TAKEN SOON.

‘Science and technology can only serve to mask the symptoms of our much wider problems’

WHEN I FOUNDED *The Ecologist*, I didn't believe that by the year 2000 we would still be leading the 'advanced' lifestyles that we in the industrialised world lead today. 'The principal defect of the industrial way of life, with its ethos of expansion,' we wrote in *A Blueprint for Survival* in 1972, 'is that it is not sustainable. Its termination within the lifetime of someone born today is inevitable – unless it continues to be sustained a while longer by an entrenched minority at the cost of imposing great suffering on the rest of mankind.'

Nearly 30 years later, I stand by this statement. I thought at the time that it was in fact optimistic, but the modern industrial system was obviously more resilient than I thought, and the natural world better capable of absorbing its increasingly destructive impact. Perhaps we should, at least, be grateful for that.

Or should we? I ask this question because the longer our industrial society lasts, and the more 'developing' countries are brought within its orbit, the further we will have strayed from a sane, stable, 'sustainable' world – which means that when the collapse occurs, it will be all that more traumatic.

PREDICTIONS

Predictions are always dangerous, of course. Nevertheless, for me the most striking feature of the next 30 years will be the major and increasingly disruptive discontinuities that will make life on this planet ever more difficult and more precarious.

I have learned over the years that the usual reaction from others when I make such a statement is that I am not taking into account human ingenuity and the incredible advances being made today in every known area of science and technology. But

ILLUSTRATION: RICHARD WILLSON

for me, they are all irrelevant. Science and technology can achieve impressive technological feats like going to the moon – but the real problems we face today are of a very different order. They are caused by the disintegration and breakdown of natural systems, like biological organisms, families, communities, ecosystems and the ecosphere, or Gaia herself – the biosphere – together with its geological substrate and atmospheric environment. Against such problems, science and technology are largely impotent. What they can do above all is serve to mask the symptoms, which means prolonging the agony – for a while at most.

The discontinuities I refer to are likely to occur in three areas:

ECONOMIC COLLAPSE

Firstly, and probably most immediately, they will come in the global economic arena. The global economy, whatever its blinkered proponents may say, is inherently unstable. Back in 1979 and 1980 there was a terrible financial crisis in South America which required massive injections of cash by the IMF to prevent the Western banking system, which had grossly over-invested in South American countries, from collapsing. Then came the near-collapse of the Mexican economy in 1994, which required further massive injections of cash from the IMF. By this time, the Japanese bubble economy had been pricked, and in 1997 came the near collapse of the Thai economy and the devaluation of its currency, which was largely responsible for the near collapse of most South East Asian economies.

In September 1998, Wall Street itself was on the verge of collapse, and was only saved in extremis by Alan Greenspan's timely intervention. In the meantime, the Russian economy collapsed and has never recovered, and there have been financial crises in Brazil and Venezuela and elsewhere. Today the Japanese economy, which appeared to recover, is heading for yet another slump, and the American economy is still pretty shaky, its deficit on current account running at a rate of nearly three hundred billion dollars a year and increasing all the time.

For how long can this last? At present, the world's economic system is held together by the American consumer, who not only keeps the American economy going but also that of the 'Third World' by sopping up a considerable proportion of the latter's exports. If the American consumer, who accounts for 75 per cent of the US GNP, decides to give up his seemingly endless shopping spree – which he must do one day, just as the Japanese consumer has already done – there will be little left to hold the world economy together.

And it could collapse for other reasons. At some point, foreign investors may decide that the US cannot go on spending money it does not have, and may panic and sell its US shares and Treasury Bonds. A combination of these and other similar

events could give rise to a massive Stock Exchange collapse. For many people who know very much more about it than I do, it is but a question of time before this happens – and when it does it will cause far more unemployment, poverty and human misery than did the famous crash of 1929.

Even without a world economic collapse, poverty and unemployment are the two most serious social problems we face today. In 'Third World' countries, the bulk of the population still lives off the land, on small farms. As these countries are 'developed' in the context of the global economy, so will these small farmers be forced to grow increasingly expensive, commodified, patented and often genetically engineered varieties of their major crops that they never previously had to purchase. These new varieties require costly off-farm inputs (fertilisers, pesticides, irrigation water) which small farmers can ill afford.

Combined with the opening up of markets for cheap, subsidised Western agricultural produce, which has already happened under NAFTA, and now, under pressure from the WTO, is occurring in India and elsewhere, this means that vast numbers of small farmers will be pushed off the land. With them will go the artisans, street vendors and all the other components of a genuine local economy – most of them being forced to seek refuge in the nearest conurbation, where unemployment levels are already very high. We will then have cities of 40, 50 or even 100 million people, with the vast majority of the inhabitants living in indescribable poverty and squalor in sordid slums.

In the meantime, efforts to reverse these trends will be strenuously opposed by the increasingly powerful and uncontrollable transnational corporations that control the World Trade Organisation. And at the rate at which these are merging with each other it is but a question of time before only a few are left in each sector of the world's economy. As this happens, it is also but a question of time before the survivors find it more profitable to co-operate rather than compete with each other. Already they are undertaking joint ventures and forming strategic alliances. Eventually they will join forces, at which point we shall be entering a new era of corporate central planning that will have much in common with the state central planning of the ex-USSR – except that it will be on a global scale, and that it will be even less accountable to anyone or anything but itself.

RUNAWAY SCIENCE AND TECHNOLOGY

The second area in which these discontinuities will occur will be the problems caused by runaway scientific and technological innovation. Science and technology today have largely merged. Funding is available for scientific research insofar as it gives rise to new products of commercial value. For this purpose, holistic science is valueless. The

‘If the American consumer, who accounts for 75 per cent of the US GNP, decides to give up his seemingly endless shopping spree, there will be little left to hold the world economy together.’



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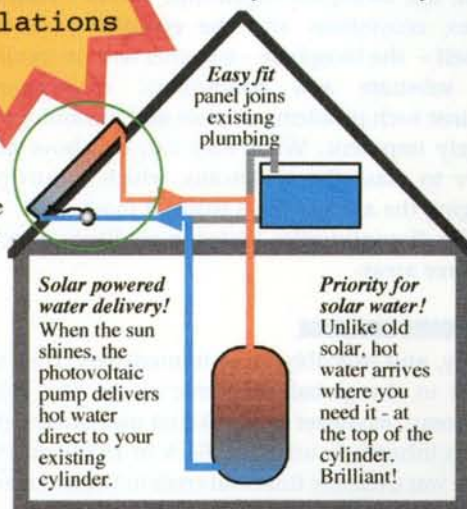
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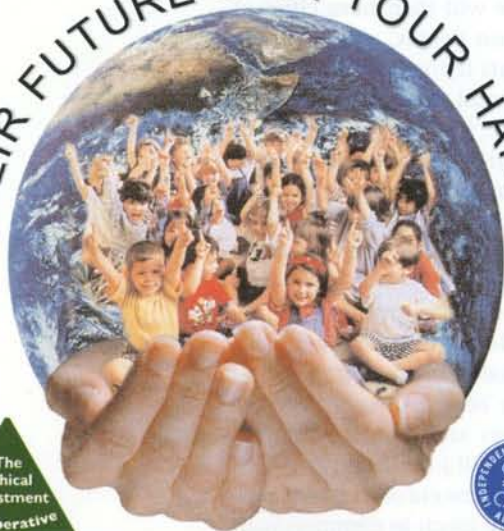
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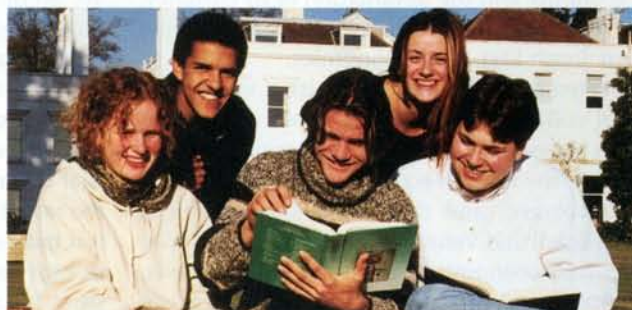
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✦ contemplation of totality does not lead to the development of antibiotics, pesticides, genetically modified crops, or new hydrogen bombs. Yet the reductionist science required for these purposes does not, in turn, enable scientists to understand the possible effects of these innovations on society and the natural world.

We could probably get round this problem if such activities were under the control of serious and public-spirited regulatory bodies, but these no longer exist. Those that we still have are now controlled by the very industries whose activities they are supposed to regulate. This is true throughout the world and, as a result, whole industries with a great potential for social and environmental destruction are simply out of control. The nuclear industry is a case in point, and we are likely to be faced with several more Chernobyls in the next decades. The chemical industry has pushed 70,000 or so chemicals into the environment, and the 1,000 or so new ones that it introduces every year have rarely been studied even in the most summary manner. Hence the cancer epidemic that now affects one man in two and one woman in three, hence the massive reduction in the human sperm-count, hence too the ever-worsening erosion of the ozone layer which protects us from potentially lethal ultra-violet radiation.

Another potentially devastating initiative which, it appears, is now fortunately being brought under control as a result of massive public pressure, is genetic engineering – in particular its agricultural application. In the words of Nobel Laureate David Baltimore, ‘the biotech industry has grown up in an era of almost complete permissiveness’. As for the new field of transgenic transplantation, the implications are too horrible to contemplate. Organs, tissues and body fluid, transplanted from one form of life to another, will carry with them viruses and other micro-organisms peculiar to the species from which they are derived, with potentially lethal effects on the host organism, and that can trigger off an epidemic that can devastate the species to which it belongs.

It is more than likely, for example, that the present AIDS pandemic arose when serum was extracted from green monkeys in central Africa and used for the production of vaccines against polio or smallpox. This hypothesis fits in with the established fact that practically every major epidemic to have affected the human species has been caused by micro-organisms that previously inhabited other forms of life and with which, for various reasons, we have entered into closer relationships.

CLIMATE CHANGE

The most serious technology-related disaster of all time is likely to be global climate change. Even if we phased out emissions of all greenhouse gases tomorrow we would still be committed to climate change for some 150 years because of the residence time of the gases that have already been introduced

into the atmosphere. Governments and international agencies have done almost nothing about this. The problem is simply too big for them, and would require action which would force them to abandon their overriding goal of maximizing economic growth. Cuts in emissions of greenhouse gases proposed at Kyoto are still barely on the agenda, especially in the USA where Congress – under pressure from the big corporations, and in particular from the oil industry – still refuses to ratify this incredibly weak agreement.

This means that our lives will be increasingly disrupted by the growing incidence of hurricanes, floods, droughts and sea-level rises, and in northern Europe a possible freeze-up (ironically caused by global warming) as the Gulf Stream progressively weakens with the reduced salinity of the seas caused by the rapid melting of the Arctic ice cap. We could of course slow down this process and hope that the climate will eventually stabilise and leave us with a world that is still largely habitable, but if we do not take rapid and serious action we shall be faced with possibly the greatest catastrophe in human history, and so far – as already noted – there is little sign of any such action being taken. Nor is it likely to be taken, so long as the international corporations which the WTO has freed from all obligations to society and the natural world are allowed to maintain their almost total control over international agencies and national governments.

WHAT MUST BE DONE

That is why, if we are to survive on this planet for very long, our first priority must be to fight these corporations, and the only effective tool at our disposal for doing so is to inform the public of what is really going on. Hopefully it will react more and more strenuously, and in this way the necessary public pressure can be applied on governments to come to their senses, as it has been in the last year or so against their plans to impose genetically modified foods on the world’s population. The good news is that the public is at last beginning to wake up and that public pressure is proving increasingly effective, as it was against Monsanto.

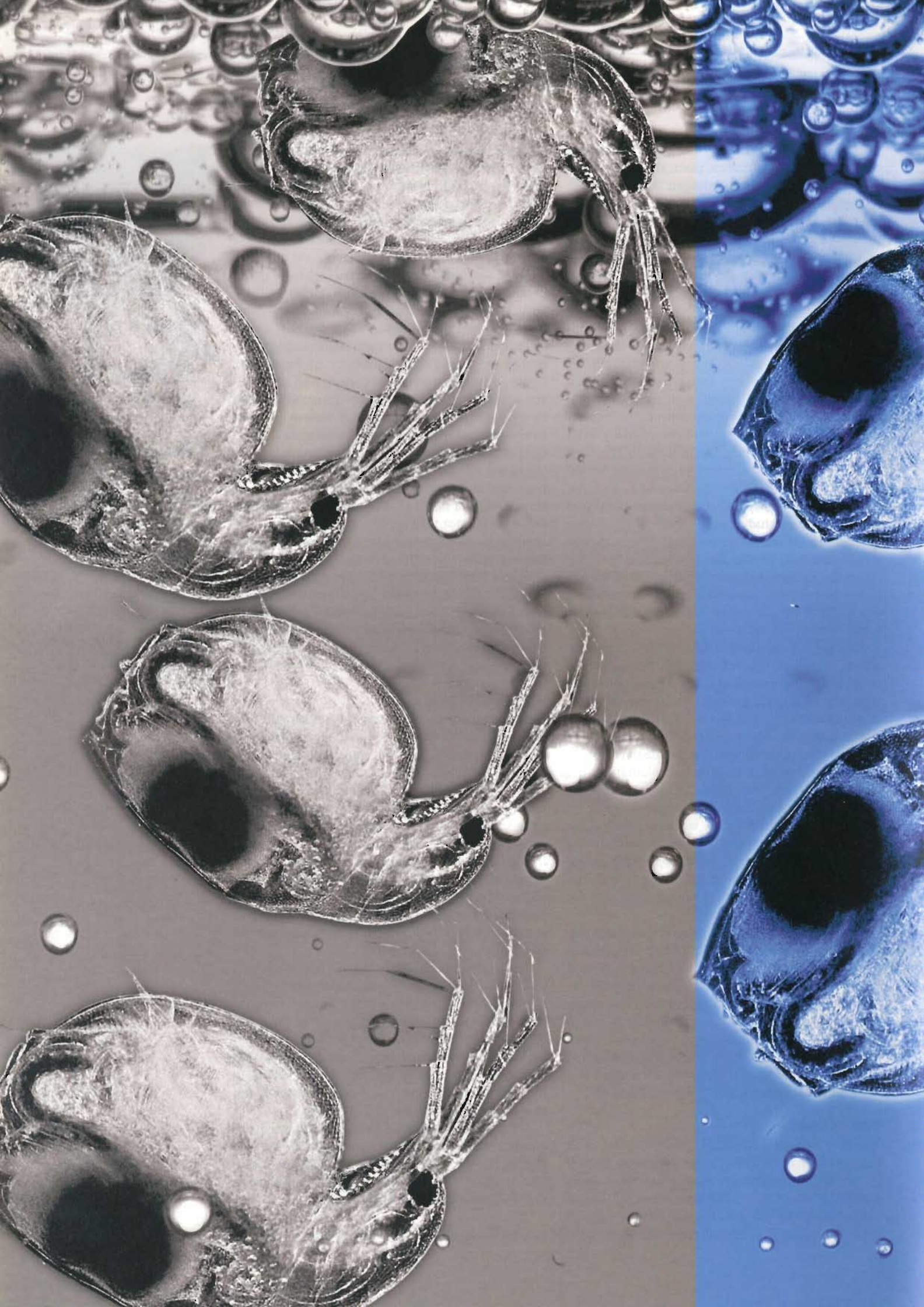
The large demonstrations that are now beginning to occur wherever the World Trade Organization, the World Bank, the IMF and the Biotech Industry now choose to convene are symptoms of the growing feeling by the public that there is a serious gulf between the interests of these monster corporations and those of humanity and the natural world. In this respect, Seattle last year was a watershed, and so was Washington a few months later.

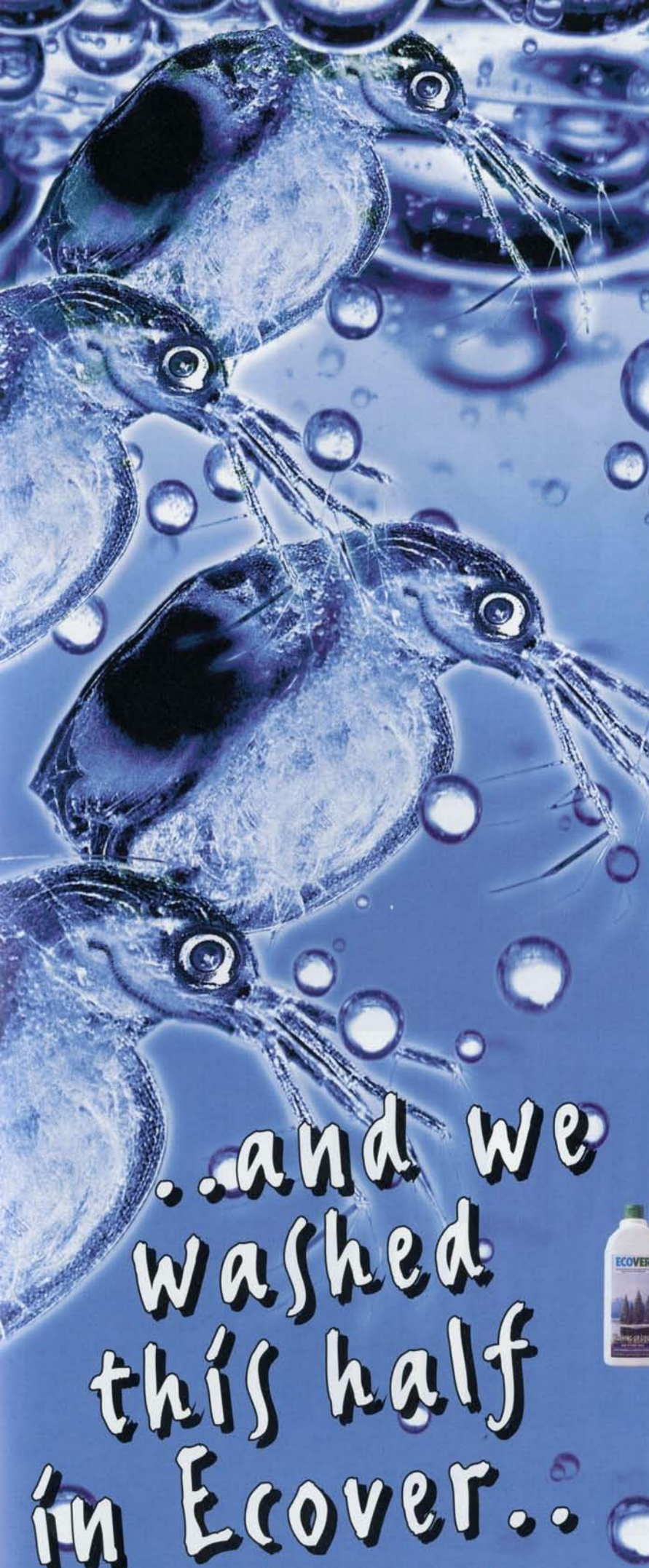
If the public becomes sufficiently informed and continues to react as it has been doing this last year against the sordid agenda of its political and industrial leaders, it is just possible that we might be faced with a very much rosier future.

Edward Goldsmith is the founder of The Ecologist.



‘The good news is that the public is at last beginning to wake up and that public pressure is proving increasingly effective’





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PANOS

NOR ANY DROP TO DRINK

The world is running out of water.
Ed Metcalfe finds out why.



Since 1970 when Egypt's Aswan High Dam came into operation, the number of commercially-harvested fish species in the Nile has declined by two thirds, and the Mediterranean sardine catch has fallen by 80 per cent.

The scholars were perplexed. Reading and re-reading the accounts of the early Christian ascetics living in the desert around Antioch, they kept coming across the repeated use of the Greek word *dunamis* – power – to describe these fiery religious extremists. What could it mean? Power over what? Power to what? Supernatural causes were obviously ruled out, but the apparent lack of any rational political explanation was mystifying.

At last, a convincing theory was put forward and accepted by most scholars. The accepted suggestion was that the solitary nature of the desert ascetics made them the natural choice for an impartial arbitrator in local disputes. In particular, it was suggested that their deliberation in disputes over who controlled the scant supplies of desert water would have elevated the holy men to a position of considerable political power.

WATER AND POWER

Two thousand years on, and the power politics of the Levant still hinges on religious men and – more than ever before – water. Israel today treats water as a matter of national security. Two-thirds of the water it uses originates in territories it now controls through military conquest – the Golan Heights and the West Bank. The flow from the River Jordan is stored in the Sea of Galilee, from where it is carried to Israel's cities, farms and industries, which would otherwise simply collapse. The headwaters of the Jordan are situated in the Golan Heights, occupied in 1967 by Israel. Who controls the Golan controls the water. Though Israel has promised to return the territory to Syria, she will not do so unless her water supply is secure. About one-quarter of Israel's remaining water comes from aquifers (underground reservoirs) located inside the occupied West Bank – as good a reason as any for not handing the region back.

Israel's control of the headwaters means that the tiny kingdom of Jordan is particularly vulnerable to Israel cutting off her water supply from the Jordan and Yamouk rivers. In 1990, King Hussein of Jordan commented that water was the sole reason Jordan might go to war with Israel. Under the 1994 peace treaty between the two countries, Israel agreed to provide Jordan with extra water and to co-operate in the face of acknowledged shortages. In 1999, however, the worst drought in 50 years forced Israel to unilaterally cut Jordan's agreed supply by 60 per cent, forcing Jordan to drain its already depleted aquifers.

FIGHTING FOR THE LAST DROP

As demand for water intensifies across the world, the prospect of conflict between nations over depleted supplies becomes very real. In 1999, for example, Libya's Colonel Gaddafi warned that, 'the next Middle East war would be over dwindling water supplies'. This was no novel prediction but rather an echo of the well-publicised statement made by the World Bank several years earlier that control of water would be the breeding ground for wars in the twenty-first century.

Israel's control of the Jordan basin is not the only potential flashpoint. Across the world, conflicts over increasingly scarce water loom large on the horizon. For more than two decades, India and Bangladesh have quarrelled over rights to extract water from the Ganges during the dry season – and this seems set to worsen. Turkey's Grand Anatolian Project, a vast irrigation and hydroelectric damming scheme on the Tigris and Euphrates, threatens to deprive Syria and Iraq downstream. Syria has ambitious irrigation plans of her own that would further hit Iraq. Egypt fears appropriation of the Nile's waters – on which it is entirely dependent – by upstream Sudan and Ethiopia. The list is long and growing.

THE CAUSES

To be taken seriously, international water tensions need to be seen in the context of what is happening to the world's water. This most basic of resources is facing a classic collision between supply and demand. Available fresh water represents less than half of 1 per cent of the world's total water stock – the rest is sea water, or frozen in polar ice. While the world's human population is increasing by roughly 85 million per year, the supply of continental rainfall – the only renewable source of fresh water – remains constant. Expanding cities and industrialisation are guzzling water at an astonishing rate. Worldwide, the consumption of water is doubling every 20 years, with industrial water use alone projected to double by 2025. As demand soars, increasing levels of pollution further restrict the use of available water.

A recent study conducted by the International Water Management Institute projects water supply and demand for 118 countries over the 1990-2025 period. The study predicts that 17 countries in the Middle East, including the warring neighbours Israel, Syria, Jordan and Egypt, as well as South Africa, Pakistan and the dryer regions of western and southern India and northern China will all face 'absolute water scarcity' by 2025. These regions, representing more than 1 billion people today (estimated to reach 1.8 billion in 2025) will not have enough water to maintain 1990 levels of per capita food production from irrigated agriculture and also meet industrial and household needs. They will accordingly be forced to reduce the amount of water used in irrigated agriculture and transfer it to urban and industrial sectors, importing more food instead.

This shift is already well under way in northern China, where swelling cities and industries are exerting their economic weight to draw water from the Yellow River at the expense of agriculture in the lower reaches of the basin. The study also points to 24 countries, mainly in sub-Saharan Africa, which face severe 'economic water scarcity' by 2025. These countries do have sufficient potential water resources to meet projected 2025 requirements. They will, however, have to double the amount of water extracted and diverted by that time to meet those needs. This will require massive water development projects, at enormous cost – which they can ill afford – and possibly severe environmental damage.

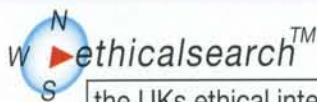
Worldwide, the consumption of water is doubling every 20 years, with industrial water use alone projected to double by 2025

EXTRACTION

Although it is the world's burgeoning cities and industries – particularly, in terms of growth rates, in the ballooning megacities of the 'developing' world – which pose the greatest challenge to the world's water supply, agriculture remains the chief culprit for today's predicament. Roughly 70 per cent (globally) of water diverted from rivers or drawn up from aquifers is used for irrigation. Irrigation is a hugely wasteful process. Leaking pipes, unlined channels, evaporation from reservoirs and canals and poorly directed spraying mean that 60-85 per cent of the water never reaches the plants' roots. It is primarily irrigation that is responsible for the most serious problem that characterises the state of the world's fresh water – the depletion of underground aquifers. Across the world, farmers are pumping groundwater faster than precipitation can replenish it, causing a steady drop in water tables; a process referred to by hydrologists as 'groundwater overdrafting'.

The explosive spread of small pumpsets and groundwater wells throughout the world over the last several decades is largely to blame. India, for instance, has more land irrigated by pumps than by all the other surface irrigation systems combined. Extraction of water from aquifers in India exceeds recharge by a factor of two or more. The

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Available fresh water represents less than half of 1 per cent of the world's total water stock – the rest is sea water, or frozen in polar ice

■ situation is particularly serious in the States of Punjab, Harayana, Maharashtra and Gujarat, where water tables are dropping 0.5 to 0.7 metres per year. Falling water tables cause farmers to compete with each other in the digging of ever deeper tubewells.

North China is running a chronic water deficit, extracting from aquifers some 30 billion cubic metres a year more water than is naturally recharged. Across the region, which produces 40 per cent of China's grain, water tables are dropping on average 1.5 metres a year. Since 1965, the water table under Beijing has fallen by some 59 metres.

Much of North Africa and the Arabian Peninsula sits on huge 'fossil aquifers' left over from previous climatic eras. These aquifers receive little or no replenishment from current rainfall, so pumping from them, as with mining oil, means permanent depletion. At the current rate of extraction, Saudi Arabia's grain irrigation programme will result in total depletion in the next 50 years. Libya has embarked on the most ambitious, and arguably senseless, project of all: mining the immense Nubian aquifer under the Sahara and piping the water 1,500 kilometres north to the coast to create new agricultural zones. Experts say the water will run dry in 30–50 years.

In the US, groundwater is being recklessly mined in California's Central Valley and across the High Plains from West Texas to South Dakota where the mighty Ogallala aquifer, which alone waters one fifth of US irrigated land, is being depleted eight times faster than nature can recharge it.

Irrigation, of course, not only depletes groundwater but reduces surface flow too, with dams and diversions that cause downstream desertification and the loss of productive wetlands and freshwater fish stocks.

China's Yellow River, for instance, has run dry and failed to reach the sea every year since 1985. Excessive river diversions for irrigation have shrunk the Aral Sea by half, destroying almost all of its wetlands and fish.

Though irrigation causes water tables to drop, it can also have the opposite effect. Where the irrigation is intensive and the soil not well drained, waterlogging causes the water table to rise. The surface water then evaporates leaving an accumulation

of salts that renders the land useless for cultivation. This problem afflicts a quarter of all irrigated land and is most acute in Pakistan, where two million hectares have been lost to high soil salinity.

EVERY DROP COUNTS

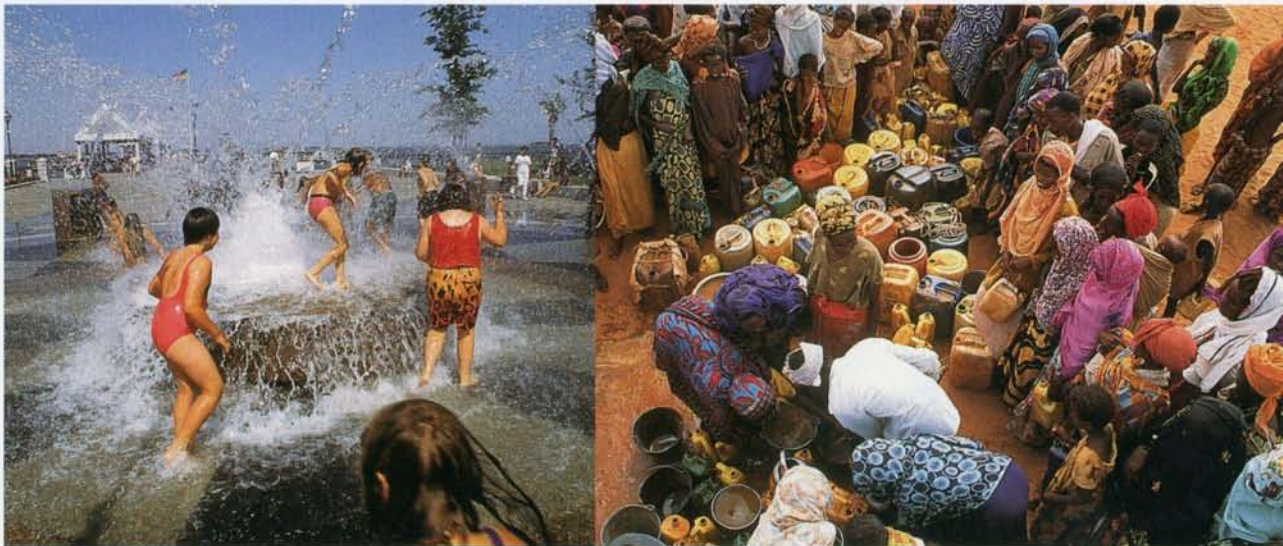
Clearly, swift and decisive action needs to be taken to address the world's water problem. Reducing consumption is the first step, and

improving irrigation efficiency – and waterlogging, where it occurs – is a key area where this can be achieved. Lining canals will reduce seepage, but it is 'drip irrigation' that has the most substantial untapped potential. Consisting of a network of perforated tubing laid on or below the soil surface that drips water directly onto the plants' roots, the drip system, unlike a flooded or spray-irrigated field, loses barely any water to evaporation or misdirection. Studies have shown drip irrigation to cut water use by up to 70 per cent and increase crop yield by as much. Pioneered by the Israelis, drip irrigation accounts for only 1 per cent of all irrigated land worldwide but its potential is enormous now that more affordable and practical systems have been developed.

Rainfall 'harvesting', through both new and traditional community-based methods can make a real difference to peoples' lives in arid zones without plundering groundwater, and at almost no cost. Villages in the Jhabua district of Madhya Pradesh, for instance, have avoided the impact of the drought that has recently blighted much of Western India.

The water harvesting structures these communities have built meant they were well equipped to face the water scarcity, with enough for drinking and in some cases irrigation. Growing water-intensive crops like rice in water-stressed areas could also be abandoned in favour of crops such as cotton which need less.

In some cases, it might be possible to recharge aquifers by collecting precipitation during the rainy season in ponds or bunded fields – that would otherwise flow to the sea – and allow it to percolate down into the aquifer. It could even be pumped down, provided the water was clean.



While expanding cities guzzle water at a stunning rate, 24 countries, mainly in Africa, will not have enough water to meet projected 2025 requirements.

This would work only where there is sufficient rainfall and the aquifers are accessible.

Human and industrial waste discharged into rivers, as well as agricultural runoff, also places a major restriction on the use that can be made of available fresh water. Ninety per cent of the 'developing' world's waste water is discharged untreated into local rivers. In China, 80 per cent of the country's major rivers are so degraded they no longer

Depleting Resources

support any fish. Many Eastern European rivers run yellow with industrial poisons. The reuse of waste water for non-drinking purposes, however, provides huge scope for reducing the pollution that enters rivers, and saving water consumption by increasing its productivity. 'Sewage farming' in Israel reclaims 70 per cent of the country's sewer water and uses it for irrigation. A project in the Himalayas diverts 6 million litres of sewage per day that would otherwise be dumped into the Ganges and uses it to raise fodder crops. Industries in America that have been diligently recycling their water since prices went up have made massive cuts in consumption.



hopefuls at least one technological solution to the impending crisis. The process is prohibitively expensive, conducted only in the wealthy countries of the Middle East, notably Saudi Arabia. The alternative for

the Middle East, however, may be even more expensive. Figures have been compared (a desalination project for 100,000 people buys one jet fighter) and it's agreed that war is the costlier option.

But who knows what hot and thirsty people will do? A scantily clad holy man from the desert might even intervene and, with one tap of his staff, equitably divide the waters. ♦

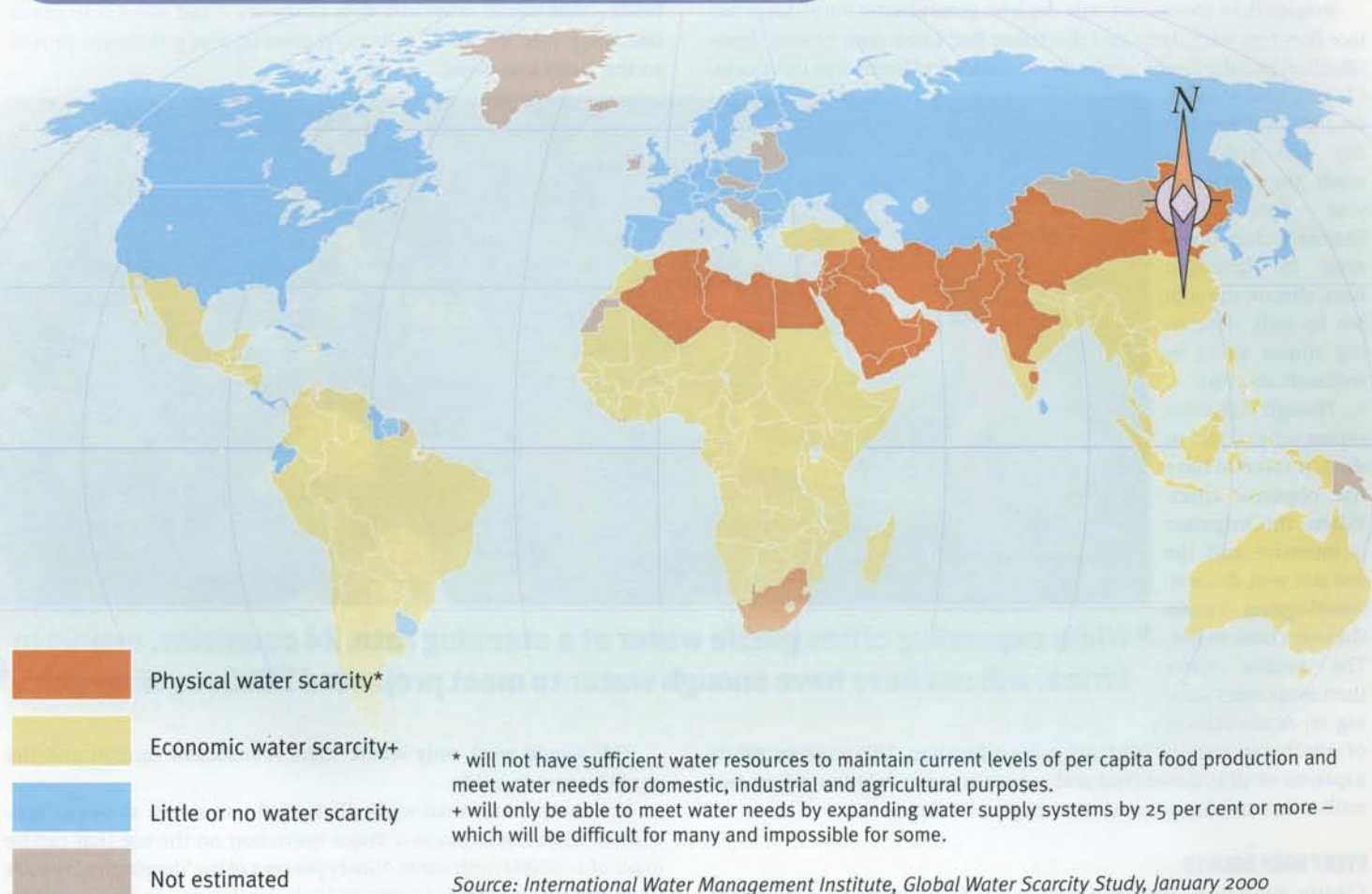
Ed Metcalfe is a freelance journalist specialising in environmental issues.

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WATER FROM BRINE

Desalination – making fresh from salty water – is for many

PROJECTED WATER SCARCITY IN 2025





EAU DEAR

Caspar Henderson explains how multinational corporations are taking over the world's water supplies – with corruption and ecological destruction the result.

In the majority of urban areas, where more and more of the world's population are concentrating, large networks of supply and disposal pipes are essential if basic water needs are to be met at prices poorer people can afford. Estimates vary wildly, but one suggests that at least \$75bn of investment will be needed over the next 20 years just to stop the dire water-supply situation getting worse.

For the last decade or so, privatisation has been touted as the solution to this dilemma. Pro-privatisation propaganda reached a crescendo at the World Water Forum in The Hague in March this year. But, as abuses and inadequacies of commercial control have become widespread and manifest.

THE BOLIVIAN EXAMPLE

In the Bolivian city of Cochabamba this April, the new owners of the previously public water system, International Waters Ltd of London, tried to impose a 35 per cent hike in water prices. But, following demonstrations opposing the rise, in which the police injured around 175 people and killed six, the Bolivian Government revoked its water-privatisation legislation and the company bowed out.

This was a remarkable turnaround. For the last decade, multinational companies and others have urged the worldwide adoption of the 'French model', under which 30-year monopoly concessions are granted to private companies. But actual experience shows that private is by no means best.

PRIVATE ISN'T BEST

Private water, for starters, is not necessarily efficient in terms of cost, as direct cost comparisons between public and private water companies servicing cities in Sweden and England of similar size shows. The Swedish municipal suppliers delivered water at around a third of the cost, had operating costs of about half, and delivered nearly three times higher return on capital than English private companies. In Puerto Rico, Trinidad and Budapest, government authorities recently found serious deficiencies in maintenance, repairs, administration, operation and finance, significant increases in deficit, and unworkable business plans on the part of the French multinational Vivendi, England's Severn Trent and France's Suez-Lyonnaise des Eaux respectively.

Privatisation is supposed to bring the economic benefits of competition. But in the case of water, competition has often been almost non-existent. In the UK, a tough and resourceful regulator has tried to simulate competition since privatisation in 1989 by trying to outguess the companies' costs, and set price limits that would reward efficiency gains. Worldwide however, there is at least as much evidence of collusion, with very few companies dominating the global water

market, often operating jointly and restricting works contracts to their own subsidiaries. Worldwide, three private French conglomerates – Vivendi, Suez-Lyonnaise des Eaux and SAUR/Bouygues – control more than 70 per cent of the private market.

In practice, privatisation and corruption have been inseparable. The world's largest water multinationals have been convicted three times of paying bribes to obtain water contracts in France. Subsidiaries of a dozen multinationals – from the UK, France, Italy, Germany, Canada, Sweden and Switzerland – are being prosecuted for paying bribes to obtain contracts in the huge Lesotho Highlands Project.

CORRUPTION

After the overthrow of the Indonesian dictator Suharto in 1998, Thames Water and Lyonnaise des Eaux admitted that the concessions they had negotiated for Jakarta's water supply with consortia involving friends of the dictator were no longer defensible. But the revised contracts have also been bitterly criticised on the grounds that they were never properly advertised, prices to customers are excessive and Suharto's son continues to hold a large equity stake.

Privatisation has frequently been made a condition of loans to developing countries. In 1999, Mozambique was forced to privatise its water and sanitation as a condition for the provision of \$117m by the World Bank to improve water services and as one of the conditions for extending the country's debt relief. SAUR, a subsidiary of Bouygues, expects revenues of around \$9m a year from the deal.

ENVIRONMENTAL DESTRUCTION

Environmental protection has also suffered directly from privatisation. In 1998, a major disaster occurred in Puerto Rico, whose water system is managed by Vivendi. Residents are suing the multinational for allowing a reservoir to overflow so that it burst during the hurricane. In Britain, many privatised companies have been convicted of numerous pollution offences. Increasing numbers of privatised water schemes are linked to ventures to abstract more water through vast dams and reservoirs. Private operators are getting involved in bulk water supply schemes with 'take or pay' contracts, which guarantee profits by requiring consumption regardless of need.

The 'politburo of privatisation', a close-knit club of top figures from water companies and multilateral agencies, tried to foist a new water order on the world at the World Water Forum in The Hague this spring with a global 'Framework for Action' which allocated no significant role to the public sector or local water provision. But thanks in part to joint statements from unions, environmentalists and NGOs at the Forum, these emperors were exposed as having no clothes. ♦





WHY RADICALS NEED A HISTORY LESSON

ANTHONY BARNETT SEES WORRYING PARALLELS BETWEEN THE SELF-ABSORBED VIOLENCE OF THE MAYDAY PROTESTS AND THE COLLAPSE OF 1960s RADICALISM.

THE NOW-NOTORIOUS demonstration which took place on May Day 2000 in central London harmed the environmental and social justice movements it was supposed to advance and benefited the authorities it was supposed to defy. Perhaps because the demonstration was so small, the policing so skilful, and the exploitation of the event by Turkish Stalinist groups so crass, the harm will not last. Nonetheless, an image of the politics of opposition to social and environmental degradation has been created which itself degrades all of us who want a sustainable world. This image will be exploited by the authorities just as it will be used to sell newspapers by the corporate media.

There has been talk from those behind the demonstration, directed especially at high-profile campaigners like George Monbiot who were once part of Reclaim the Streets, that there should be no criticism in public, no division 'in the face of the enemy'. Such talk is little different from the desperate rhetoric wheeled out by mainstream political leaders to protect their own policies as things go wrong. It is the language of control freaks.

If there is any one overarching principle for the environmental movement it is that we must be able to debate and discuss truthfully. Our authority resides in the claim that we can see the reality of what is happening more clearly than others. This claim must always be willingly tested and retested. One of the weaknesses of those who work for a sustainable world is a tendency to turn their beliefs into a quasi-secular religion. There is even a desire to remain a voice in the wilderness. But as David Hayes has pointed out, the image of oneself as a lonely and spurned voice is a cliché of bourgeois individualism and a consumer society.

If we remain voices in the wilderness, all will be lost. Including what is left of the real wilderness, from the Arctic glaciers to the Himalayan redoubts. To succeed we must become first a central part of the argument and then win it convincingly – as democrats in a democratic process. A process that itself will be improved and opened up as we succeed.

This means engaging in a non-sectarian, non-violent dialogue with the public.

If this sounds dull and off-putting, then that is only because a peculiarly British education all too often leaves a large residue of childish, lumpen suspicion in the heads of those it is supposed to assist towards the freedom and facility of adulthood. Good argu-



IF THERE IS ANY ONE
OVERARCHING
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ments may be hard, they should never be dull. Once, Reclaim the Streets used to be witty and inventive in the cause of its points of view. It broke the law, but in a way that engaged the sympathy of many law-abiding citizens. It expanded the forms and attractiveness of a debate which, because it wants to be taken seriously, needs colour.

There was a moment of such imagination on May Day. As the Square opposite Parliament was dug up and reclaimed, women sowed hemp across it. As the demonstrators left, an official lawn was relaid and appearances returned to normal. But now, below its surface, marijuana has begun to germinate. It will push its way up alongside the more acceptable grass, only to be mown down by the forces of order. Nonetheless, as the elected representatives of the people get stoned on alcohol in the countless bars of the Palace of Westminster, and agree that it is 'too soon' to consider the legalisation of substances which most of their children offer to their friends as a matter of course, one or two little shoots of weed will escape the landscape gardeners and poke their defiance into Parliament Square. All of its grass will hide their slender illegality within its midst, and the whole Square will mock the politicians who hate nothing more than to

have their pomposity exposed.

A familiar point has been made in a fresh way. If heroin poppies had been planted, it might have been different. But so far no one seems to have died from a overdose of pot. The relative harmlessness of the marijuana plant, and therefore also the injustice of imprisoning those found to have it in their possession, and therefore also the stupidity of which our rulers are capable, have all been neatly demonstrated.

This was hardly an Earth-reclaiming point. Perhaps its modesty in the face of our planetary crisis seemed to justify more extreme measures. But all that the violence which followed achieved was to proclaim the futility even more loudly. Worse, it did so in a manner which invited the public as a whole to regard all such 'protest' as strategically pointless and personally dangerous, all too likely to claim them as its victim.

Some of it was truly mindless. I've been told by one of the demonstrators that as the crowd surged up Whitehall, some of those who scarred the Cenotaph with their graffiti probably did not even know what it was they were desecrating. All they saw in front of them was a bit of blank wall. They probably had no idea

STEVE CARROLL

that the memory of their own great-grandfathers was symbolised by its white stone.

There was also a more willed and motivated violence. Part of this came from ludicrous groups such as 'Dev-Sol' who even paraded portraits of the authoritarian mass murderer and great-power junkie Chairman Mao. Do they not know the cynical manipulation which lay behind his so-called Great Proletarian Cultural Revolution? Are they going to reclaim the streets by endorsing the conqueror of Tibet?

I witnessed a similar, if much larger and graver escalation in the late 1960s. Then too a movement of protest – at that time against the Vietnam War – began with colourful and thoughtful demonstrations and teach-ins. This, the original 60s movement, was non-sectarian. It encouraged debate and celebrated difference. But the limitations of such an approach became more obvious as the War escalated.

The goodwill of those involved was then exploited by those who claimed the answer already existed in doctrines of Trotskyism and Maoism. They used the protests and exploited a natural and proper desire to change a system which was slaughtering the innocent.

The result was that non-sectarianism and openness became a gateway for the most vicious sectarianism and blinkered cynicism. The protest movement against violence proved unable to oppose an escalation into violence from within its own ranks because it offered its generosity to all views however extreme they might be. It was thereby fatally drawn into its own self-destruction.

Good things came of it, of course. The feminist movement saw women turn the egalitarianism and militant self-expression of the 60s against an extraordinarily male chauvinist culture of chicks and birds. The modern environmental movement also started then, as socialism put its attachment to material production before the realities of ecological limits and deeper human needs.

And by the early 70s, the sects and militants that moved in on the genuine grassroots political mobilisation scorned such 'petit bourgeois' concerns.

This brings us to the heart of the matter. For the uptight, hard-nosed, supposedly practical revolutionaries reproduced forms of domination from the very order which they supposedly opposed.

Always beware of those who offer a quick fix and a direct route in place of a long revolution. In all likelihood, they have absorbed the call for instant gratification which is the essence of consumer capitalism.

We can see this in the so-called 'anarchism' of those who joined Reclaim the Streets. When unrestrained by the proud traditions of tolerance and mutual aid which the historic anarchist tradition can lay claim to, anarchism becomes the purest expression of market individualism. It is Rupert Murdoch on stilts. It glorifies the punch-up, moralises against violence (in this case of the police) which it itself has encouraged, presents gut instinct as wisdom and 'whoa gotcha!' as pride. In short, it is desperately humiliating and inhuman, and no more reclaims the streets for humankind than does a traffic jam.

It is quite natural for a sensationalist media to seize upon its hoodlums clowning around and scribbling on the Cenotaph or pelting McDonald's with chairs. The images could not be better designed to make ordinary people feel so powerless that they end

up by feeling that they have no alternative but to stay at home and watch digital TV.

The images of violence also strike at the heart of the environmental movement. Images are vital to it. Our world is characterised by action at a distance.

This is hardly new; it began in its modern form with the telegraph and the railroads. But it has intensified in the range and speed of movement and in sheer size. The consequences, from gridlock to global warming, suggest that the opportunities offered to each of us can turn into 'unfreedom' for us all. That what seems to extend the range of any and every individual can lead to a terrible, irreversible fatality for every one of us.

To respond to the threats this represents demands that a great majority of people see, feel and understand how their own actions lead to outcomes beyond their immediate horizon. They – we – need to imagine the community of the millions who are acting just like ourselves, so that we can see the consequences. This process of imaginative self-understanding is best grasped through images. These bring home the argument, make tangible what seems abstract and allow us to feel for ourselves what is beyond direct experience.

The movement for environmental sustainability and social justice lives off images. Not because they are superficial but, on the contrary, because they need to persuade others of the fact that they see further thanks to the reach and ambition of their arguments. This, however, makes them especially vulnerable to being wounded by images.

The symbolic actions undertaken by Reclaim the Streets in London on May Day were criminally negligent with appearances. They allowed themselves to be used by those who wanted to escalate the images of opposition into an all-or-nothing confrontation that is the opposite of democracy and the negation of politics: a symbolism of despair masquerading as hope.

A great opportunity is opening up before the environmental movement. World inequality has become insupportable. In both human and global terms, the call to make the way the world is governed genuinely open and accountable is becoming increasingly hard for those in power to resist. Many have started to support it. To achieve the success that this makes possible, one thing is essential: constitutional democracy – not the rule of the majority but the protection of the rights of all. It means we have to recognise the need for our own diversity as part of our larger survival and prosperity. We must preserve our vulnerability, not subordinate it to the spiteful rage of sectarian violence. Hesitation must be resolutely defended from the taunts of those who claim to know best. The capacity to doubt needs to be extolled as the constant companion of determination.

Reasoned opposition to our own arguments should be welcomed as a kiss of life.

In these circumstances, the reckless thuggery of Reclaim the Streets can be seen not just as an old-hat refusal of revolution in the name of the vicarious pleasure of shocking others, but also as something more dangerous: the last hope for an old order which needs us to retreat to the gesture politics of the futile now that it has lost the mantle of practical wisdom and political credibility which it enjoyed throughout the Cold War.

Anthony Barnett was the founding Director of Charter 88. His books include Iron Britannia, Power and the Throne and This Time.

THE UPTIGHT, HARD- NOSED, 'PRACTICAL' REVOLUTIONARIES REPRODUCED FORMS OF DOMINATION FROM THE VERY ORDER WHICH THEY SUPPOSEDLY OPPOSED

THE FIGHT TO ROAM

ROMANI WRITER JAKE BOWERS BELIEVES THAT A LAND WITHOUT GYPSIES IS A LAND WITHOUT FREEDOM.

FEW PEOPLE WOULD recognise the Romani flag if they saw it. Let me describe it for you, so that you'll recognise it should you ever see it flapping alongside the Union Jack or Stars and Stripes. The bottom half is green to represent grass, the blue top half represents the sky, and a red wheel in the foreground represents the journey we made from India 1,000 years ago.

Our flag represents a romantic picture of Romani life. It's a hopeful image of the freedom we – the gypsies – are often perceived to have, but have rarely found. In today's Europe, it could just as well consist of a barbed wire fence with a concrete background. For fences, restrictions and borders are a greater part of our reality than the blue sky above and the green grass below.

Less than 10 per cent of the world's eight million Romanies remain nomadic. We have been 'sedentarised', assimilated and persecuted by communists and capitalists alike. The personal autonomy we favour, and the freedom it represents, has sometimes provoked romantic wonder, but all too often has resulted in hostility and genocide, ranging from the gas chambers of Auschwitz, to the cultural cleansing of the British countryside enforced by the 1994 Criminal Justice Act (CJA). The CJA not only made trespass a criminal offence, it removed the duty of local authorities to provide stopping places for travellers. Our traditional lifestyle has effectively been outlawed.

Nowadays, in New Labour's New Britain, official policy recommends 'toleration' of unauthorised encampments and the Romani, Irish and New Travellers that inhabit them. But traveller culture should be celebrated, not merely tolerated. Any culture that has survived a millennium of persecution should be celebrated by environmentalists for its tenacity, and welcomed as part of the antidote to the monoculture of industrial society. We too have something to offer a greener tomorrow. We are much more than the thieves, vagabonds and fly-tippers many perceive us to be. Even the Romani nation has a model of justice or sustainability at the heart of its tradition.

As hunter-gatherers in the concrete jungle, there isn't much we don't know about self-sufficiency, the reality of living close to nature or the importance of community. In times past, our ancestors' knowledge of herbal medicine kept your ancestors alive, and our unrecognised sweat lubricated the agricultural economy for hundreds of years. It was our ingenuity that started modern recycling, through the scrap-metal business. As a people living at the margin of society, we were some of the first to be hit by globalisation. Handmade clothes pegs simply can't compete with plastic pegs from Taiwan. But traditional Romani skills, such as herbal-



CZECH PRESIDENT
VACLAV HAVEL HAS
CALLED GYPSIES THE
'LITMUS TEST OF A CIVIL
SOCIETY'

ism, entertainment, horsemanship and craftsmanship, made redundant in an industrial age, will one day help us all to survive in a world without multinational pharmaceutical, media, car and manufacturing companies.

The Romani experience parallels that of many indigenous peoples; we've been assimilated, massacred, sterilised, enslaved and patronised. The one important exception is that we claim no homeland. As such we are true global citizens who claim the whole world as our home. People without anywhere to go have everywhere as their home.

But surely exotic indigenous peoples like Native Americans are a world away from 'dirty roadside gyppos' despoiling the quaintness of the British countryside. Not at all. Roadside encampments are a far better reflection of the modern Indian reservation than any recently founded 'eco-community'. Official Gypsy sites are filled with exactly the same social problems, like substance abuse and criminality, that indigenous people all over the world experience. The parallels are there. The fact that they aren't safely tucked away in the Amazon makes a lot of people distinctly uncomfortable.

Czech President Vaclav Havel has called Gypsies the 'litmus test of a civil society'. Nowhere is this truer than in Britain where nomadic life brings travellers into daily conflict with mainstream society's attitude to land ownership.

Most of the old 'atchin tans' (Romani for stopping place) have been stolen by farmers extending their fences or by developers pushing forward their relentless tide of concrete. Travelling in Britain is only possible today with an extremely intimate knowledge of the countryside and a willingness to trespass in defence of the right to live as our ancestors did. In doing so, we prove that free people are also a part of the natural world. Like the wolf or the deer, travellers' actions are dictated by practical necessity rather than political idealism. But unlike other animals, our acts have political repercussions for which we feel the heat. Our active exclusion from Britain's Countryside and Rights of Way Bill is just the most recent example of this. As ever, no 'right to roam' is to be granted to the Romani people.

But we have inherent rights, which no government can grant or take away. Every fence I see needs crossing, and I'll cross it when it suits me. All I ask is that I'm not condemned for doing so, for there is a green core at the heart of the Romani tradition. Like the miner's canary, our demise is a sign of impending doom. If we go, the rest of you won't be far behind.

Jake Bowers co-founded Earth First! UK in 1991.

DROWNING IN A WIDE GREEN SEA

PAUL KINGSNORTH THINKS THAT THE GREEN MOVEMENT SHOULD BEWARE OF ITS OWN SUCCESS.

HANDS UP ANYONE who isn't green. There can't be many of you around any more. The number of people professing their commitment to 'sustainability' seems to be roaring skywards every hour. Greens to the left of us, greens to the right of us; it's like living on an allotment. Anyone who's anyone these days – and quite a few who are no-one at all – has apparently opened a six-pack of Care For The Planet, and drunk deeply of its contents. They're not even throwing the ringpulls into the bushes any more.

Try a simple experiment: pay a visit to your local pub (if you can find one that hasn't been converted into an ersatz Irish theme bar) and ask a random selection of barflies if they care about 'the environment'. Well, yes, of course they do. Then take it up a level: can you find an 'opinion former', a newspaper editor, a government minister, an opposition frontbencher or, come to that, a corporate top dog who doesn't claim to be at least a pale shade of green? You probably can, but it'll take far more time than you'd usefully want to spend.

My laboured point is a simple one: we are all environmentalists now. And this is terrible news.

Bear with me. It is terrible news for one simple reason: we are in danger of being co-opted. By 'we' I mean those hairy, eccentric eco-bores foolish enough to believe that a genuinely green future will involve more than recycling our mobile phone batteries and raising a glass to Wal-Mart for selling organic vegetables.

In recent months I have listened to London mayoral candidates – most from political parties committed to unlimited economic growth and a techno-dependent future straight out of Brave New World – bidding to 'outgreen' each other. I have listened to unreconstructed old lefties talking about the environmental movement as if it were Socialism with a catalytic converter fitted. I have listened to reactionary conservatives bleating about how they thought of green politics before anyone else. I have heard, in apparent seriousness, the head of BP-Amoco giving a hugely prestigious BBC Reith Lecture, on the theme of 'Respect For The Earth'. I have watched liberals, neo-liberals, communists, anarchists, Tories, Stalinists and Think Tank contrarians twisting in a green wind, hoisted by their own sustainable petards.

And I've had more than enough of it.

Don't get me wrong: the more real greens out there, the better. What worries me is that we are in danger of confusing genuine green politics with a 'lifestyle environmentalism', which is being pasted like wallpaper over the cracks in society. We – and I include some parts of the environmental movement in this sweeping accusation – are being led astray by our apparent mainstream accept-



MY POINT
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ability. We are heeding the siren song of a shallow, fashionable and undefined 'sustainability', suddenly being parroted from all sides by suited wonks, reformed politicians and corporate mainchancers, which, if we don't beware, will lead to the genuinely radical message of green politics being drowned in a puce sea of business-as-usual.

Those of us who call ourselves 'green' should welcome with open arms anyone mad or persistent enough to want to jump onto our train. But we should do it on our terms. We should not let the right, the left, the centre, or anyone else try to drag us into their corner. The green movement is a radical political movement; its purpose is to question the very foundations of the modern world, and to change that world for the better. It does not exist merely to clean up the grubby bits and carry on as before.

The greens, like any other political movement, share certain core values. And I'd like to suggest, without being too authoritarian about it (heaven forbid), that those who seek to call themselves 'green' should subscribe to them.

Here, for the record, is my own highly subjective list of six core green principles:

- Rejection of the Growth Economy: the meta-ideology of Industrialism – based on endless production and consumption, and a skewed version of economic 'growth' – which encompasses capitalism and communism, and queried by greens.
- Bio-centrism: or, at least, a rejection of the overwhelming paradigm that anything useful to humanity is justifiable, and whatever is useless can be annihilated.
- Decentralisation: the democratic localisation of whatever can be localised – politics, economics, culture.
- Diversity: biological, geographical, political and cultural. The celebration and acceptance of difference over homogeneity.
- Connection to the Land: or 'bioregionalism' if you want to be extreme. The importance of appreciating, living from and cherishing the local land.
- Suspicion of Technology: not, necessarily, rejection, but suspicion. The willingness to ask what purpose any new technology serves, and to be prepared to reject or curtail it if in doubt.

I'd say that anyone who subscribes to all of the above can call themselves a deep (and possibly unrealistic) green. Anyone who subscribes to three or four is welcome aboard the train if they're not already on it. But if none of them tickle your fancy – well, now you know. 'Sustainable' you may be, but green you ain't. Sorry.

Paul Kingsnorth is deputy editor of The Ecologist.

STEVE CARROLL

THE APPLIANCE OF SCIENCE

TOM WAKEFORD SAYS BRITAIN URGENTLY NEEDS NEW MEASURES TO GUARANTEE THE ACCOUNTABILITY OF ITS SCIENTISTS.

FOR BRITAIN'S SCIENTIFIC institutions, the last 12 months have been an annus horribilis. Aided by an increase in media scrutiny, the public has begun to see scientists in a new and often uglier light. The main focus of discontent has been biotechnology, which has seen public trust in a host of 'experts' plummet to a new low.

When I recently penned a roundup of the year's tortuous events for my regular column in the journal *Science and Public Affairs*, however, it was vetoed. Much of the magazine's funding comes from the Royal Society, the most powerful scientific academy outside the US.

The editor said he had withdrawn my column because Fellows of the Society (FRS) 'wouldn't like it'. He had already got into trouble with the Society last year for publishing an article by Peter Melchett attacking the scientific competence of the government's GM trials. But the disappearance of my obscure little column is just the latest in a long series of arms-length censorships by a Society that also publishes many of the most prestigious journals in science.

Outraged by what they saw as media 'misrepresentation' of the experiments of Arpad Pusztai, the Royal Society established a 'rebuttal unit' in 1999 to ensure that journalists heard the wisdom of its elders more easily. Almost immediately, however, its activities seemed to overstep the mark when it obtained *Lancet* proofs of Pusztai's paper and one Fellow called the journal's editor.

When he was telephoned two days before the article was published, *Lancet* editor Richard Horton says he was warned that his job would be at risk if publication of Pusztai's work went ahead. The Fellow denies this. Whatever was really said, the Society does not deny the establishment of a unit that emails a group of its Fellows with information that appears to attempt the moulding of scientific and public opinion along an uncritical pro-GM line.

Set up as a product of royal patronage, the Society's funds have traditionally come, with minimal parliamentary scrutiny, from the public purse. More recently it has begun to receive substantial funds from transnational biotechnology corporations, such as Rhône Poulenc and Glaxo Wellcome. Honouring such generous donors by making them part of its 'President's Circle', the Society bizarrely justifies such donations by saying that it will ensure it can 'formulate balanced judgements about the use of science to solve national, social, economic and industrial problems... independent of vested interests'.

Until the 1960s, the *Philosophical Transactions* of the Society carried an advertisement in every issue claiming: 'It is an established rule of the Royal Society... never to give their opinion, as a Body, upon any subject'. In recent years these words have been quietly



TAXPAYERS APPEAR TO BE FUNDING AN ORGANISATION THAT PROMOTES INTERESTS OF BIOTECH CORPORATIONS

dropped, and now it seems that British citizens are paying taxes to fund an organisation that actively promotes the interests of multinational biotech corporations, under the guise of independent science.

From the portrayal of bioscientists by the media, the public is given the impression that critics of GM constitute a tiny minority among the research community. But, talking to those working on the technology in public and university labs, I have found a far more complex picture. In private, many scientists are sceptical of the benefits of GM but feel they cannot speak out for fear of not having their contracts renewed. You don't have to believe in a conspiracy theory of laboratory censorship to understand their worries. Government funding agency guidelines ban those scientists it employs from becoming 'involved in political controversy on biotechnology or the biological sciences'. Yet to uncritically support GM crops is not, apparently, considered to be in breach of this code.

The Royal Society is just one of the most prominent examples of how political pressure from government is compromising genuine genetic science. Recent research by the UK's Institute of Professionals, Managers and Civil

Servants showed that one in three government-funded laboratories has been asked to modify their conclusions or advice to: suit the customer's preferred outcome (17 per cent); obtain further contracts (10 per cent); or prevent publication (3 per cent).

But it is possible to make science more accountable. The United States, for example, has a tradition of transparency and freedom of information in public life to which many of its scientists actively subscribe. With a membership of 50,000, the US Union of Concerned Scientists (UCS) acts as a constant check on the activities of its national academies and government laboratories. The UK meanwhile risks falling into an intellectual timewarp in which scientists become mere puzzle-solvers whose compliance with the interests of their hybrid scientist-politician masters is ensured by their insecure employment.

If the British government wants to make a start, it should launch a review into the functioning and accountability of the Royal Society. If it does not, Sir Robert May should institute such an inquiry if, as expected, he becomes its president. And scientists themselves need to take initiatives. Britain needs a body like the UCS to halt the slide in scientists' integrity, which threatens not only their survival but also the wellbeing of their fellow citizens.

Dr Tom Wakeford is an adviser to ActionAid on GM and sustainable agriculture in the Third World.

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Doctor's Handwriting

A monthly column that helps you decipher the medical truth.

BY LYNNE McTAGGART

TWENTIETH CENTURY PLAGUE

If anything has changed the complexion of our health over the last 30 years, it is the virtual plague of strange new chemicals that surround us, in our homes, our air, our water, our food – indeed, in virtually every product we use in our modern lives. Toxic chemicals have now become what viruses were a century ago – the hidden source of most illnesses. In our everyday life, we are now so immersed in chemicals – at the last count there were 70,000 of them out there – that some of the latest medical conditions – sick building syndrome, multiple chemical sensitivity – are even being named after them.

The latest estimate is that the farming industry worldwide produces some 50,000 different pesticides derived from some 600 different active ingredients. Researcher Tuula Tuormaa, in a study on behalf of Foresight, the Association of Preconceptual Care, worked out that every year nearly half a kilogram of chemicals are released for every man, woman and child in Britain. Something like 350 different man-made chemicals have been detected in British tap water.

Pesticides aren't simply used in our crops and lawns. Local authorities spray recreation areas of all varieties – parks, golf courses, commons – to keep a pretty lawn. Railway workers spray kilos of the stuff on railways and embankments.

Staying indoors provides even less of a safe haven from chemical overload. In the last 30 years, many strange new man-made materials and chemicals have made their ways into our homes. In one study conducted by America's Environmental Protection Agency, comparing indoor and outdoor pollution, the population studied breathed two to five times more hazardous chemicals when indoors than if they had sat in their gardens – even those living in highly polluted cities (*Environmental Res*, 1987; 43: 290-307).

Heading the list of chemicals that make up a virtual chemical soup of our indoor air are volatile organic compounds (VOCs), derived from petrochemicals, which are invidious in virtually every aspect of building and home furnishing – paints, carpets, particle board, wood panelling, many fabrics, even adhesives. These chemicals slowly leach out toxic vapours at room temperature – a process called out-gassing. Carpets alone can contain some 120 chemicals by the time you add up the pesticides, rodenticides, fire retardants, stain-resistors, anti-static elements, backing glues, dyes and other features which make them last longer and easier to clean.

And then there are the toxic chemicals which go towards making up our arsenal of personal hygiene. A single bottle of shampoo, for example, can contain a cocktail of 10 or more toxic chemicals, such as sodium laurel sulphate, used in toothpastes and most soaps as well as shampoos, which is also a detergent used to clean industrial engines.

Despite increasing evidence that chemicals are making many people ill, the medical establishment stubbornly hangs onto microbes as

the one and only source of illness, considering any other problem the stuff of the sufferer's fevered imagination. This was the conclusion of the 1996 Royal College's report on chronic fatigue syndrome and multiple chemical sensitivity.

Understanding all the most puzzling 20th century degenerative diseases like multiple sclerosis or ME, or even cancer and AIDS, requires that modern medicine dispose of the notion of all illness having a single cause and begin thinking in terms of toxic overload.

Although good scientific studies abound that prove these chemicals can damage human health, the crux of the problem is discovering exactly how. There is no way to determine, for instance, if a single chemical disrupts hormones simply by examining its molecular makeup.

A bigger problem concerns the effect of these substances in tandem. We now know that the combined effect of two or three pesticides at the low levels that might be found in most ordinary modern environments magnifies by up to 1,600 times the effect of any of the chemicals on its own (*Science*, 1996; 272: 1489-92). That would argue for the sense of testing these chemicals in combination. But as *Rachel's Environment & Health Weekly* pointed out (13 June 1996): 'To test just the commonest 1000 toxic chemicals in unique combinations of three would require at least 166 million different experiments.'

'Even if each experiment took just one hour to complete and 100 laboratories worked round the clock seven days a week, testing all possible unique three-way combinations of 1000 chemicals would still take over 180 years to complete.'

That staggering notion requires all of us to shout a little louder at industry to avoid the use of all but well-studied chemicals and to insist that manufacturers have the burden of proof, to prove that a chemical is safe before it can be circulated. At the moment, most chemicals are innocent until proven guilty.

Perhaps most important, we must no longer allow the deadly triad of the medical, pharmaceutical and chemical conglomerates to pretend that the beginnings of a full-blown environmental plague are all in our heads – a pretence that allows them to get away with murder.



Lynne McTaggart is editor of *What Doctors Don't Tell You*, a monthly newsletter which exposes dangers and unproven practices in medicine. Annual subscriptions cost £34.95. For details: WDDTY, Tower House, Sovereign Park, Market Harborough, Leics LE16 9EF. Tel: 01858 438894.

TITLE PHOTOGRAPH

LIE OF THE TIGER

PHILIP CARTER EXPOSES THE WORLD BANK-FUNDED DESTRUCTION OF TRIBAL PEOPLES' LAND AND THE FEW REMAINING TIGER HABITATS IN INDIA.



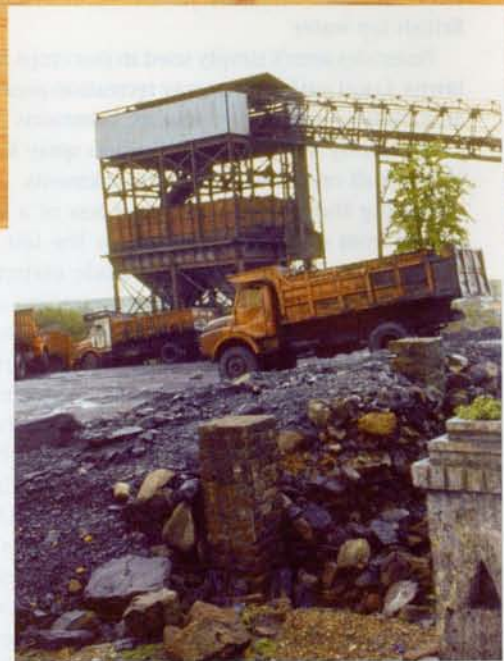
THE WORLD BANK is funding a huge coal-mining project across four states of India, which is forcing people from their homes and threatening critical tiger and elephant habitats. Only radical action is likely to prevent the Bank doing serious damage to the region.

WHEN I RECENTLY returned to the town of Hazaribagh in the East-Central Indian state of Bihar, after an absence of three years, it was plain that all was not well. Rampant coal mafia activity in one of the most corrupt and politically unstable states in India was further destabilising an already tense standoff between Marxist guerrillas and the Government. Massive amounts of foreign capital flowing into the area from the World Bank was a major ingredient in this explosive witches' brew. The Bank's ill-advised lending in Bihar has been seen by some to be directly responsible for the rapid growth of the mafia, as well as providing an illusion of security which has attracted other private mining-related investment from Japan, Canada and Australia which has also contributed to the organised crime problem. This problem

is now in fact threatening such stability as exists in Bihar, as the mafia have recently been linked with assassinations of political figures and also Forest Department officials who were opposed to their interests.

The Bank's funds are targeted at a giant coal-mining scheme, but mafia involvement has seen to it that large amounts of the coal are in fact being smuggled out of the area. In addition, the mining is spelling environmental disaster for a forest ecosystem critical for the survival of the last few thousand tigers in the wild, and humanitarian disaster for the tribal people of the region, known as Adivasis, who have in some cases been ousted from their homes by armed police.

The World Bank said such things could not happen. It said that the coal-mining projects it is funding in Bihar were to be a model of environmental and social responsibility. Out of some 400 opencast mines in a mining expansion stretching across four states, the Bank is directly funding 25, as a demonstration of how the resettlement of villagers and mitigation of environmental impacts can be responsibly carried out.



SO WHAT WENT WRONG?

The problem seems to be a combination of the Bank's traditional culture of secrecy and contempt for local concerns, and some equally traditional Indian prejudices. The villagers threatened by the mining projects are mostly tribal, looked down upon by many in the Hindu caste system. Somehow the Bank has come to support actions which, were they to occur in Europe, would cause as great an outcry as Serbian ethnic cleansing.

Essentially, the World Bank has colluded

in withholding information about the real effects of the mining from the people whose lives it will actually affect. Villagers often do not know until the very last minute that it is their village which is to be destroyed by mining. As one Bihar writer wrote in a widely distributed essay:

“Information control” is the main weapon by which this development violence is perpetrated. There is little information sharing about the planned mines, and what information exists is jumbled and indeterminate. The fact is that the people whose lives and environment are to be affected have no clear prior information. Why is it treated as a military secret?

Another good example of this is the case of the University of Delhi wildlife corridors study. This study was commissioned by the Indian Ministry of Environment and Forests, and included an important analysis of the wildlife corridors in the area proposed for mine expansion. In 1997, I interviewed the scientists involved before the study's expected release, who confirmed that there were indeed wildlife corridors under threat, important for both tiger and elephant. I reported this in a subsequent article for *Sanctuary Asia*, a leading Indian wildlife publication.

But the study was never released. After publication of my article, leading tiger conservationists repeatedly asked the Bank and Indian authorities about the study; they got no reply. Under pressure at international tiger conferences in 1998 (Dallas) and 1999 (Delhi), the Bank promised to study the effect of the mining on wildlife corridors with its own consultant. When asked why it could not consult the University of Delhi specialists, it again refused to reply.

But the Bank was well aware of the study, and had seen it. What was occurring was a calculated pattern of denial and obfuscation designed to avert any threat to the mining operations and the money that the Bank had invested in them. It was only after public protests against the Bank's operations in Washington in April this year, and increasingly vocal unease from international environmental groups over the potential threat to tiger habitats in the four states covered by the mining expansion, that the Bank finally admitted the report's existence, under questioning from the Institute for Policy Studies, a Washington-based NGO.

According to Bittu Sahgal, the editor of *Sanctuary Asia* magazine and a member of the Indian Board of Wildlife, ‘a phalanx of

‘The mining is spelling environmental disaster for a forest ecosystem critical for the survival of the last few thousand tigers in the wild’

environmental groups is now ranged against the Bank and that is why it is taking the original protests seriously. The president of the Indian chapter of the World Wide Fund for Nature (WWF) has taken the lead in writing to all the Indian ‘players’ including the Prime Minister's office, the Chief Minister of Bihar, the Environment Minister and Coal India in an attempt to resolve the conflict, if possible without recourse to courts.’

Sahgal continued: ‘more and more reports are pouring in of the richness of wildlife in the region. P K Sen, the Director of Project Tiger, said to me that: “The corridors threatened by the World Bank coal mining loan are vital to the tiger and anyone who says they are non-existent or valueless has probably not visited the area.”’

In the meantime, the local Forest Department, frustrated at the non-release of the report, had carried out its own study of the corridors in question, and wrote in a report that the area ‘was very rich in wildlife, was a corridor and a breeding ground of endangered animals’. As a direct result, two mines were held up from receiving final approval, as the original approval had been given on the basis of false information.

Of course, the World Bank could have acted to ensure that the environmental impact and the impact of mining on tribal peoples were handled properly. But the Bank, as so often, put investment before all else, and was in fact only prepared to consider environmental and humanitarian issues so long as they in no way impacted upon the projects which had been undertaken and to

which funds had been committed.

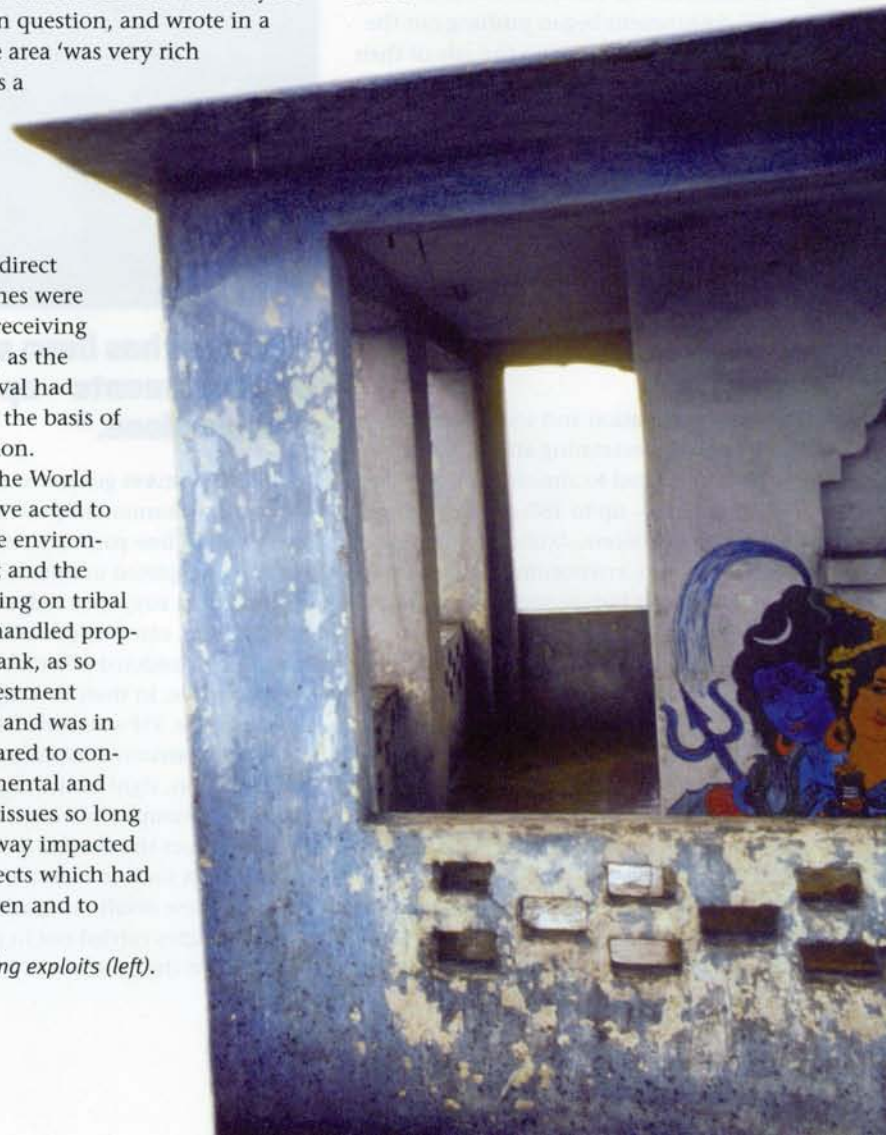
For the World Bank, sadly, this is not a novel tale – and while the Bank simultaneously funds industrial development in ecologically sensitive areas of the Third World, and is entrusted with their responsible oversight, those areas and the people living in them are in danger. The question is – what to do?

Efforts to reform the Bank at times seem beset with problems. The culture of secrecy and the concern that loans perform adequately at any cost to the environment are ingrained in the Bank's culture.

Two solutions suggest themselves: abolition of the Bank; or, at least, impartial and strict oversight of its activities by a body such as the UN.

Particularly in areas vulnerable to corruption like Bihar, where civil institutions are not functioning properly, the need for strong measures from the international community is urgent.

Philip Carter is a Canadian environmental writer whose articles have appeared in Borealis and Canadian Wildlife, as well as India's Sanctuary Asia and The Japan Times.



Home alone: a local building (right), vacated due to the coal-mining exploits (left).

'NOT A SINGLE BOMB MORE!'

MÓNICA DEL PILAR URIBE MARÍN INVESTIGATES THE PLIGHT OF AN ISLAND USED BY THE US FOR TARGET PRACTICE – AGAINST THE WILL OF ITS PEOPLE.

VIEQUES, A SMALL CARIBBEAN island of some 9,400 inhabitants, situated 40 miles from the east coast of Puerto Rico, has been used for US Navy target practice for almost 60 years. The assault has wrecked its environment, the health of the islanders, the local economy and even the archaeology. But now, the islanders have had enough.

HISTORY

Exactly one hundred years ago, the USA imposed a military government on the nation of Puerto Rico, after wresting the territory from its Spanish colonial masters. Right from the start of the US occupation of Puerto Rico, the American military had its eyes on Vieques. The island is conveniently close to one of the largest US naval bases in the hemisphere – Roosevelt Roads – in the eastern part of Puerto Rico's main island, and is ideally placed for the practice of naval manoeuvres. From the 1930s onward, the US government began pushing out the local inhabitants by forcing the sale of their lands. Today, the people of Vieques find themselves relegated to the centre of the island. Seventy-five per cent of the land is occupied by the US Navy, which also rents it out to other nations for wartime exercises. Furthermore, NATO carries out its training in the western reaches of the Atlantic Ocean, as indeed did some of the warships involved in the recent Balkans war.

DESTRUCTION

This long occupation and serial bombardment has had devastating effects. Vieques has been subjected to almost constant naval bombardments – up to 180 each year, over the past decade alone. According to Jorge Fernández Porto, environmental assessor for the Puerto Rican Independence Party (PIP), the US Navy has used live ammunition armed with radioactive material. And BL Thompson, responsible for 'Freedom of Information' in the US Marines, has belatedly admitted that the Marines' exercise area is one of only two places outside the continental United States where they have tested weapons armed with depleted uranium (DU).

DU ammunition was first tested at the Vieques firing range in 1980, and it is estimated that between 300 and 800 tonnes of

such weapons were let off there during the Gulf War. The impact has been accumulative. In a study carried out by the Department of Biology at the University of Mayagüez, commissioned by the grassroots organisation Casa Pueblo de Adjuntas, one of the key findings was that 'one year more of bombardment would be equivalent to between 10 and 15 years more of ecological damage'.

Although, as Fernández Porto points out, the radiation from the depleted uranium is at a low level, the metal is 'enormously toxic, from both the radiological and chemical point of view'. Moreover, because of the

the firing zone and even if the crab used in the analysis, the Fiddler Crab, is not actually consumed by humans, such a level of contamination is bound to affect the entire food chain, including the human population of Vieques. Humans do not readily excrete cadmium and any ingestion of it may affect the kidneys, causing hypertension and potentially cancer. In that way, its release has already caused significant and irreparable damage, even bringing about changes in the local ecology in which native species have been substituted by others.

To add to this litany of destruction, envi-



'Vieques has been subjected to almost constant naval bombardments – up to 180 of them each year, over the past decade alone.'

high temperatures generated at the point of impact, the uranium disperses in an explosive cloud of fine particles. And just one particle of depleted uranium, less than one millimetre in size, once lodged inside a human lung, can generate 800 times the radiation considered safe by US regulations.

Meanwhile, in their investigation of the affected zone, PIP scientists have gathered evidence of serious contamination in the Iacos lagoon, right in the target area. Crabs, for example, when examined, show up to 20 times the normal levels of carcinogenic metals such as cadmium and cobalt. Not that these results are particularly new. Various studies carried out in previous years have shown the presence of heavy metals in

environmental advisers for PIP have found that the target practice area is a habitat for the brown pelican, an endangered species, as well as the world's largest turtle, the leatherback. In a testimony to a commission appointed by Puerto Rico's governor, Pedro Russell, to study the impact of the US Navy's activities on Vieques, the scientists stated their discovery of countless 20mm and 30mm ammunition shells and a buried bomb around the turtles' nests. 'Leatherback turtles return to lay their eggs in the place where they were born,' they state, and they ask how many of the turtles and their eggs could have been affected by the Navy's bombing.

According to the PIP, the US Navy is

breaching numerous US Federal Laws, including the Endangered Species Act, the Clean Water Act, the Clean Air Act and the Executive Order on Environmental Justice. It is also responsible for putting 226 irreplaceable archaeological sites at risk with its bombing.

WILL OF THE PEOPLE

After decades of this, the people of Vieques have had enough. Last April, a Rubicon was crossed in relations with the US Navy following the accidental death of David Sanes Rodríguez, a local civil guard, and the wounding of three others, from two bombs dropped on an observation tower by a US fighter plane. Since then, protesters have taken to camping out in the area used by the Navy for target practice. On 4 July last year, the local Anti-Navy coalition organised a rally in which 50,000 people marched in protest to the entrance of the Roosevelt Road's naval base. Over the years, the Navy has caused a number of accidents, including five bombs that fell in 1993; two 'uncharged' bombs that destroyed part of an observation tower in 1995; and the lucky escape of the driver when M16 calibre bullets struck a municipal vehicle in 1997. Indeed, since 1991, the Vieques population, confined to its strip of 9.6 kilometres, has filed 88 complaints to the police about the activities of the military.

But the final straw was the death of David Sanes Rodríguez. The Commission of Civil Rights in Puerto Rico sent a communication to the White House asking for the immediate cessation of the bombardments in Vieques. Meanwhile, fishermen, students, professors, religious leaders and other members of the community set up camp in the target area. Having obtained a suspension of the bombing, Puerto Rico demanded it should cease permanently.

But to no avail. An agreement brought into effect at the end of January 2000, between President Clinton's Government and that of Puerto Rico, against the wishes of the Vieques population, allows the US to continue its bombing until 2003, in exchange for economic assistance for the island, plus a referendum in which the population 'will decide' whether the war games continue.

In June 1999, the special commission set up by Puerto Rico governor Pedro Russell concluded that the navy should leave Vieques and begin the orderly transfer of land back into the hands of the people of the island. Initially, the White House and

the Pentagon appeared to have taken the events and the resulting protests to heart, but Clinton then announced that the armed forces would renew their bombings in the following spring, although with a reduction in the days of training. The mili-



APRIL INTERNATIONAL

After decades of this, the people of Vieques have had enough

tary would consider leaving the region within five years.

Pedro Russell rejected the proposal. Furthermore, he accused both Admiral Jay Johnson, chief of the US Navy's Operations, and James Jones, Marine Commander, of trying to cover up their intentions while going against the decisions taken by President Clinton. Russell also claimed that the working group on Vieques was not carrying out its brief.

THE AGREEMENT

Nevertheless, the agreement has begun to be put into effect. The Navy is to leave Vieques on 1 May 2003; bombardment with blank ammunition will continue for a maximum of 90 days per year (in 1998 the troops trained for 182 days); the island will receive US\$40 million in development aid, and the Navy will return the land on the west side of Vieques to the Puerto Ricans before 31 December 2000.

In the meantime, on a day still to be determined, a referendum will be called. The people of Vieques will have the opportunity to decide whether the agreement must continue or if their lands can be used indefinitely for live target practice. If they decide for the latter, the US has a tempting offer: an additional US\$50 million for the development of Vieques.

Although Clinton acknowledged that the US had not always been a good neighbour of Vieques, he said he hoped that the

plan would help to 'solve this impasse in the most equitable possible manner'.

However, his proposal was not welcomed in Vieques. Local church representatives judged it to be 'an immoral act of power abuse' and stated that 'people's dignity

cannot be purchased with money. The health and life of the people of Vieques is priceless. Peace is above the pride and vanity of the powerful'.

Community leaders such as Alba Encarnación, fishermen's leader Carlos Ventura, students, politicians, clergy, environmentalists, grassroots and human rights organisations and in general all the people of Vieques, have begun to unite behind the call 'not a single bomb more'. They feel that Governor Russell has betrayed them, and say they will continue civil disobedience 'for as many years as necessary'. Ismael Guadalupe, leader of the Committee for the Recovery and Development of Vieques, announced that they will continue fighting, 'with more force and indignation than before' since what had been approved by the first Commission appointed by the governor to discuss the case of Vieques was the immediate and permanent cessation of all military exercises on the island.

The people of Vieques are furious. They say that the way the referendum has been set up shows the agreement to be unjust, presumptuous and biased. Constitutional lawyers and experts contend that it is unconstitutional that it should be the Navy which has call for the referendum, while excluding the rest of the population. The third option, they say, should read: 'none of the above'.

Mónica del Pilar Uribe is a Colombian writer.

DON'T COUNT YOUR GM CHICKENFEED

MARK LYNAS WARNS THAT THE ANTI-GM BATTLE IS FAR FROM WON.

THE BATTLE AGAINST GM crops, despite what the mainstream media might imply, is far from won. But, as a new report shows, there are some very clear strategic moves that anti-GM campaigners can take to keep the pressure on the industry.

WHEN MONSANTO FIRST

introduced GM crops onto the US agribusiness scene in 1996, the country's industrial prairie farmers lapped up the new technology. Promised higher yields, less reliance on chemicals and more control over pests, acreages planted with GM crops soared – GM soya reached 57 per cent of the US total in 1999, while cotton and maize were 55 per cent and 33 per cent GM respectively. Monsanto's chief executive Robert Shapiro bragged in the spring of 1999 that genetic engineering was the 'most successful introduction of any new technology since the plough'.

He was wrong of course, and has since been demoted from visionary Chief Executive of the world's most aggressive GM giant to semi-retired non-executive chairman of Monsanto's new owners Pharmacia & Upjohn. This year, acreages of all GM crops sown in the US fell: by 5 per cent for soya, 7 per cent for cotton and 8 per cent for maize.

The shift away from GM has gained international momentum – but the outcome of the battle is still far from certain. Despite the rush for profits, corporations work to long horizons. Companies have been exploring genetic engineering's commercial potential since the 1970s – and a two-year setback is small fry when taken against a decades-long corporate strategy. It is true that the biotech industry is restructuring madly. Novartis and Astra-Zeneca are set to spin off their agri-biotech divisions into a new company, Syngenta. But while the failures of GM explain part of this move, it is probably more to do with the different profitability timescales envisaged between pharmaceuticals (highly profitable now) and agro-chemicals (still hoped to be hugely profitable in the future). According to its CEO Jurgen Dormann, Franco-German giant Aventis still considers 'life sciences' – keeping phar-



maceuticals and agri-biotech together – the way forward.

The anti-GM campaign's big success has been in mobilising public opposition to the technology. Thanks to consumer and direct-action campaigns, supermarkets and food processors, especially in Europe and Asia, have started removing GM ingredients from their products. But their power is tiny compared with that held by the two corporations that together control 70 per cent of the US agricultural commodities export market – Cargill and Archer Daniels Midland. Cargill is unashamedly pro-GM, and hopes that keeping the price for non-GM soya and corn artificially high will wear down consumers and food processors. ADM's position is less clear, but it continues to accept both GM and non-GM commodities.

UPPING THE PRESSURE

The only way to break this stranglehold is for consumers to push their GM boycott into the biggest bulk market of all – animal feeds. Feed makes up 80-90 per cent of the US corn export market – and is at least 60 per cent of the soya grown. Boycotts of GM-reared chicken, milk, cheese and eggs are already gathering pace, and if successful could force both Cargill and ADM to 'switch' the majority of their processing and transporting capacity into non-GM, leaving GM as the expensive niche market. A massive nail would have been hammered into the coffin of the entire biotechnology industry.

But there is another battle looming. The industry has recognised that consumers will only accept GM if they perceive the benefits to outweigh the possible risks. Consumers don't care about corn borer beetles or soya yields in Iowa, but they do care about their health – and it is towards 'functional foods' (part of the 'second-generation' of GM products) that the biotech spotlight is turning. Monsanto is developing a potato which will absorb less fat when being deep-fried, while Dupont is working on what it calls 'better-tasting' soya. On closer inspection,

most of the health claims made for functional foods are either bogus or marginal – especially when eaten as part of a typical high-fat, low-exercise Western lifestyle.

More prominent still have been the exaggerated claims made on behalf of poor, 'Third World' consumers. Swiss scientists grabbed headlines with their 'golden rice', which they hope will help tackle blindness-causing vitamin A deficiency in malnourished children. These revelations have given GM a more positive spin in the Western media – and some very vocal Southern scientists have also been singing its praises. But the story from the grassroots is very different – peasant farmers' movements across Southeast Asia recently held a joint press conference to announce their 'struggle' against vitamin A rice and its proponents. 'The poor, they don't need vitamin A rice. They need vitamin 'L', that's vitamin Land. And they need vitamin 'M', that's vitamin Money. Malnutrition is because of poverty, not technology,' says Daycha Siripat of Thailand's Alternative Agriculture Network.

The long-term future depends on whether consumers and farmers – in both the West and the 'developing' world – accept the industry's line, or whether genetically modified food and crops can be rejected in all their forms in favour of truly sustainable agriculture and social justice.

Mark Lynas works for Corporate Watch, whose detailed briefing on this issue is available on www.corporatewatch.org or 01865 791391.

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Environmental problems can be solved by involving, listening to and working with people. The Environment Council, an independent charity, is this year celebrating 30 years of helping people to make decisions to improve their environments and their lives.

The Environment Council encourages participation on many different levels:

- Membership schemes and publications give information and advice on matters from energy efficiency in the office to strategic environmental planning for multi-nationals.
- Events covering up-to-the-minute environmental topics attract top speakers and audiences from non-governmental organisations to business and industry.
- "Stakeholder Dialogue" (mediation and facilitation) has been developed over the last 10 years and is now widely used in a range of local and strategic environmental contexts, ranging from local issues such as quarrying to strategic questions such as sustainability of a company's core business. It is used to bring diverse groups of people together in a proactive way to build consensus, as well as to resolve conflict. Recent examples include the dispute over the disposal of the Brent Spar oil storage buoy and BNFL's future approach to environmental issues.
- Training in "Stakeholder Dialogue" offers an opportunity to learn the skills from professional facilitators. The Environment Council sets up local networks of facilitators to run consensus-building events in their own areas.

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COUNTING RUSSIA'S BLACK GOLD

JONATHAN WILLS REPORTS FROM RUSSIA ON ATTEMPTS TO PROTECT A UNIQUE ECOSYSTEM FROM THE LOCAL OIL ECONOMY.

ONE OF THE most impoverished regions of the former USSR faces a classic dilemma of poor countries trying to 'develop' whether to earn badly needed cash by allowing rapid exploitation of its natural resources or to enforce anti-pollution laws and maybe drive away foreign investors.

Sakhalin, an 800km-long island off the coast of the Russian Far East, is the scene of intense legal, ecological and economic controversy as Russian, Japanese and Western joint ventures begin to exploit its offshore oil and gas. But it is possible that the outcome of this debate could help set new global standards for the oil industry and transform Russia's image as an environmental delinquent.

drilling mud with no oil in it, but the ruling stands and oil drillers must now meet higher standards in Russia than in most of Europe.

For 30 years, Exxon and other oil companies routinely discharged used drilling mud and oil-contaminated drill cuttings from rigs and platforms into the UK sector of the North Sea. Almost every platform now stands in a 'cuttings pile' several metres deep. The material is mostly barytes, with traces of diesel oil, surfactants, biocides, heavy metals and other chemicals in the often secret formulas used by well drillers. The UK Offshore Operators' Association (UKOOA) is currently studying ways of removing up to 1.5m

with the Russian equivalent of the Department of Trade and Industry, in a decree that dismayed environmentalists. A zero-discharge regime would certainly make one of the world's less profitable oil prospects even more expensive. Costs are already high, not least because the sea freezes for six months a year, so offshore loading of tankers is confined to the summer. Year-round production would require a pipeline to shore, protected against ice scouring and earthquakes. The reserves are large, however, and close to markets in eastern Asia, so current high oil prices make it likely that Sakhalin's coastal shelf will be developed.

TECHNICAL PROBLEMS

If the industry overcomes legal, political, financial and technical problems, it still faces serious environmental challenges because the Sea of Okhotsk oil discoveries lie under a foggy, windy, shallow shore. The Molikpaq production platform at SEIC's Piltun-Astokhskiye (Vityaz) field is less than 20km from the beach, in only 30m of water.

Molikpaq pumps its oil through a flexible hose into a floating storage and offloading unit (FSO) – a 140,000-tonne tanker moored by two hawsers to a single anchor leg mooring buoy (SALM). To export a cargo, an 80,000-tonne shuttle tanker noses in, makes fast to a line from the stern of the FSO, and loads from another flexible hose. The principle is similar to offshore loading at BP and Shell's Foinaven and Schiehallion fields in the Atlantic west of Shetland, but their FSOs are massively anchored 150km offshore, in water 500m deep. A Sakhalin FSO has to disconnect and move away during the ice season, so its moorings are less substantial. Off the northeast coast of Sakhalin there may be as little as three hours, on a windy day, for tugs to stop a disabled tanker drifting aground.

SEIC appears to have good equipment but accidents can still happen. On 28 September last year, just as Molikpaq loaded its first cargo of crude, the new FSO tanker Okha's hawsers snapped and the huge ship drifted away from the buoy. The flexible flowline disconnected automati-



Piping up: the Kutangli onshore oilfield (above).

Down town: Derelict hamlet in the forests of northern Sakhalin (background).

BLACK GOLD

Westerners returning from Russian oilfields often tell horror stories of chronic pollution, outrageous safety hazards and institutionalised corruption. The Komi spill and Siberia's 'lakes of oil' are eco-legends in the Exxon Valdez class. So it's a surprise to discover that Russian environmental law can be more stringent than the laws of both the US and Britain – at least on paper.

For example, a recent case brought against Exxon by Ecojuris – a Moscow-based group of environmental lawyers – ended in a Russian Supreme Court order forbidding the oil company to dump used drilling fluids in the Sea of Okhotsk, where their Sakhalin drilling site is based. Exxon had pledged to use only water-based

tonnes of this material from the seabed, where it can smother and poison marine life. The alternatives are to grind it into a fine slurry for pumping back underground, or to ship it ashore for processing.

Irritatingly for Exxon, traditional dumping is going on a few kilometres from their Sakhalin site, under an earlier licence granted to the island's first (and so far only) offshore producer, the Sakhalin Energy Investment Company (SEIC, a joint venture between Shell and Russian and Japanese companies).

Exxon is reportedly lobbying to change Russian law. The election of Vladimir Putin as a pro-development president looks like good news for the company. Putin has just merged the State Ecological Committee

cally but about 1.5 tonnes of oil went in the sea. Fortunately, the weather was fair so the Okha and the shuttle tanker escaped undamaged, but the emergency response vessel Agat scooped up less than 10 per cent of the slick. SEIC was fined US\$17,710. The fiasco gave credence to Greenpeace and others who'd warned of the dangers. Questions were asked about what SEIC could have done if the tankers had gone aground.

OIL VERSUS WILDLIFE

The northeast coast of Sakhalin is peculiarly vulnerable to oil pollution. Rising sea levels and longshore drift since the ice age have created a remarkable, 500km-long beach. Between the beach and forested dunes lie several very large, shallow, brackish lagoons, linked to the sea by entrances 0.5km to 1.5km wide. The lagoons are larger than the famous Camargue, in France, and even richer in wildlife. At least 15,000 migrating whooper swans pass through each season, along with an estimated 600,000 black scoters and white-winged scoters and tens of millions of migrating shorebirds. Several species of grebes and divers (loons) feed in the shallows offshore. Many of the world's last 1,000 Steller's sea eagles follow the beach on their annual migration between Japan and Kamchatka, fishing in the lagoon entrances. The area has 32 species of marine mammals, including 50–100 endangered grey whales and an estimated 218,000–360,000 seals of various kinds.

Northerly winds and currents will tend to drive oil slicks towards the spectacular seabird and seal colonies of Cape Terpeniya and Tyulenny Island. Flocks of thousands of seabirds from these cliffs range hundreds of kilometres out to sea and, like those killed off France by the Erika spill, are specially at risk from oil slicks.

If the full cargo of the FSO or a shuttle tanker spilled, it could cause an environmental and economic catastrophe in the Sea of Okhotsk and its relatively pristine shoreline and fishing grounds. If oil entered the lagoons, damage to fish spawning grounds, wildfowl habitat and local commercial and subsistence enterprises could be, literally, incalculable. Because Russia's illegal economy is at least 40 per cent of GDP, no one knows the true monetary value of Sakhalin's wildlife resources, but it is doubtful whether the US\$700m insurance cover for Vityaz could pay full compensation in a worst-case spill.

Attempts to stop an Exxon Valdez-sized slick (40,000 tonnes) reaching the beach

would be futile. It might work in a flat calm but such weather is rare on the east coast of Sakhalin. Recognising that beach protection is unlikely to work, SEIC concentrates on keeping oil out of those precious lagoons. With currents up to 7.4 km per hour (4 knots) and frequent strong winds, closing the entrances with floating booms is impossible. Instead, the strategy is to use serried ranks of boom, angled to deflect oil into collection basins where, hopefully, it can be recovered by skimmers and pumps and stored in flexible tanks.

Not surprisingly, the authorities in Sakhalin emphasise prevention as their best anti-pollution policy. There is talk of stricter weather limits on offshore loading, better escort tugs, more rigorous ship inspections, and surveillance and identification of individual tankers, using technology designed

'We have an ecological crisis on top of an economic crisis.' Dr Natalya Onischenko, chair of the Russian State Committee on Protecting the Environment of Sakhalin

to detect illegal trawling. But progress is hampered by lack of money, by confused and overlapping layers of Russian bureaucracy and by the fear that, if Sakhalin demands too many environmental safeguards, the oil industry will go away, denying Russia's poorest province the modest oil revenues it desperately needs. Atlantic Richfield (Arco) and Marathon Oil have already pulled out.

Dr Natalya Onischenko, chair of the now dismantled Russian State Committee on Protecting the Environment of Sakhalin, told me, 'We're trying to use all the worldwide expertise available to make our response plans as efficient as possible but the social and economic conditions in Sakhalin are not ideal... We have an ecological crisis on top of an economic crisis.'

The 600,000 inhabitants of Sakhalin face environmental problems that may indeed seem more urgent to them than the future of Steller's sea eagle: forests ruined by clear felling and wildfires; air and water polluted by smoke and run-off from uncontrolled refuse tips; broken sewers; oil pollution from hundreds of onshore oil wells; destruction of wildlife and fishing grounds by poachers; and a desperate shortage of cash to run nature reserves and enforce environmental laws.

SAKHALIN ENVIRONMENT WATCH

In this derelict economy, with almost half the people living below the Russian poverty line, there is political pressure to develop offshore oil and gas quickly. Environmentalists are not popular with government economists and Russian businessmen, so the existence of an NGO called Sakhalin Environment Watch is remarkable.

Known simply as 'The Watch', it was started in 1995 by Emma Wilson, a Cambridge postgraduate who became concerned about the potential impact of oil developments while doing research on the Evenk and Nivkh indigenous reindeer herders in the far north of Sakhalin. Guarded by a pair of unsmiling, muscular doorkeepers, The Watch's tiny office is up a smelly staircase in a rickety apartment building in Yuzhno-Sakhalinsk. The director, Dmitriy Lisitsyn, is a geologist turned carpenter. The four full-time staff, helped by a couple of dozen volunteers, receive grants from charitable foundations, mostly American, enabling them to create a wildlife refuge, monitor industry compliance with Russian environmental law, hold public meetings to debate environmental issues, and lobby government, industry and the media. They argue that Sakhalin's entitled to expect oil industry environmental standards no lower than those in Norway, Alaska or the UK.

Some oil company people believe Lisitsyn wants to halt offshore oil. In fact he's merely asked the industry to observe the law. Although The Watch enjoys some popular support, powerful opponents can be quite sinister. The manager of one Russian company warned Lisitsyn last year that 'unpleasant things' would happen to 'ecologists' if they didn't 'shut their gobs'. But in January, the Russian Ministry of Transport ordered the DNIIMF marine science institute in Vladivostok to do a complete review of tanker routing around Sakhalin, apparently in response to The Watch's concerns.

Greenpeace may be right that it would be better, environmentally and economically, to invest in Sakhalin's great potential for power from wind, tides, rivers and geothermal sources. But the political debate in Sakhalin today is about limiting pollution risks and making sure oil revenue is shared fairly, not about re-routing the region's economy in response to global warming.

*Jonathan Wills is a writer, wildlife guide and environmental consultant. He recently made a research trip to Sakhalin with two colleagues. Their report is called **Sakhalin's Oil**.*

BLOWIN' IN THE WIND

PETER BUNYARD EXPOSES THE REAL HEALTH THREATS POSED BY INDUSTRIAL WASTE BURNING AND ASKS WHY THE GOVERNMENT IS COVERING THEM UP.

TENS OF THOUSANDS of people a year may be dying prematurely in the UK as a direct result of government policies that allow industry to burn toxic wastes as fuels – and get paid to do so.

ACCORDING TO DICK Van Steenis, a retired GP who has made it his work to study the toxic effects of incineration fallout, the catastrophic rise over the past decade in chronic disease, including asthma, cancer, heart attacks and rheumatic disorders, as well as in stillbirths, can be traced to air pollution from industrial plants, and the fallout of lethal microscopic particles that get lodged deep in the lungs. By burning waste oils as fuels, industry is sending plumes of toxic particles into the atmosphere.

Nowhere else in the European Union do governments sanction such a practice which, according to Van Steenis is costing the NHS £11 billion a year – as much as one quarter of its total budget – in unnecessary sickness. Yet rather than admit to the problem, the government has allowed industry to get away with inadequate monitoring, and at times has encouraged the actual falsifying of data.

SOMETHING IN THE AIR

Toxic particulate matter in the air is measured in PM10s, particles with a size no bigger than 10 microns (10 millionths of a metre). Government figures given to the European Commission indicate that in 1998 the UK had an annual average of 26 micrograms per cubic metre of air (microg/m³): compared with Sweden's 14, France's 59, Spain's 69 and Germany's 40. Yet when we look more carefully at the data which makes up that laudable average, we find suspiciously low numbers coming from regions with the highest pollution potential. An opencast mine at Morpeth in Northumberland therefore registered data from its monitors that showed negative or zero pollution, while Castle Cement at Clitheroe in Lancashire, came up with numbers of -17.

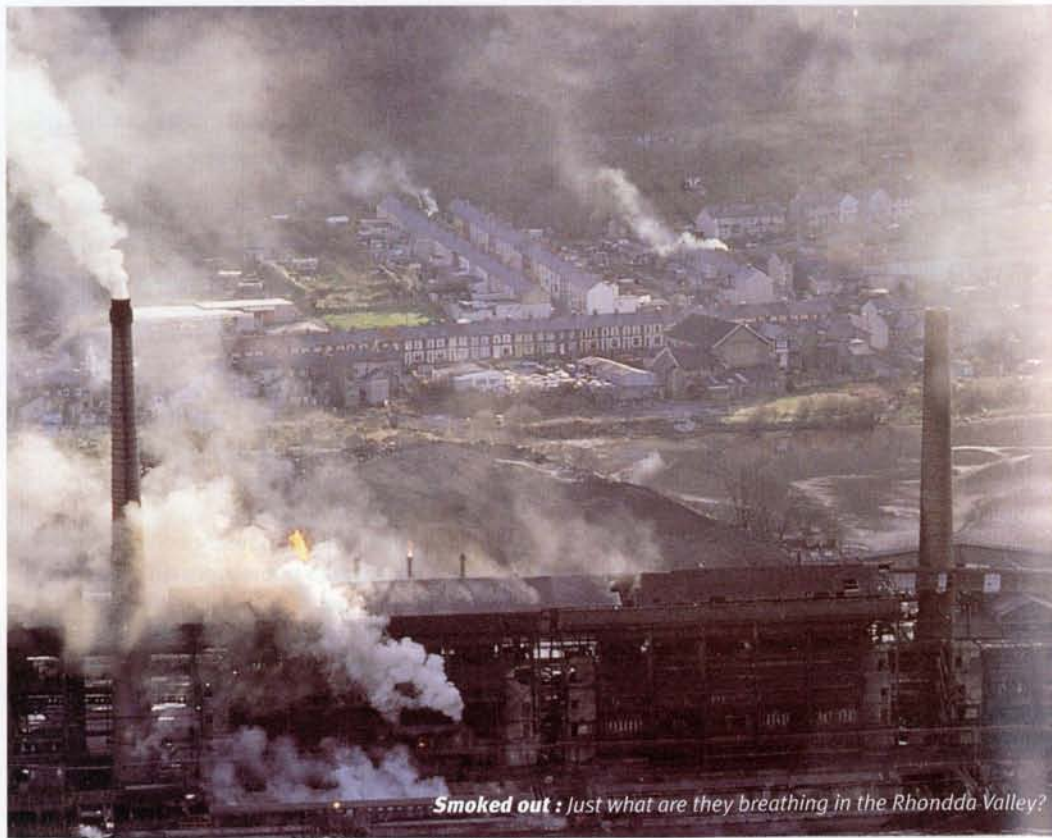
When independent measurements are taken, UK particulate air pollution is shown to be particularly bad. According to Van Steenis, total emissions from US incinerator plants amount to 1,636kg per year,

whereas just one incinerator in the UK – Lewisham, in 1997 – emitted 20,342kg of particulates and volatile organic compounds without accounting for metals and fluoride. Little wonder, he says, that birth defects have emerged as a serious problem 0.5 miles downwind.

Even in still weather in the UK, pollutants from industry's burning of waste – including exceptionally toxic dioxins – can

ardous waste should include cooling to below 177°C, charcoal filters to reduce volatile organic compounds, scrubbers to reduce sulphur dioxide and bag and/or ceramic filters to reduce particulates. Few UK plants have any of these items. In the US, federal law requires destruction of 99.9 per cent of waste entering an incinerator.

Is it pure coincidence that as many as 10 per cent of women in the UK now suffer



ENVIRONMENTAL IMAGES

Smoked out: Just what are they breathing in the Rhondda Valley?

end up as far as 46 miles from their source. And with incinerators now using hazardous waste as prime fuel, the result is the formation of a potpourri of organic compounds combined with a cocktail of gases and metals blowing across Britain and settling, ultimately, in people's lungs.

When chlorine and hydrocarbons are present in the chimney and temperatures lie between 177°C and 800°C, then inevitably dioxins will form. And those are just the conditions found at the back end of cement kilns, where temperatures average 230°C. Abatement equipment in all incinerators and plants burning such haz-

ardous waste should include cooling to below 177°C, charcoal filters to reduce volatile organic compounds, scrubbers to reduce sulphur dioxide and bag and/or ceramic filters to reduce particulates. Few UK plants have any of these items. In the US, federal law requires destruction of 99.9 per cent of waste entering an incinerator. Is it pure coincidence that as many as 10 per cent of women in the UK now suffer

FLAWED MEASUREMENTS

In his evidence to the House of Lords Select Committee on the European Communities (Session 1998-1999 11th report), Dr Van

Steenis pointed out that the monitors used by industry and the Environment Agency are capable of measuring only those PM10s which are no smaller than PM4. Yet those that enter the lungs and wreak their damage happen to be PM2.5s – which, conveniently for the authorities, are too small for detection, at least with the monitors currently in place. With the right equipment, though, they can be detected, and, in one study, Van Steenis found that for much of the year PM2.5 levels were higher than PM10s.

When waste oils are burned in incinerators, toxic metals such as nickel, vanadium and cadmium get ensnared in the particles given off into the atmosphere. The dangers of such undetected, unabated pollution in terms of health are glaringly obvious, and are known to government officials. Analysis at one site, says Van Steenis, showed cadmium levels in a school to be equivalent to children smoking some 300 cigarettes daily. That the UK has the industrialised world's highest incidence of asthma, heart deaths, cancer and depression, and also has the laxest regulation of industrial burning of such toxic waste fuels is unlikely to be a coincidence.

COVERING UP

The Government knows all this. At a Health and Safety Executive conference in London, in January 1998, a senior Department of Health official declared that premature deaths caused by air pollution in the UK were a price worth paying for keeping production costs down and making Britain competitive in the waste market. And a 'not to be seen by the public' comment on the Environment Agency's authorisation to Texaco oil in Pembroke to allow burning of its waste at night shows the lengths to which government is prepared to collude with industry.

As so often, the people bearing the brunt of this pollution are the poor. Friends of the Earth points out that 662 of the UK's largest factories are in places where the average household income is less than £15,000 – compared with just five sited where average household incomes are more than £30,000. In Teeside, home of Britain's most polluting factories, the average income is just £6,200.

Using simple epidemiological criteria, such as the number of inhalers used by schoolchildren and measurements of peak-flow into the lungs, Van Steenis has traced respiratory disorders back to their source of origin, whether cement works, incinerator, earth-moving equipment, or open-cast coal extraction. And infant mortality rates have

also risen sharply (they have doubled in the Rhondda Valley and Merthyr Tydfil) following Environment Agency demands that local councils dump toxic waste in their respective landfills. The councils get £10 a tonne as a sweetener. Infant mortality figures in those two Welsh areas are now on a par with Belarus in Byelorussia as a result of radioactive fallout from Chernobyl, four times higher than in Helsinki and nearly double those of London.

Meanwhile, in schools downwind of air pollution, Van Steenis finds that as many as one out of every three children today suffers from asthma, which was not the case before the strategy to eliminate waste oils by incineration and dumping in landfills. To compound the impact of its pollution policy, the Government attempted to scupper an EU proposal that hazardous waste sites should be at least 2km from residential areas.

HIDING BEHIND DEFINITIONS

Essentially, by permitting waste oils from industry to be labelled as 'fuel', industry and government have escaped from their obligation to treat such oils as hazardous wastes, requiring special treatment. Up to 70 per cent of heavy earth-moving equipment now uses oil waste as fuel, which when burnt as 'waste' it can emit as many as 145 million billion metal-contaminated particles a minute. As if that were not enough, the Environment Agency, through its Trans Frontier Shipment Service, now sanctions the importing of 3,000 shiploads a year of hazardous waste. Some of that metal-contaminated waste is then processed and turned into secondary liquid fuel for use by industry, all ready for distribution into our lungs.

The EC directive on the incineration of hazardous waste dictates that no more than 40 per cent of the fuel mixture to be burnt should contain such wastes. In one instance, spent solvents that had been imported and were awaiting processing, had their category changed to 'petcoke'. By a similar stroke of the pen, a limekiln in Thrislington obtained a licence to burn fuel that was 100 per cent hazardous.

HAZARDOUS EMISSIONS

The emissions from burning waste fuels affect health in different ways. Volatile organic compounds (VOCs) affect thyroid activity. Some 15 per cent of women in the UK are alleged to have thyroid deficiency, as Van Steenis points out. Benzene and nitrobenzene can cause leukaemia. Carbon

monoxide and hydrogen sulphide affect oxygen uptake by red blood corpuscles, as well as blocking a cytochrome enzyme in the liver which is essential for detoxifying pollutants. That blocking could affect our ability to deal with residues of organophosphate pesticides in food.

Nitrogen oxides generated during combustion, in the presence of VOCs and sunlight, forms ozone, which at levels over 80microg/m³ causes asthma and at higher levels still can bring about heart attacks. The burning of waste fuel oils increases the emissions of nitrogen oxides.

Incineration of waste fuel oils without abatement leads to a massive increase in the emissions of heavy metals, especially nickel and vanadium. The burning of orimulsion, a bitumen product, led to nickel emissions from a Powergen plant that were 3,088 times greater than from a coal-fired plant with scrubbers and vanadium emissions that were 13,705 times greater. Vanadium is linked to asthma, as is nickel; cadmium causes cancers of the lung, breast and prostate; chromium causes lung cancers, as does beryllium.

Epidemiological studies in Australia indicate the relationship between industrial emissions and leukaemia and cancer rates. Less than 5 kilometres from a steelworks in New South Wales, the leukaemia incidence per thousand was greater than 4, whereas it had dropped to well under 0.5 15 kilometres away. During the same period, 1972 to 1994, the cancer rate showed a 10-fold drop over the same distances from the steelworkers' smokestacks. Such findings have been confirmed for other industrial plants in both Australia and the United States.

The sharp rise in asthma among children is probably the most striking indicator that we are now subjecting ourselves to a continual fallout of dangerous chemicals from industrial incineration. Where we live probably says it all; by mapping the use of asthma inhalers among primary schoolchildren Van Steenis finds that the numbers increase in direct proportion to the distance from a major source of pollution, and that the relationship holds right across the country. Significantly, when he tried to develop a 'post-code' inventory for chronic diseases, including cancers, he found himself thwarted and denied access to public health records. As far as the authorities are concerned, what people don't know they can't grieve over... particularly when jobs are at stake.

Peter Bunyard is Science Editor of The Ecologist.

PARADISE FOR SALE – A PARABLE OF NATURE

By Carl N. McDaniel and
John M. Gowdy
UNIVERSITY OF CALIFORNIA PRESS,
US\$17.95

This gripping account of the self-destruction of Nauru – once the richest island in the South Pacific – is a cautionary tale for our times. After thousands of years of peaceful existence in ecological harmony, doom was spelled for this flyspeck of an island and its

Polynesian inhabitants when rich deposits of guano – accumulated over aeons – were discovered there a hundred years ago.

Both under colonial rule – by the Germans until World War I and the British until World War II – and as a UN protectorate until its independence in 1968, Nauru was systematically stripped of its only natural resource of value to the outside world: its phosphates which are in demand for large-scale agriculture in industrialised societies.

By the time Nauru finally achieved self-rule as the world's smallest secular nation, the once self-reliant and self-sustaining inhabitants had become so dependent on the global economy that they no longer had the option of reverting to their old, time-tested lifestyle. As almost everything needed for their sustenance, including food and drinking water, must be shipped in from distant lands, the Nauruans now find themselves trapped in the insidious web of a monetary system. But as the trust fund established for their financial security is being exhausted with the once rich phosphate deposits, the islanders will soon find themselves with no means of support.

In common with many other isolated societies, deemed 'primitive' by Westerners,

Nauru lost much of its innocence and cultural uniqueness under the ignorant and arrogant tutelage of Christian missionaries,

‘In common with other isolated societies, deemed ‘primitive’ by Westerners, Nauru lost much of its innocence and cultural uniqueness under the ignorant and arrogant tutelage of Christian missionaries’

On PARADISE FOR SALE

who taught them to be ashamed of their bodies, while condemning their efforts at maintaining a viable population by various means. Western beliefs compelled the newcomers to zealously 'improve' a society that had existed for thousands of years before being discovered by the white man. But he did not just bring salvation to this tropical paradise – he also brought a plethora of dis-

WHY ELEPHANTS HAVE BIG EARS

By Chris Lavers
GOLLANCZ/£18.99

'Rethinking basic assumptions': anyone familiar with *The Ecologist* will recognise this maxim. And in his book, *Why Elephants Have Big Ears*, Chris Lavers sets out to do just that. Why are we warm blooded, he asks? And why are all mammals so big? Why are there so many more bird species than mammals? By digging into the fossil records, Lavers unearths some of the answers. And as he ventures through the grand sweep of time, other extraordinary facts come out of the woodwork; the dinosaurs that palaeontologists insist still exist; the desert antelopes that never drink, the iguanas that clambered aboard a raft to populate Anguilla and, of course, the naked mole-rat. Snug beneath the Somalian desert, this outlandish little fellow subdues its metabolism to such a degree that it is virtually cold blooded and lives, bee-like, in huge colonies, working tirelessly to pleasure the whims of a single fertile Queen. Earth's story, and the ongoing tussle between palaeontologists as to how to tell it, makes for fascinating reading.

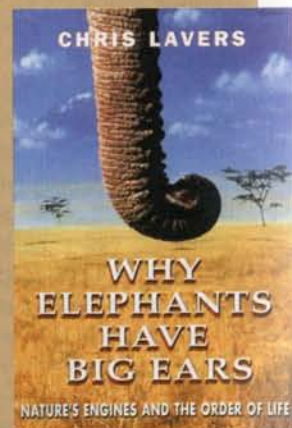
Lavers' most important tale concerns Pangea. Pangea is the name given to Earth 250 million years ago, when all the different continents were clumped together into one giant landmass, and surrounded by a single ocean known as Panthalassa. At some point in the history of Pangea a major disaster occurred – a disaster so huge that 95 per cent of the world's species were wiped out. Even insects, said to be the only creatures capable of surviving a nuclear holocaust, were destroyed. Coral reefs were wiped clean from the seas; they took another 7-8 million years to grow back. The wholesale devastation left a dent in the world's coal stores lasting well into the middle Triassic period.

And the cause of this Armageddon? Global warming and the homogenisation of Earth's species; the two major human-inflicted ills affecting Earth today.

For, as Lavers' points out, with our constant to-ing and fro-ing, the Earth is fast becoming a sickly brew of ecologically unhinged species. Each time a transatlantic liner crosses the globe, for example, it uses sea water as a ballast. But in one study, scientists found 367 different types of species in a water weight; creatures which are discharged into foreign bays at the journeys' end. Subsequently, ecologists now earmark bays and estuaries as the most endangered environments on the planet. As for global warming; over the next century, Earth is predicted to warm by three degrees; a temperature change that would melt the Arctic. The thawing of Pangea took longer: Siberian volcanoes spent 900,000 years spewing enough carbon into the atmosphere to raise Earth's temperature six degrees. But it was enough to cook the poles and melt the ocean's thermal gradient. Eventually, water circulation slowed to such a degree that the seas stagnated... and Panthalassa began to rot.

So, are we heading the Permian way? All Lavers will say is that the writing is on the historical wall. But one thing is clear: Darwinian notions that see humanity as a sign of evolutionary progress are wrong. For any species that can make such a glorious mess in so little time is surely no success.

Lucinda Labes



eases hitherto unknown to these primitive heathens.

In a chapter titled *Living the Myths* the authors draw some parallels with other isolated cultures threatened with extinction by the imposition of a money economy, replacing the traditional barter system. Several pages are devoted to the former Himalayan kingdom of Ladakh, now part of Kashmir. Citing Helena Norberg-Hodge's seminal work, *Ancient Futures*, they lament the fact that the young Ladakhi are often ashamed of the traditional ways, and that the old beliefs and values are no longer central to everybody's existence. And because the people of Ladakh – who used to practice polyandry in order to maintain a sustainable 'ecological footprint' of about one person per square mile – have been dis-connected from their habitat and uprooted from their culture, the population has now grown beyond sustainable levels.

Paradise for Sale is much more than a dirge for quaint vanishing cultures, however; it is a metaphor for what ails modern society as a whole. The fate of Nauru is not just an isolated tragedy; it is, in the words of the authors, 'a story of power, exploitation, greed, and the selling of the future for short-term gain, which... render intelligible the numerous fallacies in our cultural beliefs and the trajectories they [project].' Since technology has greatly accelerated the current ecosystem and habitat destruction, it is unlikely that we will be able to restore our planet's biodiversity by technological means – 'with the market as our master, technology is the handmaiden of this destruction'.

Like the Nauru natives, who sold the very land from under their feet for a brief moment of material wealth, or the Rapa Nui of Easter Island, who built bigger and bigger statues to appease the gods, today's corporate and political leaders call for ever greater economic growth as a way of guaranteeing human well-being. Yet 'within the last several hundred years all of the major components of this worldview' have been shown to be untenable.

Despite the gloomy picture painted by the authors of our present technology-based civilisation and its devastating impact on our planet, the authors end their narrative on a note of optimism. In response to the question whether the fate of Nauru and countless similar examples prove that our globalised economy is, in fact, dysfunctional and self-defeating, they assert that we 'certainly have [both] the knowledge and the resources to achieve enduring habitation'.

But the authors are no romantics à la

Rousseau who view the world through rose-coloured glasses; both have solid scientific credentials. Perhaps it is the fact that they are not beholden to any corporate or other short-sighted interests which enables them to take an objective and dispassionate view of their world – a world which is rapidly depleting its finite resources under pressure of an exploding population and reckless consumerism.

To paraphrase Louis XIV: 'After us, the flood.' (Apres moi le deluge.)

Gard Binney

THE DAILY GLOBE – ENVIRONMENTAL CHANGE, THE PUBLIC AND THE MEDIA

Edited by Joe Smith
EARTHSCAN £14.95



Will Make Schools Obsolete by 1970', it continued, 'New Device to Provide High-Minded Alternative to Mindless Drivel Found on Radio'.

As we know, things didn't quite turn out as predicted. Some of the greatest challenges facing humanity, such as climate change and biodiversity loss, have enormous implications for economic, social and environmental security. Yet the significance of these issues is not reflected in media reporting. *The Daily Globe* explores why this is the case in a wide-ranging collection of essays from scientists, broadcasting practitioners, theorists, observers and campaigners.

There's some useful and insightful material in this volume, but there are unfortunate limits to its reach. Almost all the analysis is about the UK; the massive corporate media mergers of the last decade or so, and the implications of these for quality reporting, are largely neglected; and television, which is arguably the most important medium of all, gets little attention in comparison to radio

and newspapers. Also, very few of the contributors reflect on the implications of new media such as the Internet, and plausible suggestions as to how to improve the situation significantly through structural change are as thin on the ground as bicycles in a Wal-Mart parking lot.

Among the most valuable contributions come from Roger Harrobin, long time environment reporter for BBC Radio 4's *Today* programme, who gives an insider's view of the day in, day out struggle to get serious environmental news onto one of the most important and influential programmes in the BBC's output.

The very phrase 'sustainable development', says Harrobin, is enough to send a news editor to sleep before the end of the seventh syllable. Part of the reason, he says, is that the news machine is increasingly driven by a tendency to narrate events and explain ideas by personalising the news according to the formula 'news is people'. Time scales are another problem. News explains the events of the day, as selected by the professional and personal preferences of editors, and examines their short-term consequences. It is extremely difficult to engage the news machine with discussion of consequences that may or may not result in fifty years' time. Added to this is the requirement for novelty. 'The idea that the world may warm with potentially catastrophic consequences over the next century is an old story – it may be massively important but, unlike the latest cricket score, we have heard it before'. An uncomfortable paradox arises in which the longer some problems – such as the burning of the Amazon rainforest year after year – persist, the less they hold the attention of the media, even though they may be of paramount importance.

Environmental journalists often go to considerable lengths to overcome these obstacles by disguising reports of long-term environmental change as news events. But these sometimes backfire. For example, in attempting to raise the news significance of the massive coral bleaching episode that affected reefs round the world in late 1998, Harrobin invited the UK Deputy Prime Minister John Prescott to join him on a scuba dive off a damaged reef. The venue was fixed for the Maldives islands because Mr Prescott was already on an official visit to nearby India. The addition of a heavyweight politician provoked infinitely more interest than would normally be manifested in a report on coral death, and the story ran prominently to millions of listeners and viewers on the BBC. But in the print media the initiative backfired. ❖

badly as leader writers condemned Mr Prescott for enjoying himself at the taxpayers' expense. 'Once the news line of a story is established ('MP in freebie' – rather than 'Global Coral death') it can be hard for individual reporters to take an independent media line.'

Julian Darley is an academic and activist who spent six months with the *Today* team, looking at the way news is manufactured. His incisive and dispassionate analysis confirms Harrobin's experience. Darley identifies several generic problems with the requirements of the format, including a bias toward surface knowledge only, driven by desire to entertain and get ratings. Also, there is a tendency, when the environment is treated as a mainstream issue, to use it as a shuttlecock in the construction of public life as a game or squabble. Reports are sometimes of superlative standard, says Darley, but they are more likely to focus on 'who, what, when and where' rather than 'why'. The producers are strongly motivated to do the 'right thing' but tend to be confined by certain assumptions,

'The very phrase 'sustainable development', says environmental reporter Roger Harrobin of BBC Radio 4, is enough to send a news editor to sleep before the end of the seventh syllable. Part of the reason, he says, is that the news machine is increasingly driven by a tendency to narrate events and explain ideas by personalising the news according to the formula 'news is people'.'

On THE DAILY GLOBE

often determined by the privileged educational background from which most of them come.

Other essays in *The Daily Globe* range wide, and cannot all be discussed for lack of space. They include a contribution co-written by Robert May, chief scientific adviser to the UK government, who says, in a nice understatement, that 'in addition to the need for greater public understanding of science, there is a need for greater understanding among scientists of the public'. John Gummer,

Minister of Environment in the last Conservative government reminds readers how perfectly reasonable politicians, utterly and publicly convinced of the need to raise taxes on fossil fuels, will switch to the other side in the space of a single by-election. Bob Worcester of MORI reports that 'journalists' enjoy some of the lowest levels of trust among the British public, but does not explain the weird contradiction that this does not apply to TV newsreaders, who somehow get one of the highest ratings. Devinder Sharma, an Indian journalist with a science background, explores the role of the journalist as advocate and watchdog in relation to genetically modified organisms. Paul Brown, environment correspondent of *The Guardian* talks of the entrenched attitude even at some supposedly enlightened papers of 'we've all had enough of that eco-bollocks'. Cherry Farrow gives a useful thumbnail of the ups and downs in the struggle by NGOs and others to get climate change onto the media agenda for the last ten plus years. Vikki Spruill tells an instructive tale of SeaWeb, a novel US programme aimed at bridging the gap between environmental knowledge and the media with regard to the grave crises in the world's oceans. And David Gee of the European Environment Agency makes a good start at the challenges of communicating complexity and uncertainty.

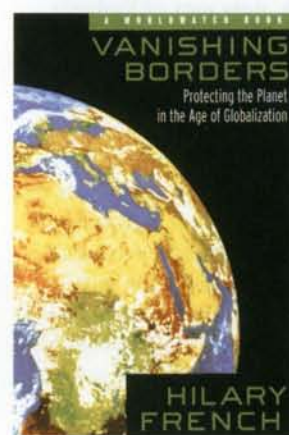
But *The Daily Globe* is a dry book which, taken as a whole, fails to address some of the most burning political and social justice aspects of environmental change and globalisation, and scarcely mentions the increasingly important role of independent and activist media. It's a useful but not essential addition to a library on media and society, in which required reading should include *Breaking the News - How the Media Undermine American Democracy* by Fallows and *Toxic Sludge is Good for You* by Stauber and Rampton.

Meanwhile, the big guns trundle forward. In a recent editorial recommending privatisation of the BBC, *The Economist* pointed to the 'inevitable' economic logic of the numbers. Ten years ago, the BBC had revenues of £1.5bn. Warner Communications, one of the largest private-sector equivalents, had a market capitalisation of £6.3bn. Last year, the BBC's income was £2.8bn, and the market capitalisation of Time Warner AOL, which is what that once modest film and television company now finds itself part of, is some £160bn.

BBC plc, anyone?
Caspar Henderson

VANISHING BORDERS – PROTECTING THE PLANET IN THE AGE OF GLOBALIZATION

By Hilary French
W W NORTON & CO, NEW YORK AND
LONDON/£12.95



Hilary French is vice-president for research at the Worldwatch Institute in Washington, DC. In *Vanishing Borders* she provides a clear and well-reasoned plan of action for ensuring environmental stability in the wake of runaway globalisation.

At the dawn of the 21st century, our world is shrinking fast. Nation states are surrendering their sovereignty to transnational corporations and global institutions who make up their own rules and answer to no civil authorities. As national borders are erased, environmental issues are steadily gaining a more important role on the international political agenda – much as arms control agreements once dominated world politics during the Cold War. The author convincingly argues that the only viable long-term solution is to revamp international treaties and institutions so as to integrate ecological considerations into the myriad conflicting rules now governing global trade.

She presents a clear and concise blueprint for what can be done to restore and safeguard environmental stability by such diverse groups as businesses, shareholders, consumers and NGO activists – a rapidly growing political presence on the world stage.

Perhaps the main thrust of the author's argument is the need for greater oversight of the often self-serving and arbitrary agendas of the World Bank, the International Monetary Fund (IMF), the World Trade Organisation (WTO) and similar supra-national institutions. She is optimistic that last year's 'Battle of Seattle' marked a watershed in the public's perception of a trend which heretofore had been accepted as a logical consequence of economic expansionism.

In chapters with such provocative titles as 'Nature Under Siege', 'Trade Wars' and 'The Export of Hazard' Hilary French castigates

some of the most insidious abuses resulting from globalisation. In the words of the author: 'Not only is trade in hazardous products thriving, but recent decades have also seen hazardous industries... becoming concentrated in the developing world, where safety practices and environmental enforcement are often rudimentary.'

Among other targets for her critique is the illicit trade in endangered animals and plants, which is contributing to the greatest extinction of species since the dinosaurs. And she takes obvious delight in noting that attempts by Monsanto and other chemical giants to foist GM grain and meat upon unwilling farmers and consumers is being met with resolute resistance, not just in the EU but in 'developing' nations as well.

In the final chapters, she makes suggestions for integrating environmental concerns into global policymaking. If any fault is to be found, it is that – like most writers on economics and ecology – she does not sufficiently take into account the impact of an exponentially growing population on our fragile planet.

Gard Binney

1 Limits to Growth

Club of Rome 1971

Mix in industrialised development, population growth, consumerism, waste and environmental degradation and let it all run in a dynamic model – sure enough something in the system has to give. Of course, compared to the real world, the modelling is crude; of course, technological innovation and resource substitution can delay the consequences of depletion; of course we can improve efficiency. But once we degrade our 'life support' systems all the tinkering in the world will not alter the fact that there are real limits to growth.

2 The Blueprint for Survival

The Ecologist 1971

If industrialisation and development has set us on a course of ecological catastrophe and ruin, then we have basically two options; either plunge on, laying the blame on natural causes; or try and do something constructive. *Blueprint* outlines an orchestrated strategy for seeking alternative, non-destructive solutions, including the reconstitution of local initiatives, local markets and a retreat from what was already seen in 1971 as a disastrous move towards an all-enveloping, multinational-driven globalised market.

3 Small is Beautiful

Fritz Schumacher 1973

Schumacher, the economist who at one time had been employed by the Coal Board, saw the dangers early on to the local economy, therefore to gainful, meaningful employment, of the move to ever bigger industrial structures and to global markets. He advanced his 'thesis' against the so-called wisdom of the time with its obsession with

'economies of scale' and labour as simply a means to an economic end. Nuclear power would never have arisen in a community-based local economy. Schumacher was one of the first economists to see that capital gain and profits accrued as a result of non-sustainable exploitation and degradation of natural resources. He developed the idea of a 'Buddhist economy' in which humanity bears a responsibility towards the natural world of which it is indivisibly a part.

4 The Development Dictionary

edited by Wolfgang Sachs Zed Books, 1992

A series of remarkable, concept blasting essays by brilliant commentators on the modern world and the delusions and illusions of the processes of 'development'. Terms such as 'development', 'environment', 'equality', down the alphabet to 'state' and 'technology' are dissected and deconstructed to show the myths and misunderstandings that underlie government policies and actions. Read this dictionary and the scales will really fall from your eyes.

5 The Ages of Gaia: A Biography of Our Living Earth

James Lovelock, Oxford 1995

An inspired scientific view of Earth in which life is embedded in dynamic planetary processes, involving the atmosphere, oceans and surface rocks. *Gaia* is about the emergent property of climate and other surface phenomena over the course of the Earth's evolution as a result of feedbacks between life and its environment. Lovelock shatters the perspective of life as a mere passenger on a planet to which it has been forced to adapt. On the contrary the planet is suitable for life because life has made it so, against all the changes of space and time.

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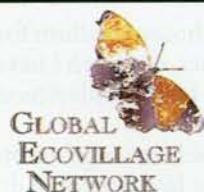
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The "Directory of Eco-villages in Europe"

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OH, MY WORD!

The march of literacy, says THE CROW, is at the expense of oral communication — and can lead to troubling societal dangers.

Literacy seems to be widely accepted these days as a marker of a regime's enlightenment. From basic skills and the 'Year of Reading' in the UK, to the Sandinistas lauded record of reducing illiteracy from over 50 per cent to 13 per cent, it is a benchmark of egalitarian social progress. Undisputed. So why then was Claude Lévi-Strauss compelled to conclude that 'the only phenomenon which always and in all parts of the world, seems to be linked with the appearance of writing... is the establishment of hierarchical societies, consisting of masters and slaves'?

There is certainly a profound argument to support the assertion that all so-called great civilisations were founded on inequality. But that is another thread: that is the warp and this the weft. What concerns me here is not the historical emergence of hierarchical societies, but the present propagation of hierarchies of societies. It seems clear that the whole question of literacy must be mediated by context. The perceived need for literacy depends entirely on what it is not: illiteracy (deficiency), or orality (proficiency).

In other words, the whole notion that it is better to be literate is drenched in the assumption that literature is superior to illiterature, aka orature. The English language being what it is, a child of the alphabet, precipitates this view: we can be more certain of what is literally so than of mere hearsay. My Latin dictionary informs me that the root word *litteratus* means erudite, elegant, accurate and critical.

Wherever we go, we consistently give greater weight to the written words of absent strangers than to the immediate communications of present companions. Do we despise each other's company so much? The letter of the law becomes the law of letters. By extension we imply that cultures which write are superior to those which don't: more evolved, more civilised. Yet the most literate country in the world in the 1930s was Germany. So much for civilisation.

It is a peculiarly Graeco-Abrahamic prejudice born of the twin tyrants of logos and the Word of God, fattened on the linear thinking of reductionism and set to work for the greed of empires. An arrogant ignorance which has caused severe grief and injustice where word-memory based cultures are concerned; for if 'people create stories create people', then ascribers of lessness to words of the mouth are demeaning entire soci-

eties. The absence of writing and particularly of written deeds was also one of the cornerstones of legitimising land theft during the colonial era. (Is such a thing really possible: a written deed?)

Let us pause here to remember that the oratory was once a place of prayer, that Teutonic Sagas, Celtic, Greek and Roman myths, The Torah, The Gospels, The Quran, and the tales of Homer and Shakespeare all began life as orature, or recalled narrative. The foundations of literary culture are not literal at all — but having consigned the role of remembering to print, we have lost the ability to recall. Ironic that writing, devised as a brilliant aid to memory, should have atrophied it by stealth.

Fortunately there are still some cultures (un)developed enough to value the art of the untrapped word: most notably in the Songlines of Australia and the Griot tradition of West Africa (with her many diasporan descendants). The burning question is: for how long can people resist the inevitable brain repatterning that results from learning to read? The celebrated Malian historian Hampate Ba once said 'each old man who dies is a library razed': a truth whose shadow looms large in the cold grey glow of our solitary screens.

'Wherever we go, we consistently give greater weight to the written words of absent strangers than to the immediate communications of present companions'

I am not, of course, anti-writing: it is my chosen medium for this tale. Nor am I against literacy programmes, on which I have worked. But the human tragicomedy can be better understood if we examine our heroes' flaws.

That way resolution lies. As we stand on the brink of a new literacy revolution every bit as dramatic as the last, we could do with a little honest reflection.

At the end: a tale.

An unnamed Indian tribesman attended a meeting to organise resistance to the Narada dam. These non-literate people were fighting to protect their ancestral homelands and their way of life. Someone at the meeting suggested that they write letters of complaint to various officials. The unnamed man stood up and spoke: 'The moment we write anything down, we have already lost.'

The Crow is a mouthpiece for thinkers with individual and strong views. This month, the role of The Crow was taken by David Norton.

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