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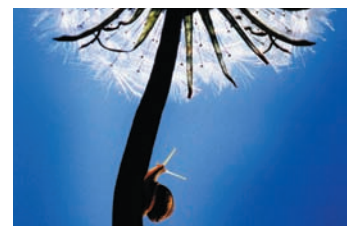
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ecologist editorial

Moving goalposts

Few things are more inconvenient to a power-hungry bureaucracy than debate on a difficult issue. Avoiding such discussion is always a challenge. Certainly, with an acquiescent media, debate can be contained and manipulated, but short of shooting dissenters there's really only one way to prevent it – and it doesn't involve legislation.

Bans succeed only in buying time and, ultimately, inflating the issue in question. German efforts, for instance, to ban Holocaust denial have triggered an underground movement that is gaining in strength and which will almost certainly one day raise its head publicly. Banning an opinion, no matter how ugly, only ever gives it a special status – not least because cynics will inevitably wonder what it is the Establishment has to hide. In the case of Germany, an open, free and democratic debate would leave little doubt about what really happened in the 1940s.

Taking the high ground

Prohibition doesn't work. But creating taboos does. If the Establishment can make it unacceptable to hold certain opinions, then – whatever the issue – they will not be debated. The current Establishment has been extremely successful at this. Some left-wing commentators, for instance, refuse to campaign against the single currency because, despite their deep hostility to it, the campaign has very cleverly been depicted as an ugly right-wing cause. The effect is that public figures with only a passing interest in the issue will tend to veer towards what they see as the 'progressive' or path-of-least-resistance, non-controversial position. In fact, both in the UK and elsewhere a large and growing body of opposition to further

centralisation of power in Europe comes from the Left. But because of the fabricated taboo that opposition to monetary union is a right-wing position, it takes some courage to oppose the euro.

Making people reluctant to hold certain views on the basis that they will be siding with the unacceptable is highly effective. But it doesn't always work. Development secretary Clare Short, for instance, has been trying for years to dismiss anti-globalisation protesters on the grounds that they are white, middle-class rich kids trying to prevent the rest of the world from 'catching up'. But her declarations appear rather silly when they're directed at protests headed by the likes of Indian campaigner Vandana Shiva or the Third World Network's Martin Khor – both of whom command great respect in their own countries.

Emotional blackmail

Nevertheless, creating taboos is a tried and tested solution to unwanted debate. And when the world was confronted with the possibility of another war in the Gulf, that is exactly the tactic the Establishment tried to adopt; it knew that there were no arguments that could win over a sceptical public. In this regard, the US had a head start. On the back of September 11, it was very easy for the authorities to gun down dissidents on the basis of their lack of patriotism – a charge that has become as emotive in the US as that of siding with communists was in the Cold War. With the US's corporate media offering very little in the way of right-to-reply, disagreeing with Bush has indeed become 'unpatriotic'.

In Britain the patriotism 'card' has been less useful – the term itself having become rather sullied. There being no obvious taboo to grasp then, the authorities had either to engage in direct



debate or to invent a taboo. Taking the first course was never really an option. That would have meant answering very difficult questions. Why now? Why the sudden rush? Why Iraq as opposed to other threatening regions? Why the sudden interest in human rights? Where's the evidence?

So a taboo was invented. Opponents of war, or at least opponents of war as proposed by the US, became 'conspiracy theorists'. Tony Blair himself announced that the impending invasion of Iraq 'has nothing to do with oil, or any of the other conspiracy theories put forward'. The term, as intended, immediately conjures images of conflicting shadows beneath Neil Armstrong's feet, of flying saucers paying the CIA chief a visit. It immediately allows the Establishment to laugh away testing questions without addressing them.

But the questions remain. If oil, for instance, isn't at least part of the parcel, then why are oil companies already bickering over the spoils of a future war? Why did British companies heckle the prime minister for not being active enough in their interests? And if Mr Blair's latest reason for war is humanitarian, then how can he justify the use of indiscriminate and manifestly un-humanitarian depleted-uranium weaponry? The use of such arms in the last Gulf war has been linked to a 700 per cent increase in cancer among Iraqi people. Finally, what are more persuasive; Mr Bush's arguments that the war is about security, or William River Pitt's on page 20?

When more than half a population believes a conspiracy theory, it does begin to look less like a theory.

Last month we highlighted an appeal for donations to help Janet Hughes pay her legal expenses incurred protecting 20,000 healthy sheep from the government's disastrous contiguous cull policy during the foot and mouth outbreak.

Your response has been fantastic. Already you have donated £485. A big thank you.

GM BIAS

I was disappointed to discover that the attention-seeking cover line 'Eat shit or die' (March 2003) was simply drawing attention to an absurdly biased view of GM foods ('GM food aid'). The issues of GM food production and US economic imperialism are far too important to be treated in this way. The totally unsubstantiated claim that GM food is 'shit' is ridiculous. Are you aware of the work of Professor John Krebs and the Food Standards Agency? Such claims simply strengthen the view that opponents to GM are merely prejudiced and ignorant.

Tom Bewley, Abingdon, England

ABUNDANT HALF-TRUTHS

In the article 'The scarcity myth' (March 2003) it was encouraging to read of the achievement of Wangari Maathai's Green Belt Movement in Kenya and the movement's creating 6,000 cooperative tree nurseries and planting 20 million trees. It is a good many years since I was employed in the Kenya Forest Department, having left Kenya in 1969. During my time there the Forest Department launched a programme of community forests whereby trees were provided to rural communities and the creation of small tree nurseries was encouraged. Anyone who was engaged in this work might well take exception to the remark, 'confounding the scepticism of government foresters'. The article seemed to imply that 'government foresters' never played a part in any such scheme, and that they did nothing but stand around looking sceptical. Perhaps a more appropriate title would have been 'abundant half-truths.'

T Choate, Dumfriesshire, Scotland.

SOY UNFAIR

Re 'Soya republic' (February 2003). While I agree that chemically-grown GM soya is an abomination in every way, there is no need to demonise soya as such. Soya milk has to be modified to be suitable for babies, but so does animal milk. Osteoporosis only exists in dairy-using societies. The Japanese, who consume lots of soya, have less osteoporosis (and less breast cancer and other diseases exacerbated by too much oestrogen) than we do. Foods such as soya which have been used by healthy societies for centuries do not now need to be rubbished. It's our whole modern attitude to food, farming, health and environment that is at fault, not any particular food.

Helen Jarvis, Derbyshire, England

ROAD LOBBY PROPAGANDA

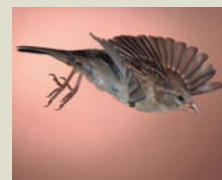
It was suggested in your February letters page that petrol and diesel for road vehicles are unfairly taxed while aviation goes untaxed ('Plane Crazy', February 2003). This popular myth cannot go unchallenged. All direct costs attributable to air travel (such as airports, air-traffic control, etc) are paid via the airline ticket, which itself is subject to a state tax. And no one has to build motorways in the sky. On the other hand, governments pay for building, maintaining, lighting and policing roads at great expense. Motorists benefit from these services without paying any charges – save for the odd toll bridge. The road lobby has brainwashed motorists into believing they should have their cake and eat it, but the same money cannot be a tax and a charge.

It is unreasonable that aviation fuel is not taxed, but it is even more unreasonable that motorists do not pay for all direct costs as well as paying fuel tax. If all transport users had to pay all direct and indirect costs as well as being subjected to taxation on the use of fossil fuels, I estimate the cost of air travel would double. But the cost of road travel would quadruple on average, while public transport costs would increase only slightly. Ultimately this would benefit everyone. Road-traffic volumes would decrease, and public transport would improve to the extent that nearly all journeys would be quicker, cheaper and more convenient.

Michael Job, County Cork, Ireland

BIRD BRAIN

I find it inconceivable that 'name and address supplied' ('Giving the bird', February 2003) is



actually a reader of *The Ecologist*. The reasons for his delight in the house sparrow's disappearance were part fatuous, part sheer ignorance, but all represented a mentality that judges everything's right to life on its superficially perceived worth to *Homo* allegedly *sapiens*; no thought is given to an animal's own intrinsic value, and there is no understanding of animals' role in the overall scheme of the ecosystem or to the knock-on effects of their demise. In this instance the issue may be insignificant – who knows? But this is precisely the mentality which lies at the root of a high proportion of the planet's ills. And I bet he can't sing half-decently either.

Harry Downes, Shropshire, England

WHO IS MISLEADING WHO HERE?

Your piece 'FSC – misleading the public' (February 2003) is itself misleading. A draft version of the report by the Rainforest Foundation (RF) was indeed given to the Forest Stewardship Council (FSC) in September (although it made no mention of human rights abuses or tigers). But the RF was invited to present its findings to the FSC board of directors that month. Far from receiving no response, RF representatives spent four days with FSC board and staff members discussing ongoing work and issues highlighted in the report. Many of the discussions were very useful. In a letter to the FSC of 12 October 2002, the RF stated: 'We were very encouraged by the constructive nature of the discussions.'

FSC welcomes and agrees with some of the RF report's findings. FSC had already identified and was working on many of the issues raised so as to improve and strengthen the FSC system. Other areas in the report have helped highlight where further improvements could be made. A large portion of the report focuses on issues that have already been addressed within the FSC system; areas where systems and procedures have already been changed and improved upon. We do not think these were intentional or incorrigible failures of certification, rather evidence of the process that any new organisation goes through and learns from. Certainly FSC does not believe any of the issues raised in your news piece (vested commercial interests, human rights abuses or worries over tigers) have any basis for concern.

Anna Jenkins, director, the Forest Stewardship Council, UK

BUNNY HUGGERS

Of all the many varied forms of animal abuse, vivisection must surely be the most repugnant and useless for all the reasons Derrick Jensen covers ('Vivisection a "moderate" proposal', February 2003). Yet it is the one evil that one dare not

Politics Interview

Oppositioned and outspoken, the UK's environment minister Michael Meacher is, by his own reckoning, a lone voice in the wilderness. He talked to *The Ecologist* about GM, nuclear power and why no one dares question the path we are on.



sink or swim

Michael Meacher is a towering figure in the environmental movement. He has been the voice of the Department for the Environment, Food and Rural Affairs (Defra) in the House of Commons and in the media for over a decade. He has been a vocal critic of the government's policies on GM, nuclear power, and the environment. In this interview, he discusses his views on these issues and his role as a minister.

What do you think about the current government's policies on GM and nuclear power?

Meacher: "I think the government has been very misleading in its approach to GM. It has been selling us a bill of goods that it is safe and beneficial. In fact, it is a completely unproven technology. As for nuclear power, it is a very risky and expensive option. We should be investing in renewable energy sources like wind and solar."

How do you see the role of the environment minister?

Meacher: "It is a very difficult role. We are responsible for protecting the environment and ensuring that our policies are based on sound science. It is often a lonely voice in the wilderness, but it is a necessary one."

THE FOOD STANDARDS AGENCY

The government has announced that it will be setting up a new agency to regulate food safety. This is a move that has been widely welcomed by the public and the food industry alike. It is a sign that the government is taking its responsibilities seriously and is committed to ensuring that our food is safe and of high quality.

THE GREAT CORNET

The Great Cornet is a rare and beautiful bird that is found only in the mountains of the Alps. It is a species that is facing a serious decline in numbers due to habitat loss and hunting. It is important that we take action to protect this species and its habitat.

speak out about lest one is accused of being a 'bunny-hugging human-hater'.

Experimenting on animals for cosmetics is now accepted by most people to be wrong. But if there is the remotest chance that sacrificing millions of animals will save your baby, then the cancer research charities (in particular) will continue to tug hypocritically (and unscientifically) at your heartstrings.

Will people ever understand that evil means do not justify ends, and that no good will come of pretending that they do? Tragic drug side effects will always be with us if we continue to use as experimental subjects animals that are not remotely like us physiologically or pharmacokinetically. Far from being human-haters, then, anti-vivisectionists are both animal and human lovers.

We should be very concerned at the series of directives currently being passed through the European Parliament to control the sale of supplements, herbs used (perfectly safely) in herbal medicines, and, possibly, many forms of natural medicine such as homeopathy and flower essences. Even worse, the new laws propose making animal testing on such products mandatory.

Many people turn away from conventional medicine because they have seen its ill effects, and choose instead complementary remedies – some of which have been tried and tested on humans over thousands of years (surely the best experimental subjects for other humans). Might the moving force behind this just be the major pharmaceutical companies? Are they not making enough profit from their hideous trade already that they must corner the market on the 'alternative' opposition as well?

If you have not done so already, please write to your MP and MEP to register your objection to these EU directives and your wish to retain your right to be able to purchase remedies that have not been tested on animals.

Jill Greenway, Somerset, England

CHEER UP (PLEASE)

While we greatly value *The Ecologist* for exposing the more arcane and complex crimes against the environment, the monthly dose of horrors and duplicities proves almost more than my wife can bear. Were it still fashionable to wear a hair shirt or a trendy combination of sackcloth and ashes, my wife would be a shopaholic. As it is, our miraculously happy marriage is put under strain by her insistence on interpolating the latest eco-villainies into our conversation, and I have to work overtime to cheer her up and to restore her sense of proportion. Do you think that you could occasionally devote some space to success stories and give your readers some good news?

Ramsay Elliott, Exeter, England

WHY NOT NUCLEAR?

In your interview with Michael Meacher ('Sink or Swim', February 2003) you discussed nuclear power. I'd like to ask, why not nuclear?

I'm currently fighting the imposition of a huge wind farm on the hills near where I live. These things are seriously inefficient. They're also a blight on the landscape. And they kill thousands of birds. If you like, look at some foreign statistics, particularly in Spain, rather than our own government whitewash.

I would infinitely rather my taxes were spent on sorting out a truly effective nuclear energy system. France is an excellent model here; we even buy some of our electricity from their nuclear providers. Nuclear power stations are nothing like such a catastrophe in terms of environmental beauty and hazard as are wind farms. With a good architect, they could even be made into pleasant-looking buildings. Their 'footprint' is massively smaller. Their output of electricity is orders of magnitude over wind farms. We currently get a quarter of our electricity from nuclear power in the UK. So why are we burying our heads in the sand and still marching to the tune of the 1960s (I was there)? This is the 21st century, or so I thought. We really are capable of sorting out the waste problem, if we try.

Nuclear power is not a 'lethal industry'. Name me three nuclear power stations that have blown up. Give me real statistics on those who've been damaged. So, *The Ecologist*, why not nuclear?

Anny

Depending on what you mean by 'blown up' you could try the following six for starters: Windscale (1957), Fyshtym in the former Soviet Union (1958), Idaho Falls (1961), Three Mile Island (1979), Chernobyl (1986) and Tokaimura in Japan (1999).

Please send all correspondence to Letters, *The Ecologist*, Unit 18, Chelsea Wharf, London SW10 0QJ, UK; or email: editorial@theecologist.org. The best letter each month will receive a year's free subscription to *The Ecologist*. We reserve the right to edit or shorten letters where necessary.

Science & Technology

The problem with vivisection, argues Derrick Jensen, is that it's contributing to the very end of animals.



Vivisection

a 'moderate' proposal

The problem with vivisection, argues Derrick Jensen, is that it's contributing to the very end of animals. It is a cruel and unnecessary practice that causes immense suffering to the animals involved. We should be finding alternative ways to conduct research that do not involve the use of animals.

Science & Technology

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WORLD World Bank and International Monetary Fund (IMF) proposals to give poor countries more of a say in the two institutions have been attacked for being too narrow and weak.

An IMF/World Bank report, which even some staff from the two bodies privately say does not go far enough, suggests narrow technocratic changes such as increasing the voting power of poorer countries, changing the majorities needed for certain types of decisions, and increasing the staffing and technical support available to bank/IMF executive directors from poor countries.

Oliver Buston, senior advocacy officer at Oxfam, criticised the report for failing 'to address the most serious problems of governance of the two institutions, including the fact that their heads are chosen by political patronage on grounds of nationality'.

Traditionally, the World Bank's president is effectively chosen by the US, while European governments select the managing director of the IMF from among their own ranks.

For more on the IMF go to www.brettonwoods.org

US The blood and urine of Americans are contaminated with dozens of pesticides and other chemicals, according to a report released in late January. A study conducted by the US Centers for Disease Control and Prevention (CDC) tested thousands of people for 116 chemicals, 34 of them pesticides. The CDC's *Second National Report on Human Exposure to Environmental Chemicals* found 19 of the 34 pesticides in the blood or urine of test subjects.

The CDC highlights two significant pesticide-related findings in its report. First, metabolites of chlorpyrifos – a pesticide whose domestic use has been largely restricted by the US Environmental Protection Agency (EPA) – are nearly twice as high in children (aged six-11) than in adults. Despite the EPA's recent ban of most home uses of chlorpyrifos (widely known by the Dow product name Dursban), an estimated 10 million pounds of it continue to be used each year in agricultural production.

The second key CDC finding relates to the organochlorine pesticide DDT, which was banned in the US in 1972. DDT breakdown products were found in Mexican Americans at levels more than three times that of non-Hispanic whites. DDT use for malaria control continued in Mexico until being phased out in 2000.

For more information:

The CDC's Second National Report on Human Exposure to Environmental Chemicals is available at: www.cdc.gov/exposurereport/ Pesticide Action Network North America can be contacted at: 49 Powell Street, Suite 500, San Francisco, CA 94102, USA; phone: (415) 981-1771; fax: (415) 981-1991; email: panna@panna.org; visit: www.panna.org

UK The Worldwide Fund for Nature (WWF) is being criticised for an intended £3m partnership deal with a French company seeking to build a massive quarry on the Scottish island of Harris. The quarry is opposed by most of the islanders, many British WWF supporters and the Scottish Executive. Lafarge, the £7.2 billion French cement and aggregates company, wants to quarry up to 600 million tonnes of rock from Roineabhal mountain at Lingerbay, Harris, for use on road-building and other infrastructure projects in England.

British branches of WWF oppose the 'super-quarry', which would destroy most of the mountain. However, Geneva-based WWF International has made Lafarge a conservation partner and accepted its money on the basis that WWF will work with the company to advise it and improve the ways it works.

Last year Lafarge was found guilty by the European Commission of operating a price-fixing cartel in Europe and had a £156m fine imposed on it as a result. Under the terms of its five-year contract with WWF, Lafarge can display the fund's widely recognised panda logo and benefit from its international reputation.

Friends of the Earth (FoE), the world's largest grassroots environmental organisation, formally backed calls for WWF International to end the partnership. '[We] feel that such partnerships between industry and non-governmental organisations are entirely inappropriate,' said FoE International's chair Ricardo Navarro. 'In this particular case, the agreement between Lafarge and WWF undermines the efforts of local opposition to the company's plans and weakens the environmental organisations like FoE Scotland that support efforts to safeguard the environment and secure sustainable livelihoods.'

For more information contact Friends of the Earth at 26-28 Underwood Street, London N1 7JQ, UK; tel: (+44) (0)20 7490 1555; visit: www.foe.org.uk



IRAQ Iraqi children are now seven times more likely to be born with leukaemia or birth malformations than before the Gulf War, research reveals. The rise is blamed on the use of depleted uranium weapons during the 1991 conflict. The claims were made in a report produced by researchers at al-Mustansiriya University and the University of Basra, which Green MEP Caroline Lucas obtained during a recent visit to Iraq.

'I visited a hospital in Basra where this research was conducted,' commented the Green MEP, 'and saw the harrowing reality of war as told by these figures – babies born with extra or missing limbs, growths and bloody sores.'

The report, *Depleted Uranium and Health: incidence and pattern of congenital abnormalities among births in Basra 1990-2001*, found that the incidence of congenital malformations per 1,000 births in the city rose from 3.04 in 1991 to 22.19 in 2001.

FINLAND Activists have saved an area of Finland's last old-growth forests – for now at least. The Finnish state-owned forestry enterprise Metsähallitus was planning to start logging the old-growth forests of Malahvia, an area situated in north-eastern Finland near the Russian border. Metsähallitus's activity would have involved clear-cutting and selective logging despite clear scientific evidence of the high biological value of the Malahvia forests.

More than 3,000 people sent letters to the three biggest Metsähallitus customers – StoraEnso, UPM-Kymmene and M-Real – asking the companies not to buy pulp and timber resulting from any such forest destruction.

Read more at: <http://www.greenpeace.org/news>



Terminology would be simplified by discontinuing the use of special names and acronyms for sectoral adjustment loans (Secals), structural adjustment loans (Sals), rehabilitation loans (Rils), and programmatic structural adjustment loans/ credits (P-sals/ P-sacs). At the same time, the new OP/BP 8.60 would explicitly incorporate the distinct operational policy/ pricing features of poverty-reduction support credits, special structural adjustment loans, and the deferred draw-down option as applications of development policy support lending under a unified overall operational policy umbrella.'

World Bank policy document, 2002

'I want you out there every day selling Neurotonin. Look this isn't just me... Neurotonin is more profitable than Accupril, so we need to focus on Neurotonin. We all know Neurotonin's not growing for adjunctive therapy – besides, that's not where the money is.

'Pain management, now that's money. Mono-therapy, that's money. We don't want to share these patients with everybody. We want them on Neurotonin only. We want their whole drug budget – not a quarter, not half – the whole thing. We can't wait for them to ask. We need to get out there and tell them up front.

'That's where we need to be, holding their hand and whispering in their ear: "Neurotonin for pain, Neurotonin for everything." I don't want to see a single patient coming off Neurotonin before they've been up to at least 4,800 milligrams a day.

'I don't want to hear that safety crap, either. Have you tried Neurotonin? Every one of you should take one just to see there's nothing. It's a great drug.'

From a 1996 whistle-blower lawsuit against Pfizer and Warner-Lambert that was unsealed last year; quoted in Harper's magazine March 2003

UK The Advertising Standards Authority (ASA) has overturned an earlier adjudication upholding complaints by the disposable nappy industry against a Women's Environmental Network (WEN) information leaflet.

ASA has found that the following WEN statements were substantiated:

- 'The UK alone produces about 800,000 tonnes of nappy waste per year; the total national cost of this single-use, limited-customer product is £40m a year'; and
- 'Savings from using real nappies for a first child alone can amount to £600';

The complaints against the leaflet (which went out of print in March 2002) were lodged by the Absorbent Hygiene Products Manufacturers Association, a body that represents the interests of Procter & Gamble and Kimberly Clarke – the largest nappy manufacturers in the UK.

For further information, contact: WEN, PO Box 30626, London E1 1TZ; tel: 020 7481 9004; website: www.wen.org.uk

Real Nappy Week runs from 7-13 April 2003, and is jointly organised by WEN and the Real Nappy Association.

UK Over 100,000 fish have died following a devastating pollution incident that killed all aquatic life along a 21-kilometre stretch of the River Slea in Lincolnshire.

Environment Agency (EA) officers, biologists and fishery experts (who have been conducting a full environmental assessment of the incident) found no live fish and a total wipe-out of invertebrate life along the affected stretch of river.

Investigations carried out by the EA indicate that the pollution relates to a release of Cypermethrim (an insecticide that is acutely toxic to fish and aquatic life) to the surface-water drains of an industrial site in Sleaford over the weekend of 15 and 16 February.

SPAIN Hundreds of thousands of demonstrators protested in Madrid last month at the Spanish government's handling of the Prestige oil-tanker spill, labelled the worst environmental disaster in Spain's history.

Protesters, many with black tears painted on their faces and mock oil stains on their clothes, demanded the resignation of government officials whom they accused of failing to coordinate effective clean-up efforts and misleading the public about the severity of the disaster.

Greenpeace, meanwhile, is calling on the EU to prosecute the Spanish government for its mishandling of the oil spill, saying it violated European laws by letting the stricken tanker sink and release its cargo into the sea.

MEXICO Communal landowners have sold an unspoiled island to Mexico's federal government for \$3.3m in order to protect the site from being developed for tourism.

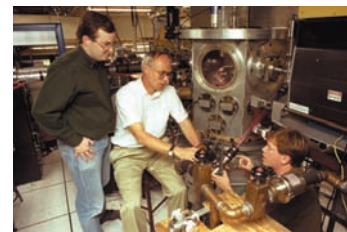
The Pacific island of Espiritu Santo is located 20 miles off the coast of La Paz on the Baja peninsula, and is home to one of the region's most pristine desert ecosystems, unique reptiles and five species of mammals.

Before being sold, the island had been communally owned by mainland Mexicans.

CANADA Resistance is growing to the unregulated growth of nanotechnology (the manipulation of matter at the atomic scale), experts at a leading medical ethics think-tank warned in February.

In a paper published in the Institute of Physics journal *Nanotechnology*, researchers from the University of Toronto Joint Centre for Bioethics asked whether the new technology would increase security or usher in a new era of 'nano-terrorism'; who would benefit from it; who would regulate military research; and what effects the release of novel nano-materials would have on the environment.

'Calls for a moratorium on deployment of nano-materials should be a wake-up call for nanotechnology developers,' said one of the report's authors Dr Abdallah Daar. 'The only way to avoid a GM-style confrontation is to take immediate steps to close the gap between the science and ethics of nanotechnology.'



BOTSWANA Kalahari Diamonds Limited has secured \$2m from the International Finance Corporation (IFC) to explore for diamonds in the Central Kalahari Game Reserve, Botswana. The IFC, which is part of the World Bank, approved the project in February.

The reserve is the ancestral land of the Bakgalagadi tribe and the Gana and Gwi bushmen. Although the last bushmen were forcibly evicted from their homes in February 2002, around 100 still hold out in the reserve. Government documents reveal that most of the reserve has since been parcelled out in diamond exploration concessions. In November 2002, however, president Mogae of Botswana, said: 'There is neither any actual mining nor any plan for mining inside the reserve.'



Despite IFC requirements that indigenous communities are informed participants in the development of such a project, no bushmen communities from the reserve were consulted over the mining plans.

For more information, contact: Survival International, 6 Charterhouse Buildings, London EC1M 7ET, UK; tel: (+44) (0)20 7687 8700; www.survival-international.org

GOVERNMENT

IRAQ Ruled by a brutal military dictator – Saddam Hussein

BURMA Ruled by a brutal military dictator – Than Shwe

ACTS OF GENOCIDE

IRAQ Has committed acts of genocide against own population

BURMA Has committed acts of genocide against own population

POLITICAL PRISONERS

IRAQ Has imprisoned political opponents

BURMA Has imprisoned political opponents

TORTURE

IRAQ Use of torture is commonplace

BURMA Use of torture is commonplace

FORCED LABOUR

IRAQ None known

BURMA Charged with 'a crime against humanity' by the UN for use of forced labour

LINKS TO AL-QAEDA

IRAQ None known

BURMA Two Pakistani nuclear scientists with links to al-Qaeda are in Burma and are thought to be working on Burma's nuclear programme

ACTION BY UK GOVERNMENT

IRAQ Full economic sanctions; 30,000 troops preparing for war

BURMA Officials of the regime are not allowed on holiday in the UK

UK FOLLOWING US LINE?

IRAQ Yes, the UK is the US's strongest ally.

BURMA No, US has investment sanctions, the UK does not

For more information about Burma, contact the Burma Campaign at Bickerton House, 25/27 Bickerton Road, London N19 5JT; tel: + (44) (0)20 7281 7377; visit: www.burmacampaign.org.uk

SRI LANKA Over 4,000 people from all over Sri Lanka gathered in the village of Eppawala on 1 February to protest against their government's current programme of economic reforms. The reforms are being implemented on the basis of World Bank recommendations.

The demonstration was part of a series of protests against the privatisation of state banks and other enterprises, the removal of labour rights, the amendment of

labour protection laws, and the proposed privatisation of mineral resources, forests and marine and inland fisheries.



US A space-saving method for storing spent nuclear fuel could result in a catastrophic radiation release in the event of a terrorist attack, according to a study initiated at Princeton University. Terrorists targeting the high-density storage systems could cause problems 'significantly worse than those from Chernobyl', according to the study to be published in the journal *Science and Global Security*.

Unable to solve the problems of long-term storage, the US's

103 nuclear power plants now pack four to five times the number of spent fuel rods into water-cooled tanks than the facilities were designed for, says the report.

If the cooling water leaked following a rupture caused by a terrorist attack, for example, it would probably result in a fire. Such a fire would release radiation capable of contaminating land eight to 70 times the size of the area affected by the 1986 Chernobyl disaster.



MEXICO Millions of fertile mating screwworm flies were sent into the wild in Mexico and Panama after a radiation machine malfunctioned at a screwworm sterilising plant in Tuxtla Gutierrez, the capital of the region of Chiapas. To date, 50 cases of screw-worm disease have since been found in animals in Panama and 44 in Chiapas.

Named for the corkscrew motion with which they burrow into flesh, screwworm larvae can kill their victim – human or animal – in five days. The worm's Latin name, *cochliomyia hominivorax*, means 'fly that devours men'.

In the 1950s, US scientists discovered that by treating the flies with high doses of radiation they could sterilise them and then release them into the wild to mate with their fertile counterparts. The females only mate once, so if they do so with the sterile flies they will not reproduce. The bug was wiped out in the US by 1982.

CANADA Scientists believe they have found an instance of climate change causing a species to alter its genetic make-up rather than just its behaviour. After studying the DNA and mating habits of red squirrels in the Yukon for 10 years, scientists at the University of Alberta, Canada, have found that the squirrels give birth three weeks earlier in the year. The earlier mating season corresponds to the premature arrival of spring. More importantly, the scientists found that the change is partially genetic in origin. Squirrels that breed earlier benefit from better access to food and territory, and then pass on their early-breeding preferences to their offspring.

UK in dock for planning flaws

On 4 February, the European Commission decided to take the UK government to court for failing to demand Environmental Impact Assessments on a number of high-profile proposed developments, including the Old Kent Road Asda, and the Crystal Palace multi-screen cinema that was stopped by a campaign of direct action in 1998. An unfavourable outcome for the government could have far-reaching consequences for UK planning law.

First Brazilian Indian senator

Antônio Ferreira da Silva, an Apurinã Indian, has become the first Brazilian Indian to be elected to the senate. He will take up his seat in April. Brazil's first Indian congressman, Mário Dzururã Juruna, died in July last year. The country's 350,000 Indians remain almost the only indigenous peoples in South America not to have their land ownership rights recognised.

Kenyan tribe defends Botswana bushmen

In a historic display of inter-tribal support, the Ogiek hunter-gatherer tribe have presented a petition to the Botswanan high commissioner in Kenya, supporting the rights of Botswana's bushmen to their land. Other petitions, containing 100,000 signatures, are being submitted in Belgium, Germany, Japan, South Africa, Spain, Switzerland, Sweden, the UK, the US and Zimbabwe.

Last captive male lynx dies

Fermin, the only male Iberian lynx in captivity in the world, died last month at the El Acebuche breeding centre in Donana national park, Spain. He was moved there in January in the hope that he would mate with Esperanza, the world's only breeding-age female lynx in captivity.

World Bank changes tune on unions

A World Bank study has suggested that a country's economy may benefit from high union membership. Traditionally, the bank has been antipathetic to organised labour. The report, *Unions and Collective Bargaining: economic effects in a global environment*, found that high levels of union membership rates can lead to lower unemployment and inflation, higher productivity and faster adjustment to economic shocks.

US under the bed?

Russian oil giant Yukos plans to build an oil pipeline that would cut through Siberia's Tynykinsky National Park, where development is banned. The pipeline would run from the city of Anagarsk in the Russian region of Buryatiya to Daqing in China. To get round the development ban, Yukos is proposing that the park's boundaries are moved. The firm claims local environmentalists protesting the plan are funded by the US in a secret plot to thwart Russia's economic development.

Dow 'ethics' line jammed

Hundreds of people telephoned the 'ethics line' of chemicals firm Dow in the last week of January, jamming it with protests. The campaign was organised by Greenpeace to highlight Dow's continued reluctance to adequately compensate victims of the Union Carbide Bhopal chemical disaster of 1989. Dow bought Union Carbide in 1999, but refuses to assume responsibility for the firm's former actions. It is happy to have its profits, however.

Drug giants charged

New York attorney general Eliot Spitzer has charged three of the world's largest drug companies – GlaxoSmithKline, Pharmacia and Aventis – with conducting elaborate schemes to inflate the price of prescription drugs for consumers and government health plans.

Erin again

US activist Erin Brockovich and her partner Ed Masry are preparing to sue the city of Beverly Hills and three oil firms, claiming they ignored the fact that carcinogenic gases were leaking into Beverly Hills High School from active and abandoned oil wells. Brockovich, portrayed on screen by Julia Roberts, claims the gases caused the cancers of more than 80 former students and school employees. The firms named by the suit are Occidental Petroleum, ChevronTexaco and Venoco.

dot.communing with nature

In an effort to boost revenue, the state of Colorado plans to make electrical outlets and internet access available at parks around the state. Pete Kolbensschlag, of the Colorado Environmental Coalition, said: 'I have no idea if they've done polling that shows people want the internet while they're camping. I certainly don't run across those people when I'm camping. It seems kind of strange to me.'



UK A total of 123 dolphins were washed ashore in Devon and Cornwall in the first six weeks of this year. Most of the animals suffered broken beaks or damaged skin – both signs of having struggled in fishing nets. Experts are concerned that up to 95 per cent more dolphins and porpoises may be killed in this way but never reach land.

The Wildlife Trust has launched a petition calling on the European Commission to stop the slaughter. It says dolphins die after being caught in the nets of fishermen trawling for bass.

Sign the petition at www.wildliferush.org

US Smithfield, the world's largest pig producer, intends to build a \$20m waste-to-energy facility in south-western Utah that would convert pig manure into bio-diesel fuel. While this in itself seems an excellent idea (bio-diesel burns more cleanly than standard diesel), the figures involved are indicative of the scale of industrial farming in the US. At Smithfield's operation in Utah, 1 million pigs are slaughtered each year and 500,000 pounds of pig manure are produced every day.

WORLD Economic losses from weather and flood catastrophes have increased tenfold over the past 50 years, according to the World Water Council.

Rapid climate changes are evident in more intense rainy seasons, longer dry seasons, stronger storms, shifts in rainfall and rising sea levels. Floods from 1971 to 1995 affected more than 1.5 billion people worldwide or 100 million people per year, according to experts. These figures include 318,000 fatalities and more than 81 million people being made homeless. The most destructive floods left at least 1,000 people dead and caused \$1 billion worth of damage per episode.

Climatic changes this century are predicted to further intensify the hydrological cycle, with rainy seasons becoming shorter and more intense in some regions while droughts will be longer in other areas. All of this could lead to crops and species being endangered and a fall in the global production of food.

BOLIVIA Protests against new taxes announced during a visit by International Monetary Fund (IMF) officials erupted into violence in the Bolivian capital of La Paz last month.

To quell the unrest, the president quickly announced the withdrawal of the programme. Where that leaves the government's negotiations with the IMF is undetermined.

The protests were against the new *impuestazo* – a 12.5 per cent super-tax on the salaries of the 20 per cent of Bolivians who are still employed after five years of devastating recession. The move was reported as an effort to reduce the country's fiscal deficit of 8.6 per cent.

Bolivia has been in negotiations with the IMF since October, after a Bolivian mission to Washington to attend annual meetings of the fund and the World Bank reached a provisional accord for a \$4 billion loan.

Evo Morales (see 'From coca to congress', November 2002), the coca farmer who nearly staged an upset in last year's presidential election, has urged president Sanchez de Lozada to step down.

INDIA Nearly 15,000 farmers and workers took part last month in a massive public protest in the town of Mandleshwar against the recent huge increase in electricity tariffs made at the instance of the Asia Development Bank.

The farmers in the state of Madhya Pradesh have launched a programme of civil disobedience with the central slogan of 'we will withstand foreign domination, we will not fill electricity bills but the jails'.

On 30 November 2002, the Madhya Pradesh State Electricity Regulatory Commission raised tariffs by 800 per cent.

The ensuing public pressure forced the state to subsidise the tariff increase, but even after the introduction of subsidies the increase works out at 300 per cent.

WORLD 'KidDevNews' is a new web-based feature from the World Bank aimed at 10-17-year-olds. A game on the site, called 'Build it!' allows children the following choices:

- a) make peace last;
- b) build infrastructure; or
- c) privatise business.

Choose 'c' and you are greeted with the following message: 'You have chosen to privatise business. Get the facts about the privatisation of a cement factory in Estonia that has made people healthier and wealthier.'

Who needs Doom?

UK The government announced its long-awaited Energy White Paper in February.

The £300m provided for renewables over the next few years is: less than half the subsidy just awarded to the nuclear industry; less than 1 per cent of planned spending on road building over the next 10 years; and only 0.5 per cent of tax breaks given to the aviation industry for the coming decade.

Road transport and aviation are the two fastest growing sources of greenhouse gases.



Bio-technology epitomises the issues and struggles defining today's world. Corporate corruption, weak science, false claims to help the poor – they're all linked to GM. *The Ecologist*, in association with industry watchdog the Norfolk Genetic Engineering Network, reports the key GM events and trends.

GM Politics & Propaganda

GM public debate to be rendered meaningless

UK The government intends to proceed with 18 GM crop applications currently awaiting a decision on commercialisation in Europe. Defra admits some of the applications may be approved for use in food, animal feed or for growing before the public debate is scheduled to end in September.

But Scottish environment minister Ross Finnie said it would be 'premature' if any approvals were given before the public debate is concluded. And GeneWatch director Dr Sue Mayer said: 'If the government allows these GM crops to be approved before the public debate ends it will be a slap in the face for democracy.'

'Ross Finnie is right. It is premature to take these decisions now, and suggests the government is not acting in good faith.'

The Royal Society has also revealed that the results of the farm-scale evaluations of GM crops may be delayed and not

available for discussion during the debate – and this despite the decision to extend the debate into September.

Third World in bio-tech trap

UK GM is being used to increase Third World farmers' dependence on the bio-tech industry, says a new report by Christian Aid. The report, *Hunger for Profit: the genetic modification of developing country agriculture*, also found that Third World food production for export to developed-world markets is being promoted at the expense of production for local consumption.

Experience in Brazil and India shows that most bio-technology patents are for seeds that produce crops with resistance to specific herbicides and not crops with higher yields. The same companies that register the seed patents are also the producers of the herbicides. Bio-tech critics say this betrays a consolidation of control over the food chain in the hands of a small number of companies whose primary

motivation is profit, not the best interests of developing country agriculture.

The example of Ethiopia, where agriculture is dominated by small-scale farms producing crops for local consumption, supports this theory. The agro-chemical firms that produce and promote GM seeds have largely stayed away from Ethiopia, where there is little scope for intensive farming of export cash crops and adaptability is essential in the face of increasingly severe droughts.

For more information, contact: *Christian Aid, PO Box 100, London SE1 7RT, UK; tel: (+44) 020 7620 4444; web: www.christian-aid.org*

600,000 call for Bové pardon

FRANCE More than 600,000 supporters of José Bové, the French farmer sent to prison last month for pulling up GM crops, have written to French president Jacques Chirac asking him to pardon the farmers' leader.

GM Food & Safety

92 per cent of Americans want GM labelling

US Nearly 92 per cent of US consumers want GM foods to be labelled accordingly. Only 1 per cent do not. These and other findings were made in a survey on attitudes about globalisation and food sources, production and safety conducted by Ronald Wimberley, a sociologist from North Carolina State University. Only 25 per cent of American consumers believe GM plants are safe, and only 17 per cent think

foods from GM animals are safe.

A report on the survey, *The Globalization of Food: how Americans feel about food sources, who they trust, food security, genetic modification, food labeling and the environment*, is available at <http://sa.ncsu.edu/global-food>.

Monsanto denied safety certificate

CHINA Monsanto has been denied a permanent safety certificate for importing GM soya beans into China. The company

applied in March 2002 for permanent safety certification to replace the temporary certificates now in place for the US soya-bean sector's \$1 billion of annual exports to China.

A bio-tech spokesman shrugged the decision off. 'We feel these tests are totally unnecessary,' said Phillip Laney, American Soybean Association country director in China. 'But the Chinese law requires them, and I guess it's just one of the hoops that Monsanto is going to have to jump through.'

GM Science & Technology

BT Cotton fails in India

INDIA Genetically modified Bt cotton has been found to be a failure in the Indian state of Andhra Pradesh, where farmers grew the crop on 8,000 acres last year. The GM variety had in-built pest resistance. It was hoped that it would reduce costly reliance on pesticides and that it would increase yield. However, the state

government has said farmers aren't getting the promised yields and that the crop's poor quality resulted in a lower market price.

Wild sunflowers enrich fertility of African farms

EAST AFRICA Farmers in East Africa have discovered a new way to replenish soil fertility and increase farm yields – using the

wild sunflower shrub. Soil fertility depletion on smallholder farms is the root cause of declining per-capita food production in Africa. The wild sunflower – a good alternative to chemical fertilisers – contains 80 per cent more phosphorus than legumes and enough nitrogen and potassium to promote crop growth.

Novartis keen to grow

SWITZERLAND Novartis, formed in 1996 by the merger of Sandoz and Ciba-Geigy, has announced it has accumulated enough stock in the Roche Group, Basel's other big drug company, to control 32.7 per cent of its voting rights. The announcement heightened speculation of a merger between Novartis and Roche that would create the world's second-largest drug firm with annual sales of \$45 billion.

Bio-tech PR slip

US A PR firm accidentally e-mailed journalists documents about one of its clients, Seattle-based Cell Therapeutics, which revealed the candid views of analysts and the firm's own managers on the biotech company's merits.

The e-mail from Shepardson Stern and Kaminsky, cites 'scepticism' and 'outright cynicism' about Cell Therapeutics from both within and outside the biotech firm.

According to the report, the company's chief drug in development, anti-cancer drug Xyotax, 'risks being over-hyped and over-promised'.

Organic standards trashed

US The Omnibus Appropriations Bill passed by Congress in February includes a rider allowing producers to label meat and dairy products organic even if they do not meet strict US Department of Agriculture criteria. These criteria include the requirement that animals are fed organically grown feed.

'The rider was included in the bill to benefit one Georgia producer,' said Democrat senator for Vermont Patrick Leahy.

'It is written broadly enough that it essentially creates a loophole for any livestock producer in the country to get around the organic feed requirement.'

For more on these and other stories, and for background information and exposés of all GM issues, go to www.ngin.org.uk

POT-IN-POT • Problem: how do you keep your food fresh when you have no electricity, live in a hot, dry climate and are penniless? Solution: use a Pot-in-Pot, made locally for 20 pence.

Northern Nigeria is a financially poor region where people in rural communities eke out a living from subsistence farming. With no electricity and, therefore, no refrigeration, perishable foods spoil within days. Such spoilage causes disease and loss of income for needy farmers, who are forced to sell their produce daily.

Motivated by a concern for the rural poor and an interest in indigenous African technology, Nigerian teacher Mohammed Bah Abba (pictured right and below) sought a practical, local solution to these problems. His extremely simple and inexpensive earthenware 'Pot-in-Pot' cooling device is starting to revolutionise lives in this semi-desert area in a participatory and sustainable way.



HOW THEY WORK

The innovative cooling system that Abba developed in 1995 simply consists of two earthenware pots of different diameters, one placed inside the other. The space between the two pots is filled with wet sand that is kept constantly moist and keeps both pots damp. Fruit, vegetables and items such as soft drinks are put in the smaller inner pot, which is covered with a damp cloth and left in a very dry, ventilated place.

The cooling phenomenon that occurs is based on a basic principle of physics: the water contained in the sand between the two pots evaporates towards the outer surface of the larger pot where drier outside air is circulating. Thanks to the laws of thermodynamics, the evaporation process automatically causes a drop in temperature of several degrees, which cools the inner container, destroys harmful micro-organisms and preserves the perishable foods inside.

Abba's first trials proved successful. Aubergines, for example, stayed fresh for 27 days instead of three, and tomatoes and peppers lasted for three weeks or more. African spinach, which usually spoils after a day, remained edible after 12 days in the Pot-in-Pot storage.

THE POT-IN-POT'S IMPACT ON RURAL LIVES

- Farmers can now control the trade in their produce, selling on demand rather than rush-selling to avoid spoilage. They can, therefore, get better prices for their goods.
- Young girls traditionally have to sell family produce on a daily basis. They now have most of the week available to attend lessons in school. The number of girls enrolling in primary schools is rising.
- Married women can sell food from their homes, reducing their dependence on their husbands.
- Fresh fruit and vegetables are available for longer periods, increasing food variety.
- Since the pot-in-pot was introduced, outbreaks of food-related illness have been falling dramatically in the areas in which they are used.
- Pottery is rooted in African culture, and rural employment opportunities have significantly increased since the cooler's introduction. The pace of rural migration to cities, has thus been stemmed. This, in Abba's words, 'makes the Pot-in-Pot a tangible and exciting solution to a severe local problem'.

GROWTH OF THE PROJECT

Abba refined his invention persistently between 1995 and 1997. Then, tapping into the large but unemployed local workforce, he hired skilled pot makers to produce the first batch of 5,000 Pot-in-Pots. Manufacturing these devices at his own expense for 20 pence each, he began distributing them for free to five villages in Jigawa province. For this initial phase of the project, he was given limited financial backing from his brother and assistance in the form of transportation, fuel and labour from the UN Development Programme, the regional government, a local women's development group and the Jigawa State Polytechnic.

In 1999 Abba built additional pot-making factories and supplied another dozen local villages with 7,000 pots – again at his expense. He estimates that three



quarters of the rural families in Jigawa state are now using his cooling device.

Encouraged by these results, Abba will soon begin distributing the devices in the four Nigerian states bordering Jigawa, starting with Yobe. However, he understands from his experience over the past five years that one of the biggest obstacles will be educating villagers about this simple technology.

To find out more, contact: Mr Mohammed Bah Abba, No. 33 Lajawa Street, Sallari Quarters, PO Box 10591, Kano, Kano State, Nigeria.



Dr John Gorrie of Apalachicola, Florida, invented mechanical refrigeration in 1851.

Electric refrigerators were first sold in the US in 1916 for \$900.

In 1956, 80 per cent of US households and just 8 per cent of British homes had a refrigerator.

Domestic fridges and freezers consume 36 per cent of all energy used by UK electrical appliances – as much as all the country's offices.

Almost 6 per cent of all EU electricity (needing 20 large power stations for its generation) is used by domestic fridges and freezers.

US refrigerators use about 7 per cent of all US electricity; that's 25 large power plants' worth.

Refrigerators and freezers account for about 25 per cent of the UK's average household electricity bill.

Refrigerators and freezers in the EU account for 62 million tonnes of CO₂ emissions per year; that's about 2 per cent of all EU emissions.

In most new fridges, CFCs have been replaced by hydrochlorofluorocarbons (HCFCs). While an improvement, HCFCs are still harmful greenhouse gases – 1,200 times more powerful than CO₂.

3.2 million fridges and freezers, representing 600 tonnes of CFCs and 45,000 tonnes of ferrous materials, are disposed of in the UK each year.

If you stacked up all the fridges Americans buy in just one week, you'd have a tower more than 80 miles high.



'The Pot-in-Pot project is the first to use simple cultural solutions to address the primary needs of the rural northern Nigerian population, for whom the basic necessities of life are nearly non-existent,' Rabi Umar of the Ministry of Women's Affairs and Social Mobilisation, Nigeria.

The Royal Society is the most respected scientific institution in the UK, explicitly committed to open and unbiased scientific debate. So why is it working so closely with an unlikely alliance of ex-Marxists and corporate lobbyists to twist the public debate on GM? Andy Rowell and Jonathan Matthews report.

Strange bedfellows



As details of Britain's official 'public debate' on GM were finalised last autumn, Lord May, the president of the Royal Society, spoke of the danger of the process being 'hijacked by fundamentalist lobby groups' with views that were guided by dogma and ideology. He warned that the debate could 'be swamped by a well-orchestrated campaign involving those [with] special interests'.

Unbiased science, untainted by any political or corporate agenda is exactly what one would hope for from an august body like the Royal Society, an organisation that was founded in 1660 and which includes Isaac Newton and Humphrey Davey among its illustrious past presidents.

For 300 years not meddling in politics was a key principle of the society. Its *Philosophical Transactions* carried a notice in every issue stating: 'It is an established rule of the Royal Society... never to give its opinion, as a body, upon any subject.' But by the 1960s this notice had quietly been dropped. And by the late 1990s the society's president boasted: 'We have contributed early and proactively to public debate about GM plants.'

Since last year this proactivity has included working with a new group called Sense About Science. The chairman of Sense About Science is Lord Dick Taverne, who argues, like Lord May, that journalists are far too easily led on issues like GM by those who 'have committed themselves to beliefs which have assumed the status of dogma'. The media's 'sloppiness' on GM, Lord Taverne warns, is actually 'undermining the health of our democracy'.

So, Sense About Science has set up a working party to try and solve the problems of scientific peer review, and to tackle the difficulties of communicating science to a media that it believes is more interested in headlines than facts.

A who's who of living Marxists

Unlike the Royal Society, which was founded in 1660, Sense About

Science was set up in the middle of last year – just in time, as it happens, for the great GM debate. And although it is quoted in the media as something of an authority, it is not easy to find any information about it. Its website cannot currently be found by internet search engines, and not all messages left on the Sense About Science answerphone are returned. 'I'm not very good at technology,' Tracey Brown, Sense About Science's director, told us when we finally spoke to her.

The phone number for Sense About Science, it turns out, is the same as that of a charity called Global Futures. Global who? According to the Charity Commission, the official contact for Global Futures is one Ellen Raphael, who works for a crisis- and risk-management PR company called Register Larkin. Ex-Monsanto PR man Harry Swan works there too. And, coincidentally, so did Tracey Brown till shortly before she became director of Sense About Science.

Register Larkin has a very focussed brief; it 'helps' some of the world's largest companies deal with, in its own words, 'an environment of unprecedented scepticism, risk aversion and lack of trust... [which is] compounded by a 24/seven media, the internet and sophisticated anti-business and anti-technology activism'. Its client list includes the Bio-Industry Association and biotech firms Aventis CropScience, Lilly, Pfizer and Bayer – ie, some of the very corporations most likely to benefit if GM crop commercialisation gets the go-ahead.

Given Global Futures' sharing of a telephone number with Sense About Science, and the connection to Register Larkin, we wanted to find out more about them.

According to the Charity Commission, Global Futures has two trustees – Phil Mullan and Dr Michael Fitzpatrick. Both were once regular contributors to a magazine called *Living Marxism* (later *LM*). Mullan is also the registrant of the *Spiked* website, which was set up

The RCP (aka *LM*, or *Spiked*) was born out of ideological in-fighting amongst the extreme left in the 1970s. In the late 1980's, it launched the magazine *Living Marxism* (later *LM*).

Part of the RCP's background was a tactic known as 'entryism', namely the infiltration of unions or political organisations in order to try and control their direction. In the early 90s it turned its back on seeking mass working class action in favour of a new mission – and hence the links to the GM corporate lobby – the promotion of social change by opposing all restrictions on science, technology and business. To forward its new corporate science-led agenda the RCP began a campaign of infiltration of academic and media circles under the slogan, – 'Go to the suburbs'.

Ever controversial, *LM* was forced into closure in 2000 after losing a libel case brought by journalists it had accused of fabricating evidence of Serbian atrocities.

RCP were also widely regarded as having been behind the anti-environmental TV series, 'Against Nature', which drew the wrath of the Independent Television Commission for having 'misled' participants and – 'distorted' – their views via selective editing.

The group has also been accused of using the pursuit of 'freedom' and 'progress' to promote a narrowly scientific agenda that glorifies technology, as well as to defend more or less every environmental and financial corporate excess.

three years ago by Mick Hume – the former head of the Revolutionary Communist Party (RCP, see box opposite). Hume is also the ex-editor of *Living Marxism* and a regular columnist for *The Times*.

When we asked Brown about Global Futures, she described it as 'a publishing house'. Yet its website lists only one publication – by sociologist Frank Furedi. Under the alias Frank Richards, Furedi was the chief theoretician of... the RCP. Brown, has worked with Furedi for a number of years and with Global Futures since its inception. The pair have also both worked with the Institute of Ideas (IoI), another organisation connected with *Living Marxism* and the RCP that was established by Claire Fox – *LM*'s co-publisher.

The *LM* connections do not stop there. Another member of the Sense About Science working party on peer review is Tony Gilland, also an *LM* and *Spiked* contributor as well as the science and society director of IoI. Gilland's currently organising IoI's weekend-long ►

'Genes and Society Festival' in London this April. Held in association with Pfizer, the event is set to discuss issues such as cloning, eugenics and GM crops. His standpoint on GM is clear. In an online debate *Spiked* ran for the Natural Environment Research Council, Gilland argued that the UK's GM 'farm-scale trials are an unnecessary obstacle' to the introduction of a 'beneficial and benign' technology. The debate itself was heavily loaded. Of the seven opinions *Spiked* commissioned, only one was from a GM-critical perspective.

Also on the working party is Fiona Fox, head of the Science Media Centre (SMC) and sister of Claire. Fiona Fox also contributed several articles to *LM* and has admitted to 'being associated' with one in which the world's disgust at the slaughter of 800,000 Tutsis in Rwanda was dismissed as an 'emotional overreaction'.



Although the SMC claims to be 'an independent venture' helping journalists get the facts right on science issues, it admits on its website to being funded by BP-Amoco, Dupont, Pfizer and Astra Zeneca, among others.

The SMC's roots lie in a forum that drew up a stringent code as to how scientists and the media should report controversial issues in science. Lord Taverne was one of that forum's members, as was David Boak of the Royal Society and Michael Fitzpatrick.

According to Lord Taverne, even organisations as mainstream as the National Consumer Council base their opposition to GM 'on ideology'. He considers Greenpeace, the equivalent to the US's religious right. Yet, ironically, he has aligned himself with members of a network whose ideological extremism is legendary. That extremism takes in not just the denial of genocide in Rwanda, but support for the IRA, opposition to legal restraints on child pornography, the down-playing of Serbian atrocities in the Yugoslav civil war and support for human reproductive cloning.

These curious links make Sense About Science's relationship with the Royal Society all the more worrying. The working party is chaired by the Royal Society's vice president Sir Brian Heap. The society's biological secretary has been assigned to liaise with the working party, and so too has its senior manager for press and PR. And where does this working party meet? At the Royal Society.

Lords-a-leaping

The commitment of the Royal Society and Sense About Science to ensuring the media get their stories on GM right can be measured against the stories that emerged at the beginning of the public debate.

The GM story that drew the widest coverage in January was the claim that GM crops could save the skylark. 'Insects and farmland birds can flourish,' *The Independent* reported, 'in GM fields that under

conventional farming would be wildlife deserts.' There was even a follow-up story, 'Peers welcome GM weeds study', about how the research had been received at a meeting to promote it to members of the Houses of Parliament.

Sense About Science set up that meeting. Present were scientists from sugar-beet research centre Broom's Barn, who had undertaken the study with partial funding from Monsanto. The Broom's Barn paper was published in a Royal Society journal. SMC promoted the research via a press release. Broom's Barn and the Royal Society briefed the science correspondents. The Royal Society's own press release claimed that GM crops could bring back 'endangered wildlife and birds such as skylarks and finches'. A year previously, the Agricultural Biotechnology Council (a lobby group set up by Monsanto, Bayer CropScience, BASF, Dow Agrosciences, Dupont and Syngenta) had concluded in its inaugural report that if GM could be seen to be beneficial to birds like the skylark, then that would ensure the majority of people would support the technology.

The truth about the Broom's Barn research was somewhat different. In fact, it had not even looked at birds. 'The trial plots were not big enough to look at birds,' conceded lead scientist Alan Dewar. 'The bird angle isn't conclusive.'

GeneWatch UK's Dr Sue Mayer said: 'Considering the way in which the Royal Society and the scientific establishment have attacked the quality of the science that questions the safety of GM, it is quite extraordinary that they should promote this piece of research. The only conclusion I can come to is that they have some other motivation and that they are not evaluating science fairly.'

Later on in January there were attempts to undermine the credibility of the concerns of the British Medical Association (BMA) about GM food. The BMA has warned of GM's 'possibly irreversible environmental risk' and its 'as yet

unquantified public health implications'. It has called for much more research before GMOs are 'permitted to be freely cultivated'. However, the BBC reported that the BMA had decided to review its policy on GM and that it would issue a new report. In the BBC's online version of the story Sir Peter Lachmann, the president of the Academy of the Council of Medical Sciences, was quoted as saying that a 1999 BMA report on GM had been based on 'discredited' research.

It was Sense About Science that was credited with having persuaded the BMA to review its GM policy. But the BMA quickly put out a press release stating that this claim and others in the BBC's reports were 'totally incorrect'. The BMA said its review was entirely routine and that there would not necessarily be a further report.

Lachmann, who like Sense About Science featured prominently in the media reports of the story, is a controversial figure himself. Following *The Lancet's* publication of Dr Arpad Pusztai's damning research into GM potatoes, the journal's editor told *The Guardian* that he had earlier been phoned by Lachmann who had threatened him with the loss of his job if he went ahead with publication. Lachmann has denied this.

Lachmann is both a leading fellow of the Royal Society and a member of the Sense About Science working party on peer review.

This is not the first time the BMA's 1999 report has found itself the victim of media manipulation. When it was first published, it was quickly knocked out of the headlines by a Royal Society paper attacking Pusztai's research as 'flawed', even though Pusztai's work hadn't then been published. Sir Brian Heap played a key role in organising the society's paper.

Reliable smear tactics

As soon as the current public debate on GM started, the attacks on Pusztai started up again. On the same day as the reports about the

BMA's allegedly flawed report *The Independent* ran the headline: 'Scientists blame media and fraud for fall in public trust'. The article gave the Royal Society's views on why the public no longer trusts experts like itself. Pusztai's work was categorised as 'fraud'; his peer reviewers, we were told, 'refused it for publication, citing numerous flaws in its methods – notably that the rats in the experiment had not been fed GM potatoes, but normal ones spiked with a toxin that GM potatoes might have made'.

Almost every word of this was fabrication. Pusztai's *Lancet* paper successfully came through a peer-review process which was far more stringent than that applying to most published papers. There was no 'fraud'. Rats were fed GM potatoes. There was no 'toxin'.

The claims in the *Independent's* article follow a pattern. Last summer, for instance, the Royal Society's biological secretary Patrick Bateson wrote in the journal *Science and Public Affairs* that *The Lancet* published Pusztai's research 'in the face of objections by its statistically-competent referees'.

Bateson is one of those charged with liaising between the Sense About Science working party and the 10-member Royal Society working group on peer review, which he heads. According to *The Independent*, one of the cases that will be informing that work is Pusztai's.

Lord Taverne has also been a keen critic of how Pusztai's research is reported, telling his fellow peers he hoped the Press Complaints Commission would 'come down heavily on the kind of irresponsible and reckless disregard for fact and evidence which has characterised the reporting of many scientific issues in the past'. Taverne gave as an example, 'when Dr Pusztai fed harmful lectins inserted in potatoes to rats'. The lectin Pusztai used is known, in its non-GM form, to be harmless to rats.

There is growing disquiet about all this. A recent Royal Society

meeting linked to the GM public debate drew criticism from several scientists for being little better than bio-tech propaganda. SMC recently had the 'ac.uk' suffix removed from its email address after complaints were upheld that only academic institutions that were not primarily corporate-funded were entitled to use it. And in a letter to Tracey Brown last November, the Wellcome Trust set out why, after careful consideration, it is declining to fund or be part of Sense About Science's working party. Among the series of concerns listed by the trust were the fact that, 'the proposed make-up of the working party is extremely narrow'. The working party, the trust wrote, 'runs the risk of being seen as a closed and defensive strategy', and the project was based on 'many assumptions' and little 'direct evidence'.

On *Desert Island Discs* not so long ago, Lord May said: 'It is for the public to decide which doors to open and which doors they want to leave closed. But they should be making these decisions on the basis of accurate, balanced information.' Take him at his word ■

FOR MORE INFORMATION:

Genewatch UK: <http://www.genewatch.org/Debate/Debate.htm>

The GM debate steering board: <http://www.gmpublicdebate.org.uk>

TO HAVE YOUR SAY:

Post your views as part of the 'public debate' process at: <http://www.gmpublicdebate.org/postviews.htm>

To contribute to the GM science review, visit: <http://www.gmsciencedebate.org.uk/topics/forum/default.htm>

For the Cabinet Office study of the 'costs and benefits' of GM crops, visit: <http://www.strategy.gov.uk/2002/gm/summ.shtml>

Andy Rowell is a freelance journalist and author of *Don't Worry, it is Safe to Eat: the true story of GM, BSE and foot and mouth*, which is due to be published this summer.

Jonathan Matthews is a writer and researcher on the bio-tech industry and a founder of GM Watch (www.gmwatch.org), which provides an online database on bio-tech PR.

ATLANTIC DAWN • Dirty deals between the European Commission and Ireland have enabled the world's biggest trawler to plunder African fish stocks.

The Atlantic Dawn, the world's biggest fishing vessel, was launched in Dublin in August 2000. It cost its skipper-owner, Irish businessman Kevin McHugh, £50m. Built in Norway, the ship also cost Norwegian taxpayers £4m in government shipyard subsidies. These subsidies have helped keep Norway's shipbuilding industry afloat.

Even though Ireland was already exceeding the EU's mandated maximum allowable domestic fleet size by 30 per cent, the Irish government gave the Atlantic Dawn a temporary fishing license to fish in international waters.

But in October 2001 the European Commission launched two court actions against Ireland for exceeding the allowable fishing-fleet size and for registration infringements concerning the Atlantic Dawn.

EU regulations mandate that all fishing vessels be placed on a European fishing registry. Having the Atlantic Dawn added to its fishing fleet would have blown Ireland's already excessive over-capacity way out of the water. The Atlantic Dawn was, therefore, initially placed on the merchant marine register.

In December 2001, the commission did a remarkable deal with Ireland. Behind closed doors, it legitimised the Atlantic Dawn by increasing the permitted size of the Irish fishing fleet by 14,055 gross tonnes – the exact size of the Atlantic Dawn. The deal also allows the Atlantic Dawn to fish in EU waters three months out of the year. This is thanks to the transfer of the fishing entitlements of another super-trawler (also owned by McHugh) – the Veronica.

In exchange, the Veronica (106 metres in length and 5,206 tonnes in weight) has been removed from the Irish fishing register. It now operates under Panamanian registration – a well-known flag of convenience.

McHugh managed to secure a private licence for the Atlantic Dawn to fish nine months of the year in Mauritanian waters. It wouldn't have been possible for the Atlantic Dawn to fish in Mauritania's waters under the EU's taxpayer-subsidised 'cash-for-access' agreements, as it is 5,000 tonnes bigger than the size allowable in the EU scheme.

In all these murky waters, it is difficult to decide whose hands are the dirtiest. Is it the commission, which says one thing and does another – thereby undermining its own attempts to establish a sustainable fishery policy? Or is it the Irish government for doing dirty deals behind closed doors to secure the Atlantic Dawn's registration as part of its fishing fleet?

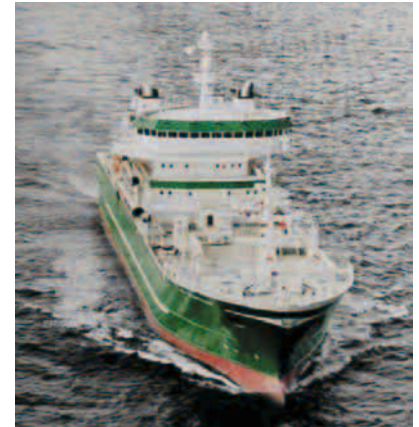
What role have patronage and party politics played? McHugh is a well-known supporter of Ireland's governing Fianna Fail party. And what about the Irish banks that have financed this huge investment? What pressures have they been applying?

As for McHugh, the opportunity to exploit a weak system was just too good to pass up. According to the latest information, he stands to cash in on a 60m windfall from selling off the spurious fishing rights transferred from the Veronica.

Special thanks to Brian O'Riordan and Beatrice Gorez. Figure of Norwegian government subsidies from 'EU deal lets Irish fishermen off hook', *The Guardian*, 20 February, 2002.

ATLANTIC DAWN SPECIFICATIONS

- Length:** 144.3 metres (473 feet)
- Width:** 24 metres (79 feet)
- Gross tonnage:** 14,055
- Engines:** 28,730 horsepower; it has twin engines and propellers, which is unusual on a fishing vessel; a lot of the power goes towards running its huge factory-freezing plant
- Fishing gear:** The boat's purse seine nets are 3,600 feet in circumference and 550 feet deep; the trawl nets are 1,200 feet in breadth and 96 feet in height
- Crew:** 61 men



SENEGALESE FISHING CANOE

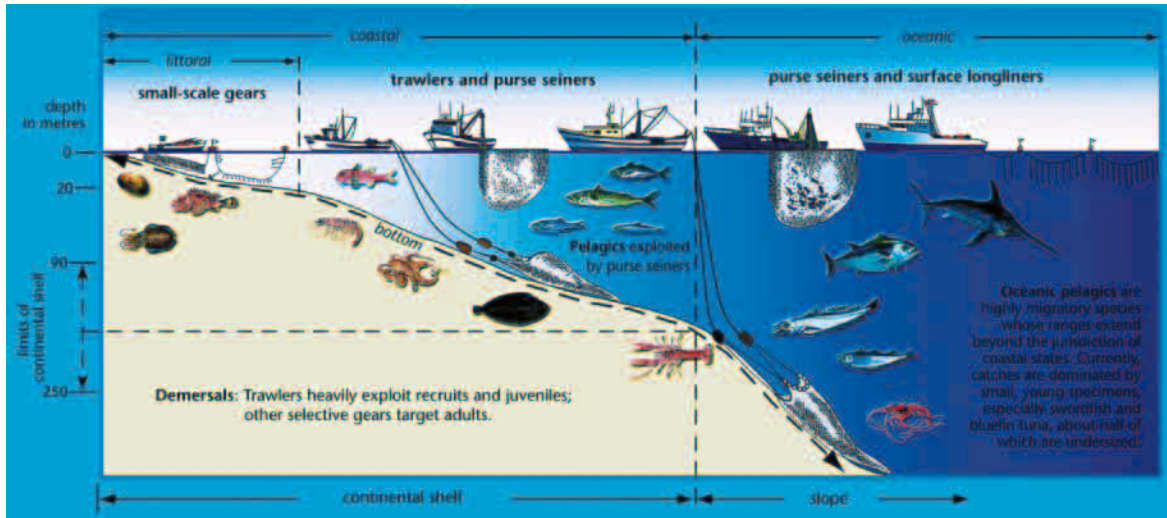
Typically undecked; outboard motor with a horsepower of between 15 and 30; 10 metres in length; has a crew of between three and eight

EARNINGS

Atlantic Dawn: Can gross about \$2m for each full fishing trip (*Fishing News International*)

African artisan fishermen May earn \$500 to \$1,000 per year





FACTORY FISHING – THE LOGISTICS

As its nets are drawn in, the Atlantic Dawn's catch is vacuum-pumped on board and temporarily stored in refrigerated holding tanks with a total capacity of 1,000 tonnes of fish. These salt-water tanks allow the Atlantic Dawn to process caught fish while it continues to search for more shoals. From the tanks, the fish are then pumped on to a conveyor-belt system and transported to the grading machines. There is also a hand-picking line so as to get the grades as accurate as possible.

The size-graded fish are then sent directly to 48 plate freezers to be frozen into blocks, packaged and sealed. This highly-mechanised system is able to process up to 400 tonnes of fish a day and can store up to 7,000 tonnes of frozen fish, which are held in massive storage rooms on three separate deck levels. It can reach storage capacity in as little as 28 days.

Once it has reached capacity, the Atlantic Dawn unloads its frozen catch in a storage facility on Las Palmas, the Canary Islands, where the fish are stored until being sold to international markets. Thanks to EU subsidies, the refrigeration facilities on Las Palmas are among the largest and most advanced in the EU, and allow factory trawlers to store fish at a reduced cost. The Atlantic Dawn catches in one month what 7,000 artisan fishermen would catch in a good year.

FISHING NETS

The Atlantic Dawn is equipped with two of the most unsustainable types of fishing net: purse seine nets and trawl nets.

Purse seine nets

Work much like a shopping bag with a draw-string neck to catch shoals of fish; the Atlantic Dawn's are large enough to engulf two Millennium Domes if placed one on top of the other

Trawl nets

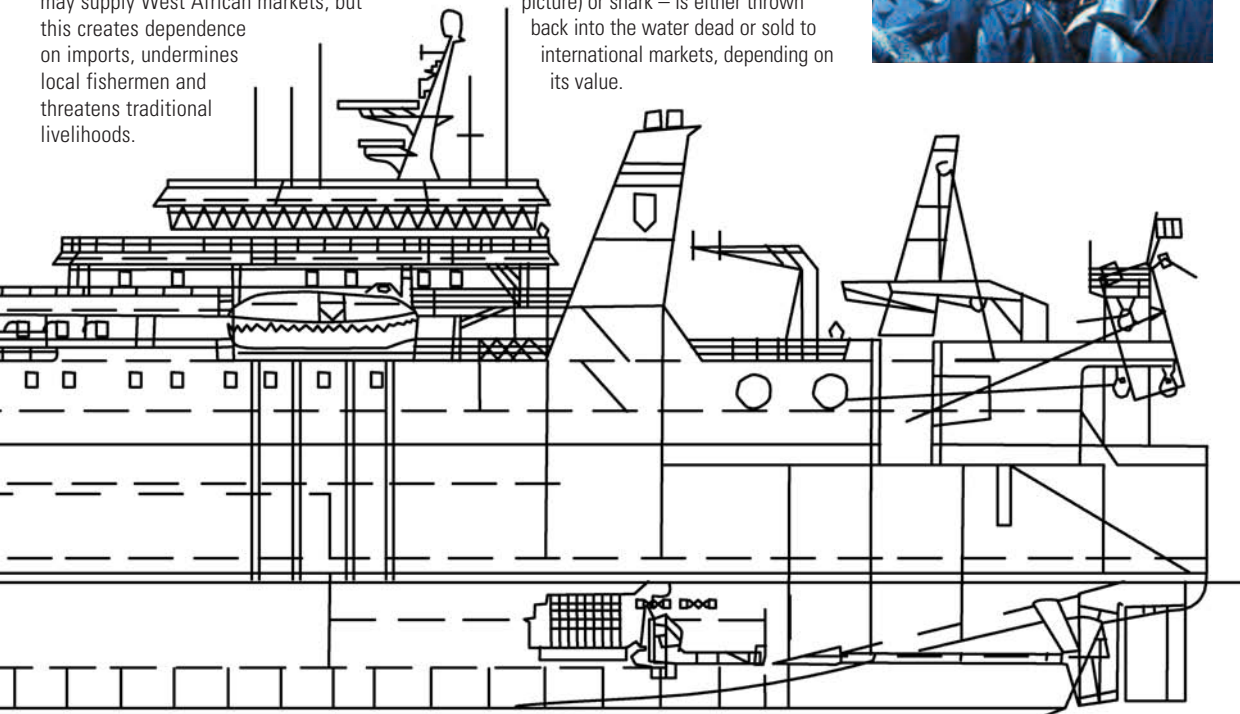
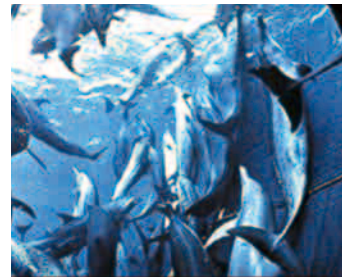
Bag-like nets dragged through the open water; the Atlantic Dawn's are big enough to span four football fields and engulf two thirds of the Dome

TARGET FISH

Sardinella: The primary species of small pelagics targeted by the Atlantic Dawn, it migrates between West African waters. It is considered the 'bread and butter' of West African small-scale fisheries. Like other EU super-trawlers, the Atlantic Dawn may supply West African markets, but this creates dependence on imports, undermines local fishermen and threatens traditional livelihoods.

BYCATCH

Up to 15 per cent of the catch that the Atlantic Dawn's huge trawl nets drag up from shallow waters is unwanted catch. The nets drag along the bottom of the sea in a process similar to clear felling a forest. Bycatch – be it snapper, bream, tuna, turtle, dolphin (see picture) or shark – is either thrown back into the water dead or sold to international markets, depending on its value.



- Mauritania, one of the poorest and most highly indebted countries in the world, has increasingly licensed its fishing grounds to fleets from the EU, Japan and China. There are now 251 industrial factory-fishing vessels in its waters. This has led to drastic falls in catches of fish stocks such as octopus (down by over 50 per cent in the past four years) and sawfish, which has completely disappeared.

- When local fishing stocks are depleted, local fishermen are ruined. And the factory fishing vessels? They simply move on to another fishing ground.

- In Mauritania the fishing sector provides over 50 per cent of foreign exchange earnings, 10 per cent of GDP and around 30,000 jobs – of which 25,000 are associated with local, small-scale fishing.

- Percentage of populations involved in the fishing industry: Africa – 6.5 per cent; Europe – 1.4 per cent. Production of fish per person in tonnes each year: Africa – 2.8; Europe – 29.2.

- In West African fishing communities, men are generally responsible for the manufacture of fishing boats and the capture of fish, while women tend to the post-fishing operations such as the cleaning, drying, storage and sale of the fish.

- Community fishing tends to be well regulated and inherently sustainable. The fishermen use a wide variety of fishing gear (lines, gillnets, beach seines, cast nets and traps) and target many different kinds of fish (sardine, mullet, sardinella, anchovy, octopus, barracuda, grouper, grunt, shrimp, snapper and others). The gear used and the fish targeted vary by season.

- Fishing in many West African communities is steeped in tradition, including the belief in and fear of ocean gods or spirits, the respect of the community elders' decisions on fishing matters and the offering of prayers before fishing expeditions.



Politics New America

**Concerned for the future of the planet? Wait
till you hear about the Project for the New
American Century. By William Rivers Pitt**

A dramatic photograph showing the silhouettes of several soldiers in full combat gear, including helmets and rifles, as they raise a large American flag. The scene is set against a bright, orange-hued sunset sky with scattered clouds. The flag is positioned in the upper left quadrant, and the soldiers are in the lower half of the frame, their forms dark against the glowing background.

be afraid...

The ominously named Project for the New American Century (PNAC) desires and demands one thing – the establishment of a global US empire to bend the will of all nations. Created in 1997, the Washington-based think-tank chafes at the idea that the US, the last remaining superpower, does not do more by way of its economic and military force to bring the rest of the world under the umbrella of a new socio-economic *Pax Americana*.

The essence of PNAC's ideology can be found in a report it produced in September 2000 entitled *Rebuilding America's Defenses: strategy, forces and resources for a new century*. The report outlined what is required of the US to create the global empire of the think-tank's dreams. According to PNAC, the US must:

- reposition permanently based forces to southern Europe, south-east Asia and the Middle East;
- modernise US armed forces by (among other things) enhancing its fighter-aircraft, submarine and surface-fleet capabilities;
- develop and deploy a global missile defence system, and develop a strategic dominance of space;
- control the 'international commons' of cyberspace; and
- increase defence spending to a minimum of 3.8 per cent of the country's GDP – up from the 3 per cent currently spent.

Most ominously, PNAC's document described four 'core missions' for the US military. The two central requirements are for US forces to 'fight and decisively win multiple, simultaneous major theatre wars' and for them to 'perform the "constabulary" duties associated with shaping the security environment in critical regions'. One way or another, US armed forces must establish American dominance for all to see.

Why is all this important? After all, wacky think-tanks are a cottage industry in Washington. They are a dime a dozen. In what way does PNAC stand above all the other groups that would set US foreign policy if they could?

The making of the US's far-right establishment

Two events brought PNAC into the mainstream of US government: the disputed election of George W Bush, and the attacks of September 11.

When Bush assumed the presidency, the men who had – over decades – created and nurtured the imperial dreams of PNAC became the men who now run the Pentagon, the US Defense Department and the White House. The ideological father of PNAC is Paul Wolfowitz – Bush's deputy defence secretary. Wolfowitz, vice-president Dick Cheney, defence secretary Donald Rumsfeld, the president's brother Jeb, his special envoy to Afghanistan Zalmay Khalilzad (as well as convicted perjurer and Iran-Contra veteran) Eliot Abrams are all signatories of PNAC's statement of principles. Defense

Policy Board chairman Richard Perle is another PNAC founding member, and PNAC director Bruce Jackson served as a Pentagon official for Ronald Reagan before leaving government service to take a leading position with the weapons manufacturer Lockheed Martin.

PNAC is staffed by men who previously served with groups like Friends of the Democratic Center in Central America (which supported the US's bloody gamesmanship in Nicaragua and El Salvador) and the Committee for the Present Danger, which spent years advocating that a nuclear war with the Soviet Union was 'winnable'.

And PNAC has recently given birth to a new group, the Committee for the Liberation of Iraq (CLI), which met with national security adviser Condoleezza Rice to formulate a plan to 'educate' the US populace about the need for war in Iraq. CLI has funnelled millions of taxpayer dollars into supporting the Iraqi National Congress and the Iraqi heir presumptive Ahmed Chalabi. (In 1992 Chalabi was sentenced *in absentia* by a Jordanian court to 22 years in prison for bank fraud after the collapse of Petra Bank, which he founded in 1977. Chalabi has not set foot in Iraq since 1956, but his Enron-like business credentials apparently make him a good match for the Bush administration's plans.)

The desire of PNAC's freshly empowered members to extend US hegemony by force of arms across the globe has been there since day one of the Bush administration, and is in no small part a central reason for the Florida electoral battle in 2000. (Note that while many have said that Gore and Bush are ideologically identical, Gore had no ties whatsoever to the fellows at PNAC). Bush had to win that election by any means necessary, and his brother Jeb was in the perfect position to ensure the rise to prominence of his fellow imperialists. Desire for such action, however, is by no means easily translatable into workable policy. Americans enjoy their comforts, but don't necessarily take to the idea of being some sort of new Rome.

When the World Trade Centre collapsed, the fellows from PNAC saw a door of opportunity open wide before them, and stormed right through it.

On 20 September, 2001, Bush released the 'National Security Strategy of the United States of America'. The strategy is an ideological match to PNAC's *Rebuilding America's Defenses*. In many places, it uses exactly the same language to describe the US's new place in the world. Recall that PNAC demanded an increase in defence spending to at least 3.8 per cent of the US's GDP. Bush's proposed budget for next year asks for \$379 billion in defence spending – almost exactly 3.8 per cent of GDP.

Last August Richard Perle heard, in his capacity as Defense Policy Board chairman, a policy briefing from the Rand Corporation think-tank. According to *The Washington Post* and *The Nation*, the final slide of the presentation described 'Iraq as the tactical pivot, ►

Saudi Arabia as the strategic pivot, and Egypt as the prize' in a war that would purportedly be about ridding the world of Saddam Hussein's weapons of mass destruction. So far Bush has deployed massive forces in the Middle East, while at the same time engaging US forces in the Philippines and playing nuclear chicken with North Korea. Somewhere in all this lurks at least one of the 'major theatre wars' advocated by PNAC in *Rebuilding America's Defenses*.

Iraq is but the beginning, a pretence for a wider conflict. Central PNAC member Donald Kagan sees the US establishing permanent military bases in Iraq after the war. This would be billed as a measure to defend the peace in the Middle East, and to make sure the oil flows. The nations in that region, however, would see it for what it was: a jump-off point for US forces to invade any Middle East nation they chose. The US people, anxiously awaiting some sort of exit plan after the US defeats Iraq, will see too late that no exit is planned.

All of the horses are travelling together at speed here. The defence contractors who sup on US tax revenue will be handsomely paid for arming this new US empire. The corporations that own the news media will sell this endless state of war at a profit, as viewer figures go through the stratosphere when there is combat to be seen. Those within the administration who believe that the defence of Israel is contingent upon laying waste to every possible aggressor in the Middle East will have their dreams fulfilled. The PNAC men who wish for a global *Pax Americana* imposed at gunpoint will also see their plans come true. Through it all, the bankrollers from the World Trade Organisation and the International Monetary Fund will be able to dictate financial terms to the entire planet. (This last aspect is pivotal, and is best described in the newly revised version of Greg Palast's masterpiece *The Best Democracy Money Can Buy*.)

There will, of course, be adverse side effects. The siege mentality that average Americans are suffering as they smother behind yards of plastic sheeting and duct tape will increase by orders of magnitude as US aggressions bring forth new terrorist attacks against the homeland. These attacks will require the implementation of the newly drafted Patriot Act II, an augmentation of a previous act that has profoundly sharper teeth. The sun will set on the US Constitution and Bill of Rights.

Financially, the US economy will be ravaged by the need for increased defence spending, and by the aforementioned 'constabulary' duties in Iraq, Afghanistan and elsewhere.

Former allies will turn on the US. Germany, France and the other nations resisting war in Iraq are fully aware of the overall game plan. They are not acting out of cowardice or because they love Saddam Hussein, but because they mean to resist this rising US empire, lest they face economic and military serfdom at the hands of George W Bush. Perle has already stated that France is no longer an ally of the US. As the eagle spreads its wings, US rhetoric and critical nations' resistance will become more agitated and dangerous.

Many people, of course, will die. They will die from war and from want, from famine and disease. At home in the US the social fabric will be torn in ways that will make the Reagan nightmares of crack addiction, homelessness and AIDS seem tame by comparison.

All this is the price of empire, and the men of PNAC who now control the fate and future of the US are more than willing to pay it. For them, the benefits far outweigh the liabilities ■

William Rivers Pitt is the co-author of *War On Iraq* (Context Books, 2001; the book was jointly written by former UN weapons inspector Scott Ritter) and *The Greatest Seditious Silence*, which will be available next month from Pluto Press. He teaches at a high school in Boston, Massachusetts.

Scott Lowery contributed research to this report.



US DEPARTMENT OF DEFENSE

New airports on nature reserves, housing on greenfield land and £300m of new roads. It's not exactly Tony Blair's 'radical green agenda'.

What on earth did Tony Blair mean when he said he was going to 'put the environment at the heart of government'? Obviously not what I would infer from that declaration, namely that protecting and improving the environment is so important that all policies from all departments should promote it. Because, since Blair made that speech in the summer of 2001, it's become ever more obvious that his government's policies and objectives are actually ruinous for the environment. What are now emerging 'at the heart' of this government are a scary willingness to sacrifice what's left of the British countryside to bulldozers and an indifference to global environmental issues.

Shortly after September 11 Blair told the Labour party conference that in return for supporting Bush's policies in Afghanistan, he would seek greater cooperation from the US on multilateral agreements like the Kyoto accord. But the US wasn't forced to come on board at the World Summit in Johannesburg, and nothing has been heard on the subject since. Instead, Blair has been resolute in supporting the US for a war that, quite aside from the immediate human costs, will have terrible consequences for the Middle East's environment.

While Blair focuses on his role as international moral crusader, his domestic departments are presiding over the ruination of the British countryside and environment. Nowhere is this more painfully clear than in the government's complete failure to tackle transport issues. When Blair took office in 1997 he refused to prioritise transport, but did hint that Labour in government would continue its opposition stance of putting a freeze on road building and supporting public transport. The environment was almost entirely absent from Blair's first term, which prioritised 'modernising' welfare, education and business relations.

When John Prescott did finally turn to transport he re-inforced the impression that this government would try to reduce car dependency – making his infamous promise that he could be judged as having failed if car use was not reduced in five years. But nothing has been done to further that aim. The government crumbled immediately at the fuel protests, and abandoned any attempt to 'lead' on policies that would have been temporarily unpopular but would have delivered in the long term a



massively improved quality of life. Since then, motorists have continued to receive disproportionately high tax advantages over those who use public transport.

Prescott's integrated transport plan now lies in ruins. The transport minister declared it unworkable. Instead, there will be fewer subsidies for rail and an acceptance that original traffic-reduction targets were unrealistic. The only part of the plan remaining is a commitment to more road building – £300m pounds worth, which represents a return to 1980s-style spending.

Anyone who thinks Blair might have a game plan to achieve environmentally beneficial outcomes slowly should think again. Just look at how Labour politicians have distanced themselves from London mayor Ken Livingstone's congestion charge, even though it represents the first serious attempt any politician has made to reduce car use. Government ministers are also promoting airport expansion, even though figures 'proving' the need for expansion are

highly contentious. There's been no attempt to reduce the tax advantages aviation enjoys, and public consultation of the expansion proposals was a farce. People were asked *where* they wanted the next runway rather than *whether* they wanted expansion in the first place. That this government could seriously entertain the idea of building on Cliffe Marshes, a unique and atmospheric nature reserve on the Thames Estuary, says everything.

The threat to the countryside from roads and airports is accompanied by housing policies that will transform the countryside into urban sprawl. Prescott's recently launched housing plans proposes up to half a million new homes on green fields in the south-east. He had the nerve to call this housing 'sustainable communities'. But there's nothing sustainable about the massive urban development proposed around Stanstead, Ashford and Milton Keynes.

Superficially, it sounds well intentioned, providing 'affordable' housing for key workers who can't afford to buy in the south-east. But the houses will be in the wrong place. These people want homes near where they work in town centres. It's the developers who want homes on green fields. Nor is there anything sustainable in the developers' designs. The government hasn't insisted that the houses should be on previously developed land (of which there's plenty), or that they are built to high density. What we'll get is what the developers want: highly profitable, utterly soulless, executive-style housing on precious countryside.

This devastation of our countryside reflects New Labour's emotional core. The word Blair constantly used on taking office said it all. 'Modernise'. He cares for economic growth and politics, not for the countryside or viable rural communities. There's been no political will to support British farmers, and in so far as the environment is on his radar at all it's as a series of EU targets. Blair has no sense that the countryside matters as part of our identity and wellbeing. Any satisfaction we may feel when his political career founders through neglect of this will not compensate for the grief at what we have lost.

Ros Coward is a columnist for *The Guardian*.

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[Red bar]

[Red lines]

The world lives under oil's spell. Jeremy Smith reveals the extent to which the industry's by-products have permeated our lives.

Forbidden **fruit?**

Unperturbed by the children's restless murmuring, Olive and Petra begin their routine. Slowly raising the lid of the gigantic box between them, they turn to face the class. 'Welcome,' they intone together with well-rehearsed awe, 'to the magic suitcase.'

One by one, the two women lift an improbable alphabet of products out from the case – Aspirin, balloons, candles, dentures, an electric blanket, a fishing rod, golf balls, hair dye, insect repellent, jet fuel, kerosene, lipstick, a mop, nail polish...

'Can anyone tell me what connects these objects?' Olive asks. Petra meanwhile reaches back into the box, pulling out office stationery, piano keys, quoits, rubber cement, a surfboard, a toilet seat, an umbrella, vitamin capsules, water skis, a xerox machine, a yoghurt pot. Finally (at last impressing the jaded class), a miniature Zeppelin floats silently up from the depths of the box.

As the children's eyes follow the diminutive dirigible up towards the strip lighting, Olive steps forth. 'The answer,' she gushes proudly, 'is that all these products are made with OIL.'

Slick sisters

Olive and Petra, and many hundreds like them, work for a Desk and

Derrick club. The Association of Desk and Derrick Clubs was set up in 1957 with a mission to 'enhance and foster a positive image to the global community by promoting the contribution of the petroleum, energy and allied industries through education, by using all resources available'. And how does it do this? The promotional literature makes it clear. Like the better known sisters of Avon, Ann Summers and Aloe Vera, Desk and Derrick clubs rely on 'the undaunted efforts of a group of determined women'.

As the women explain to classes and boardrooms across the US and Canada, the human race is dependent upon oil to a scale that few people appreciate. We are all aware of the petrol we put in our cars, and the electricity that powers our lives. Many of us realise that the plastics of which so much is made, and in which even more products are wrapped, comes originally from oil. A committed few even make choices on this knowledge – from returning excess packaging to supermarkets to refusing to put Esso's belligerent tiger in their tank. But hardly any of us really understand the extent to which oil seeps into our lives. This is the great magic trick of the global economy, far greater than the oleaginous cornucopia contained within Olive and Petra's suitcase. It is the trick of

making the real costs disappear.

Of course it is not really magic as such, but an illusion. We see what we want to see; or, to be more precise, we don't see what the magicians don't want us to see. Unfortunately, the members of this particular magic circle are the richest men in the world – men who control most of its resources, politicians and, by extension, us.

Trick or treat?

Here's a simple trick you can try at home. Take an apple, any apple. Look at it, turn it over in your hands. Close your eyes and visualise the apple growing on a tree far, far away.

As the apple grows it is repeatedly sprayed with toxic pesticides (most of which are derived from oil) by a man using machinery made at least in part of plastic, who wears PVC gloves, plastic goggles and protective nylon clothing.

Once picked, the apple has to travel – by air, sea or land – to the store from where it will be sold. Whatever the means of transport, it is propelled by oil, which all the while pollutes the atmosphere in which the apple grew.

Once at the store the apple may well be packaged in polythene, polystyrene, or some other oil derivative, for presentation on the shelf. The shelf too is plastic. The

basket you carry the apple in is often plastic; the card you swipe at the till, the 'rubber' of the conveyor belt, the nylon clothing of the cashier, the bags you put your shopping in – all plastic. Driving home in your car (look at the dashboard, the seats, the seat belts, the carpet, the steering wheel, the fibreglass body), you emit yet more pollution into the air.

Finally, you arrive home, sit back and bite into your apple – a valuable part of the five daily pieces of fruit and vegetables needed to keep the doctors, for now at least, away.

It was not always this way. Although, ever since its discovery we have exploited oil in every way we can. Ancient Egyptians coated their mummies in it to preserve them. They are also said to have paved their roads with asphalt. A Roman general smeared pigs in oil and, having ignited them, drove them into an enemy camp. According to the Babylonians, Noah used pitch to caulk the Ark. And by the third century BC the Chinese were filtering oil through cloth to use the end product as a balm for their skin.

Now we are fast becoming not the cybernetic android so beloved of dystopian sci-fi, but his cheaper, plastic cousin. Unhappy with our looks, we enhance our breasts, calfs and pecs with plastic. Embarrassed by our baldness, we weave nylon fibres into our denuded scalps. Unable to hear? Plastic ear piece. Short of sight, or just unhappy with the colour of your iris? Slip in a contact lens. Didn't brush your teeth with the oil-based toothpaste on your plastic toothbrush with its nylon bristles? Not to worry, we've got plastic dentures so like the real thing no one need ever know. And if your heart should slow, your limbs weaken or your bladder begin to take on a will of its own, then sit back as the plastic pacemakers, prosthetics and catheter tubes take over.

The world we are moulded into today was born in the 1920s with the development of the petrochemical industry. Manufacturers took

advantage of the abundance of hydrocarbons at petroleum refineries to develop the raw materials for the plastinated luxuries we now 'need'.

Notably, this was at the same time (and thanks mainly to the same people who developed the plastics industry) that the only product to have more uses than oil, but with none of the toxic side effects, was banned. That product was hemp – the oil of which can drive cars, create plastics or be made into soap, the fibres of which can be turned into paper or clothes, and the seed of which is one of the most nutritious substances known. (Oh, and growing hemp counteracts climate change, too.)

Thanks, however, to the efforts of DuPont and William Randolph Hearst (with their respective vested interests in the plastics and paper industries), the use of hemp

(which one would have to smoke around three tonnes of to get high) was outlawed, along with its more potent sister marijuana, under drug prohibition laws.

In place of the drug that was not a drug, we drill ever deeper into the veins of the earth. We pull the oil up not with syringes, but with derricks (named after an infamous 17th century hangman because of their resemblance to gallows). We cannot imagine a world without oil, deny the possibility of weaning ourselves off it, and will break the law – and even kill – to ensure a constant, cheap supply of the stuff. We are, every single one of us, addicted to oil ■







REUTERS

The new great game

War on Iraq is about a lot more than boosting oil companies' profits. It's the latest battle in the ongoing war over who gets to control the earth's remaining energy reserves. By Lutz C Kleveman

'No blood for oil' was a common slogan at the recent anti-war demos around the globe. Yet, few people have an idea of just how momentous a strategic struggle is being waged behind the rhetoric of weapons inspections and human rights. What is at stake is nothing less than who controls the earth's remaining energy reserves. This new 'Great Game' (a modern variant of the imperial rivalry between Great Britain and Tsarist Russia in 19th century Central Asia) over oil is about to enter a crucial stage. However vehement the denials by the Bush administration, Washington's true intention is to turn Iraq into an alternative to Saudi Arabia: a strategic oil supplier for its economy and a key US ally in the Middle East.

The new Great Game is being played out not only in the Middle East but also in other

energy-rich regions such as West Africa and the Caspian Sea. There too, the scramble for petrol reserves and pipeline routes is producing bloody conflicts, proving beyond doubt why oil has been called 'the tears of the devil'.

Iraq, however, has become the linchpin in a US strategy to secure cheap oil while breaking the clout of the Arab-dominated oil cartel Opec. Iraq sits on an astronomic 112 billion barrels of crude. At 12 per cent of the world's reserves, this is the second largest proven source in the world. Only Saudi Arabia (with 262 billion barrels and roughly one fourth of the earth's total resources) has more oil. At the moment, Iraq legally exports about two million barrels a day as part of the UN 'food for oil' programme. Most of its oil production facilities are in dire need of technical ►



CORBIS

An armed sentry on guard at Saudi Arabia's largest oil refinery in Ras Tanura on the east coast of the country.

modernisation, but the UN sanctions keep foreign investors out. If sanctions were lifted after the overthrow of Saddam Hussein, trans-national energy corporations could start exploiting Iraq's huge oil fields. There would be no shortage of suitors: Iraq's light, low-sulphur oil is considered to be among the best in the world. Moreover, the fact that the country's oil reserves often lie right under the earth's surface makes it extremely cheap to drill. Production costs in Iraq can be as low as \$2 a barrel.

With the help of \$20 billion of investment in new and existing facilities, Iraqi oil output could soar within a few years to seven million barrels a day. That would be roughly a 10th of global consumption. Abundant supply would lead to a price drop, which is just what lagging Western economies need. Last September George W Bush's former economic adviser Larry Lindsey put the war aim bluntly, when he said: 'When there is a regime change in Iraq, you could add three to five million barrels of production to world supply [per day]. The successful prosecution of the war would be good for the economy.'

Americans currently burn 21 million barrels of oil a day, roughly half of which is imported. As the country's domestic crude production is going to fall by an estimated 12 per cent over the next decade, imports will have to provide for two thirds of its total energy demand in 2020. To secure oil supplies for the US's wasteful way of life, vice-president Dick Cheney's 2001 National Energy Policy report recommended that 'the President make energy security a priority of our trade and foreign policy.' It also advocated global engagement in resource-rich regions 'that will have a major impact on the global energy balance.' Though this meant regions such as the Caspian; as well, by any count, the Gulf's oil producers will remain central to world oil security and a primary focus of US international energy policy.

The Saudi 'threat'

Since the 1973 oil crisis, Opec has used oil as a pawn to gain leverage over the West. In a bid to decrease its

dependency on the sheikhs, the US has sought for years to 'diversify its oil supplies'. The problem is that many non-Opec oil fields, such as those in the North Sea, are approaching depletion. At the same time, the International Energy Agency estimates that booming economic growth in countries like China and India is likely to cause a surge in global oil consumption from today's 73 million barrels per day to 90 million in 2020. Inevitably, Opec will expand its share of the world market to more than 60 per cent – thus enhancing its political clout.

The influence of the Saudi petrol sheikhs will grow especially. Already, the US imports about 2.6 million barrels of oil from Saudi Arabia every day. The scale of its reserves puts the desert kingdom in a unique position to dictate prices to the West; it is the only country in the world capable of acting as a so-called 'swing supplier'. To compensate for production losses like those caused by the current crisis in Venezuela, the Saudis are capable of boosting production from eight to 10.5 million barrels per day. Alternatively, if a price hike is in their interest, they can choose not to act at all.

Many people in Washington are far from comfortable with the Saudis' power. The country is turning out to be an embarrassing, and perhaps even dangerous, ally. Nearly all the hijackers on September 11 were Saudis, and there is a growing risk that radical Islamist groups could topple the corrupt Saud dynasty and stop the flow of oil to Western 'infidels'.

Yet even without an anti-Western revolution such as the one in Iran in 1979 (when 5.6 million barrels of crude disappeared from the world market overnight) Saudi petrol is already ideologically tainted. In an effort to stave off political turmoil the regime in Riyadh funds the radical Sunni sect of the Wahhabis, who themselves backed the Afghan Taliban and foment terror against Americans around the world. The Wahhabis also pose a danger to the thousands of US troops stationed in the Gulf following the first US-led campaign against Saddam 12 years ago. At an estimated cost of \$50 billion a year, the US forces serve essentially to protect Saudi oil wells against internal threats and Iraqi aggression. This military presence on what is holy soil for Muslims has backfired terribly. No other cause has done more to motivate al-Qaeda to wage jihad against the US.

As long as the US needs Saudi oil and cooperation in a war against Iraq, officials in Washington protest their interest in maintaining good relations with Riyadh. However, a growing number of influential politicians are openly suggesting taking the war on terror to Saudi Arabia and occupying its oilfields.

Washington, meanwhile, has begun to look for a new ally and main oil supplier in the Middle East. This is where Iraq fits in. It is the only possible alternative as a swing supplier.

It is not unlikely that a US-backed government in Baghdad would pull Iraq out of Opec lest foreign investors would be burdened by production limits. In

that case, Iraq would serve as an Opec-buster. As one of a block of non-Opec producers – including Russia and the Caspian countries – it would churn out enough oil to undermine the cartel's high-price agreements. The clout of Opec and Saudi Arabia would be broken, and oil would once again flow freely to the West.

US corporates to carve up Iraq's oil?

Oil corporations are currently jockeying for the best deals in a post-Saddam Iraq. So, do the US war plans aim merely to open up Iraq for lucrative investments by US oil companies? *Prima facie*, there is plenty of circumstantial evidence for this view: the close connections between the Bush administration and big oil are well documented, for example.

It is not difficult to imagine that a regime installed in Baghdad by US forces would favour US firms in the allotment of drilling concessions. Ahmed Chalabi, the leader of the dubious CIA-backed opposition movement the Iraqi National Congress, has already met with managers of ExxonMobil and ChevronTexaco. Talking to *The Washington Post*, Chalabi said: 'US companies will get a big shot at Iraqi oil.' This blatant favouritism worries BP, which pioneered the discovery of petrol in Iraq in the early 20th century. BP head Lord Browne speculated that if the Blair government did not actively support regime change in Iraq, British oil companies would lose out to their US competitors.

Russian oil companies, likewise, have a lot to lose in Iraq. In 1997 Russian oil giant Lukoil signed a contract with Saddam to develop Iraq's giant West Qurna oilfield. The \$20 billion deal is of significant diplomatic importance. Upset about Moscow's support for UN resolution 1441, Baghdad unilaterally cancelled the contract in December. But a Russian delegation of diplomats and oil barons was hastily dispatched to Iraq, and managed to mend fences and change the dictator's mind. And Chinese and French energy corporations have also been active in Iraq for years. In the 1990s, TotalFinaElf made preliminary agreements with Baghdad to develop the oilfields of Majnoon and Nahr Umar in southern Iraq.

Moscow and Paris fear that a new Iraqi government indebted to Washington would declare the old regime's contracts null and void, and offer them to US firms. Behind-closed-doors, therefore, US diplomacy has sought to assure the Russians and the French that their contracts would be honoured. It is, however, in no way certain that a post-Hussein government, keen to establish nationalist credentials with the Iraqi people, would necessarily privatise the state-owned oil industry.

However, the rivalry between oil corporations *per se* plays a less significant role in the Iraq crisis than supporters of a narrow business-centred 'blood for oil' theory contend. While the ties between Bush and the US oil industry are intimate, the US president would be unlikely to launch such a massive and costly military campaign merely to obtain a few juicy contracts for ►



The massive presence of US forces in Saudi Arabia after the 1991 Gulf War helped give rise to al-Qaeda. Bin Laden was outraged at the sight of thousands of 'infidels' stationed on Islam's holy soil, and accused the US of forcibly keeping the oil barrel price down and 'the biggest oil theft in history'.

Many Middle East experts fear a war in Iraq could lead to the very regional instability it is purported to prevent. Few Arabs in Iraq's neighbouring countries like the dictator in Baghdad, but most would resent US military action as yet another attack on Muslims and an imperialist bid to control the region's oil reserves. Furious at their own despotic leaders' cooperation with the US, radical Islamic groups and the Arab populations of Egypt, Jordan and Saudi Arabia could rise in revolt, overthrow their regimes and stop the flow of oil to the West.

A war against a Muslim country would further fill the ranks of al-Qaeda in the region. In February, a tape (widely believed to be authentic) was released in which bin Laden appeared to call upon 'his brothers' to defend Iraq. In southern Afghanistan Al-Qaeda and Taliban fighters are already joining forces with warlord Gulbuddin Hekmatyar and his *mujaheddin*. They have repeatedly engaged US forces in intense fighting. To do so, they cross the border from their hiding places in Pakistan's Pashtun tribal areas, where elections recently swept Taliban-style Islamists to power. Anti-Americanism in the region has reached unprecedented and explosive levels. By going to war, Bush risks seeing his formal allies of Pakistan and Afghanistan blow up in his face.



his Texan pals. Instead, wider strategic considerations are the key to understanding the decision makers in Washington – as well as those in Moscow and Beijing .

This is particularly true for Russia. To be sure, Putin's opposition to US war plans in Iraq also represents a diplomatic attempt to prevent the US from emerging as the unchallenged hegemonic power in the Middle East. However, his government's stance is mainly about preventing a war that could erode its main source of income: the Siberian oil and gas industry. The Russians fear that after a regime change in Baghdad, Iraqi oil might flood the world market causing prices to drop.

As a result of enormous effort over the past three years, Russia has boosted its crude output to eight million barrels a day. Its pipeline network is pumping at full capacity, with preparations underway to build a new giant pipeline to the Arctic port of Murmansk. The Russian state budget is financed almost entirely through revenues from raw materials exports. No other economic sector is as important in the former communist empire, which today struggles to keep up with Belgium in industrial performance.

Russia's problem is that all state expenditure has been calculated in expectation of an oil price of \$23 per barrel. Describing the effects of Iraqi oil flooding the market, Aleksej Arbatov, deputy chairman of the defence committee of the Duma (Russia's lower house of parliament), says: 'Our budget would collapse.' Production costs in faraway Siberia can reach up to \$13 a barrel. If profits were to collapse, foreign corporations,

whose capital Russia is trying to attract, might find a re-opened Iraq a far more attractive option.

The Kremlin has, therefore, taken an anti-war course. 'We are going to vote against any second resolution at the UN Security Council that enables the US to attack Iraq,' a high-ranking Russian diplomat in the Near East told *The Ecologist*. 'We simply cannot afford the potential consequences of a war for our petrol industry.' US diplomacy will seek to sway the Russians through overall economic incentives. US and Russian officials have already discussed the concept of an 'energy partnership' in which Russian oil giants Lukoil and Yukos would directly deliver their Siberian oil to the US.

The battle for the Caspian

But decision makers in Moscow have become suspicious. They are still waiting for the lifting of trade restrictions promised by the US in return for Russia's acceptance of the stationing of US troops in ex-Soviet Afghanistan. Conservatives in Moscow, in particular, have come to suspect that the US is not so much after terrorists in Central Asia but the fabulous energy reserves of the Caspian Sea. While some estimates have been exaggerated, the US Department of Energy predicts the region sits on a vast 200 billion barrels of crude oil.

This has turned the Caspian into a crucial battleground in the new Great Game, where the US and Britain compete with Russia and regional countries over access to its 'black gold'. Western multinationals have invested tens of billions into new production facilities in the region. But there is a problem: Caspian oil and gas is worthless until moved. The region is landlocked and the oil lies thousands of miles from any high-sea port from where it could be shipped to the markets of the industrialised world. Pipelines need to be built. For 10 years, however, their disputed routes have caused bloody conflicts around the Caspian Sea, in the Caucasus and Central Asia. There is no end in sight.

Russia, still regarding itself as imperial overlord of its former colonies, is trying to hold the US at arm's length. The world's second biggest oil exporter after Saudi Arabia insists the Caspian pipelines should be built, as in Soviet times, across Russian territory north of the Caucasus mountains to the Black Sea port of Novorossiysk. This would give Moscow considerable political and economic power over the newly independent states.

For their part, the US and Britain are trying to keep the Caspian's precious oil beyond Russia's reach. Keen to strengthen the former Soviet republics' independence from Moscow, the US has championed a pipeline that would circumvent Russia. But Washington also adamantly objects to a southern route through Iran – its arch-enemy for over 20 years.

Thus, in the mid-1990s the US government supported plans by the US oil company Unocal to build oil and gas pipelines from Turkmenistan through Afghanistan to the Indian Ocean. When it became clear in 1998 that the Taliban supported anti-US terrorists,



the pipeline plans for Afghanistan were temporarily shelved. Now the US-led so-called 'anti-terrorist' campaign in Afghanistan has reopened the Herat-Kandahar corridor, these plans have been dusted off.

As an alternative, Washington has put its weight behind another gigantic project: a pipeline that would run over 1,000 miles from Azerbaijan's capital Baku, via neighbouring Georgia all the way to Turkey's Mediterranean port of Ceyhan. An international consortium led by BP started construction on the project last autumn. In a bid to deter investors, Moscow has responded by continuing to politically destabilise the war-torn Caucasus. To rein in Russian influence in the region, the US has used the Afghan war for a massive military build-up in three ex-Soviet Central Asian republics. Hence, war in Iraq may just be a beginning, with the stage already set for future oil wars.

More oil wars ahead

As long as there is no end in sight to the age of fossil fuels, and the industrialised world's dependency on Middle Eastern oil continues to grow unabated, conflicts are likely to break out which are essentially about securing the earth's remaining energy reserves. To be sure, the planet's crude oil resources are going to last for a few more decades yet. However, the struggles over access and profits between countries and multinational corporations are already becoming fiercer.

Similar battles are being waged internally, *within* the societies of oil-rich countries. In most of these countries – Nigeria, Venezuela, Angola and the Arab sheikhdoms for example – sudden oil wealth has led to corruption, economic decline, political oppression, revolutions and civil war. 'We are drowning in the excrement of the Devil,' the Venezuelan Opec founding father Juan Alfonzo once said of the oil boom's dire consequences.

More often than not 'liquid gold' turns out to be a curse rather than a blessing. The repercussions of energy imperialism and wars over raw materials will be felt in the West in the shape of floods of refugees and oil-price shocks. These will force the West to further increase costly overseas military commitments. In the long run, however, the vulnerability of oil infrastructure in volatile regions makes it virtually impossible to secure energy supply purely by military means.

Political leaders would be well advised, therefore, to dilute our nefarious dependence on petrol through the promotion of renewable energy technologies. The task of protecting the climate against the greenhouse effect urgently requires these steps anyway. The events in Iraq and around the Caspian Sea demonstrate how a truly new energy policy – irrespective of its obvious ecological advantages – would also be a foresighted security policy ■

Lutz Klevevan is New York correspondent for the German news magazine *Der Spiegel* (Online). He has also worked as a conflict zone reporter for *The Daily Telegraph*. *The New Great Game*, his book on the struggle for oil in Central Asia, is published by Atlantic Books in August.

Steve Kretzman shows just how much the US is willing to spend to protect its oil

Reacting to the Soviet invasion of Afghanistan, the Iranian revolution and the lingering fear generated by the Arab oil embargo of 1973, then US president Jimmy Carter first specifically articulated the Persian Gulf as a 'vital interest' of the US in January 1980. Laying out what is now known as the 'Carter doctrine', he pledged to 'defend' the Persian Gulf by 'any means necessary – including military force'.

That commitment has been costly. Five weeks after Carter's speech, the US Rapid Deployment Joint Task Force (RDJTF) was formally established at MacDill Air Force Base, Florida. By the time Ronald Reagan took office, the RDJTF comprised 100,000 army troops, 50,000 marines, and additional air force and navy personnel. In January 1983, RDJTF became US Central Command (USCENTCOM), which 20 years later is overseeing the build-up of US troops around Iraq.

Estimates of the costs associated with ensuring 'access' to Persian Gulf oil supplies run as high as \$90 billion a year. A survey by the US Department of Energy's Oak Ridge National Laboratory of the various governmental and independent studies on the topic from 1990 to 1996 came up with an average annual cost of \$32 billion. Speaking at a conference in Whitehall last year, British Cabinet minister Peter Hain said: 'Paid predominantly by the US, the costs of protecting our Middle East oil supplies are as high as \$15-25 a barrel.' Organisation for Economic Cooperation and Development (OECD) nations together import about 10 million barrels per day from the Persian Gulf. Hain's estimate puts the cost of defending those imports at between \$54 billion and \$91 billion annually.

The cost of waging war to guarantee oil supplies from the Persian Gulf is also high. The financial cost of the first Gulf War of 1991 is estimated at between \$60 billion and \$80 billion. The American Academy of Arts and Sciences forecasts that the cost of a second US-led Gulf war is likely to fall between \$121 billion and \$1.2 trillion.

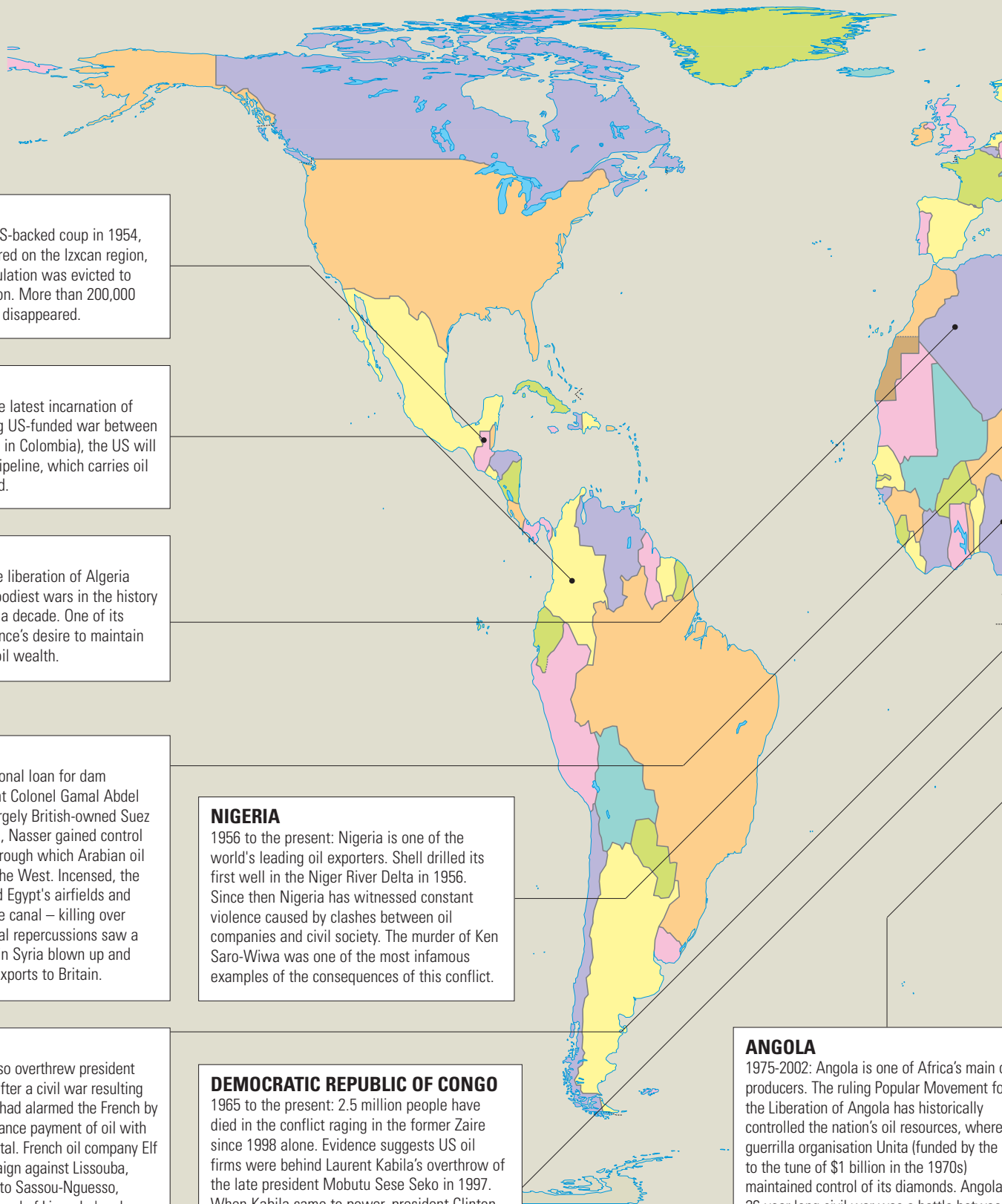
Two decades after USCENTCOM was established, the US military is clearly positioning itself to assert the Carter doctrine on a global scale. In the Caspian region, Georgian president Eduard Shevardnadze has noted that 'the prospect of using the US military to guard transportation routes for the Caspian's energy resources to the world markets is quite realistic.' Georgia recently received \$64m worth of US military assistance. Neighbouring Azerbaijan and Turkey also benefit handsomely from US military largesse. In Colombia, the Bush administration's decision to allocate \$98m to train a 'Critical Infrastructure Brigade' of Colombians for the explicit purpose of protecting Occidental Petroleum infrastructure fuels the idea that US involvement in the region (including neighbouring Venezuela) is all about oil. Similarly, in West Africa, which could soon supply 25 per cent of US oil imports, credible rumours are swirling regarding the establishment of a US military base in Sao Tome.

Testifying before the US Congress recently, former CIA director James Woolsey spoke out strongly in favour of alternative energy technology, noting that 'there is no incompatibility between being a hawk and being a green'. While that may be true, it's hard to imagine that a society fuelled by hydrogen fuel cells and solar power would perceive vital national interest in the Persian Gulf or a half dozen other places around the world. If the energy is limitless, the supply will always be secure.

Steve Kretzman, an oil analyst with the Institute for Policy Studies think-tank in Washington DC, is co-author of a forthcoming report on the military costs associated with oil globally.



Oil wars



GUATEMALA

1960s-1996: Following a US-backed coup in 1954, Guatemala's civil war centred on the Ixcan region, where the indigenous population was evicted to make way for oil exploration. More than 200,000 people were massacred or disappeared.

COLOMBIA

1960s to the present: In the latest incarnation of Plan Colombia (the ongoing US-funded war between the government and rebels in Colombia), the US will help protect Occidental's pipeline, which carries oil from its Cano Limon oilfield.

ALGERIA

1954-1962: The war for the liberation of Algeria from France, one of the bloodiest wars in the history of Africa, lasted for nearly a decade. One of its underlying causes was France's desire to maintain control over the country's oil wealth.

SUEZ

1956: Refused an international loan for dam building, Egyptian president Colonel Gamal Abdel Nasser nationalised the largely British-owned Suez Canal. By seizing the canal, Nasser gained control of a strategic waterway through which Arabian oil supplies were shipped to the West. Incensed, the British and French pounded Egypt's airfields and invaded the entrance to the canal – killing over 1,000 civilians. International repercussions saw a British-owned oil pipeline in Syria blown up and Saudi Arabia blocking oil exports to Britain.

NIGERIA

1956 to the present: Nigeria is one of the world's leading oil exporters. Shell drilled its first well in the Niger River Delta in 1956. Since then Nigeria has witnessed constant violence caused by clashes between oil companies and civil society. The murder of Ken Saro-Wiwa was one of the most infamous examples of the consequences of this conflict.

CONGO

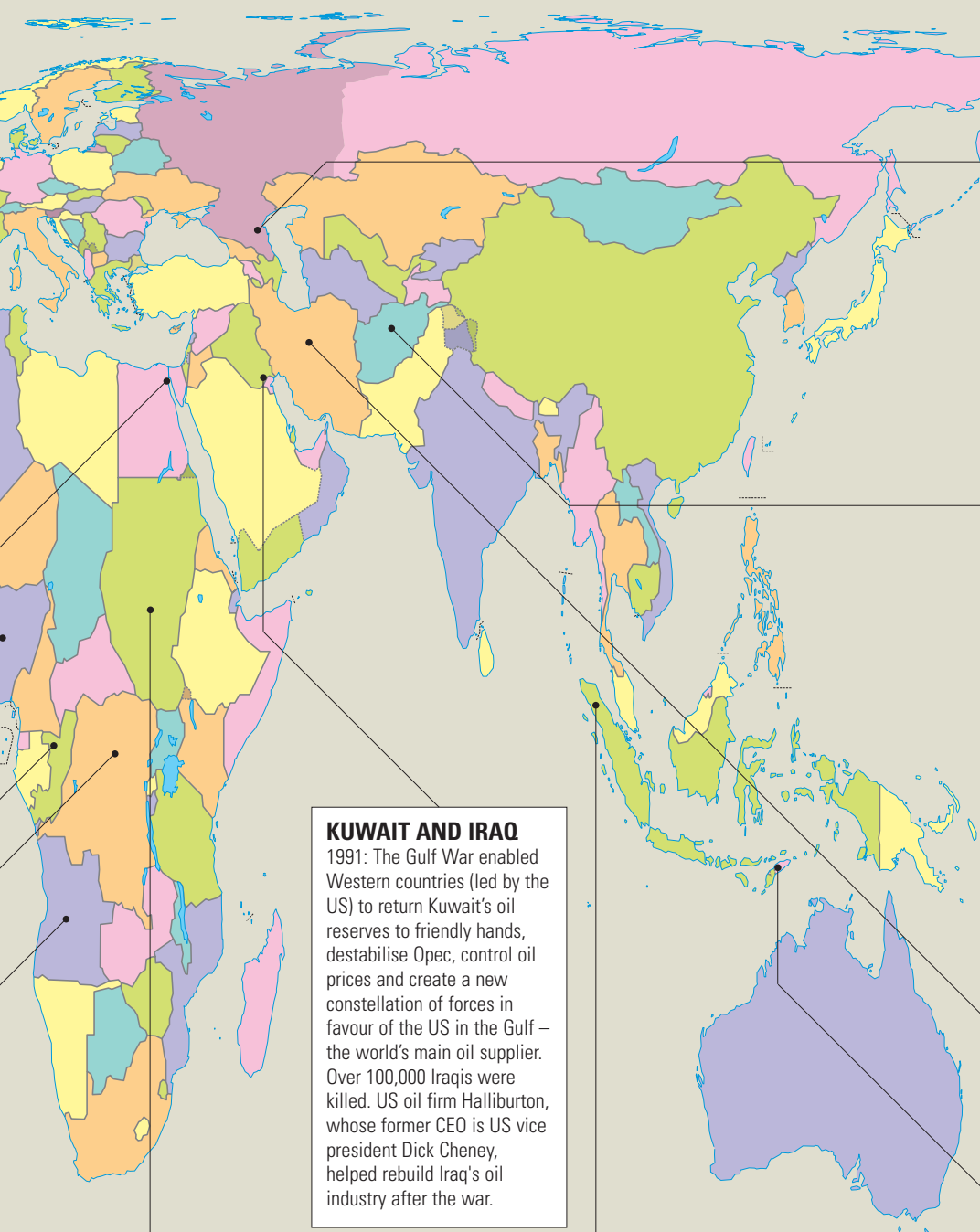
1997: Denis Sassou-Nguesso overthrew president Pascal Lissouba in a coup after a civil war resulting in 10,000 deaths. Lissouba had alarmed the French by secretly negotiating an advance payment of oil with the US corporation Occidental. French oil company Elf began an aggressive campaign against Lissouba, supplying arms and money to Sassou-Nguesso, which led ultimately to the end of Lissouba's rule. Elf sources 60 per cent of its oil from the Gulf of Guinea, and just before the war in the Congo had started operations on the world's largest underwater platform located off the country's coast.

DEMOCRATIC REPUBLIC OF CONGO

1965 to the present: 2.5 million people have died in the conflict raging in the former Zaire since 1998 alone. Evidence suggests US oil firms were behind Laurent Kabila's overthrow of the late president Mobutu Sese Seko in 1997. When Kabila came to power, president Clinton immediately offered the DRC military aid. Today, the country's oil reserves are controlled by US companies, including Chevron and Unocal, and the French corporation TotalFinaElf.

ANGOLA

1975-2002: Angola is one of Africa's main oil producers. The ruling Popular Movement for the Liberation of Angola has historically controlled the nation's oil resources, where the guerrilla organisation Unita (funded by the US to the tune of \$1 billion in the 1970s) maintained control of its diamonds. Angola's 26-year-long civil war was a battle between the government and Unita, which fought for oil and diamonds. It killed over 500,000 people and left another 3.3 million maimed with landmines. Gulf Oil, Texaco and Mobil are among the oil firms with interests in Angola today.



CHECHNYA

1994 to the present: One of Russia's key oil pipelines, the Baku-Novorossisk, runs through 153 kilometres of Chechen territory. The Russian government's greatest fear is that losing Chechnya would create a domino effect, reducing its sovereignty over other parts of the Russian federation. Control over the pipeline (and energy transport and prices) also necessitates control over Chechen separatists. Chechnya is an ongoing thorn in the side of Russia's current and hoped-for future role in exploiting Central Asian oil and gas reserves. Over 40,000 Chechnyans have lost their lives in the war.

AFGHANISTAN

2002: To the north of Afghanistan – on the eastern shore of the Caspian Sea – lies one of the world's richest oilfields. Western oil companies had been negotiating with the Taleban since 1995 to build oil and gas pipelines through the country, thereby bypassing Russia and Iran, but diplomatic difficulties with the regime created an impasse. After the events of September 11 and the defeat of the Taleban in the US-led war, the situation changed. In May 2002, the presidents of Pakistan, Turkmenistan and Afghanistan signed an agreement to build and maintain a 1,460-kilometre pipeline to export Turkmen gas via Afghanistan to Pakistani ports and world markets. A former consultant to the US oil company Unocal, Zalmay Khalilzad, has also been appointed US special envoy to Afghanistan.

KUWAIT AND IRAQ

1991: The Gulf War enabled Western countries (led by the US) to return Kuwait's oil reserves to friendly hands, destabilise Opec, control oil prices and create a new constellation of forces in favour of the US in the Gulf – the world's main oil supplier. Over 100,000 Iraqis were killed. US oil firm Halliburton, whose former CEO is US vice president Dick Cheney, helped rebuild Iraq's oil industry after the war.

IRAN

1953: At the end of WWII, the US broke BP's monopoly on Iranian oil. The CIA organised a coup to overthrow nationalist prime minister Dr Mohammad Mossadeq, replacing him with the Shah – who became a staunch ally of the US. Iranian oil was not returned to the British, but instead divided up among Exxon, Mobil, Gulf Oil and other US companies.

SUDAN

1959 to the present: The Sudanese civil war has led to nearly 2 million deaths and the displacement of another 4 million people. In the late 1990s Sudan's central government in Khartoum started its 'scorched earth' policy in the oil-rich south, where the armed opposition movements are based. The government is clearing the land of civilians so as to facilitate further oil exploration (by foreign oil companies), while using oil revenues to finance an arms build-up for its war against the opposition.

ACEH, INDONESIA

1976-2002: Former Indonesian president Suharto imposed a brutal rule over Aceh in North Sumatra. By the end of the 1980s, Aceh provided 30 per cent of the oil and gas produced in Indonesia. More than 30,000 lives have been lost in Aceh's struggle for independence. During the conflict, ExxonMobil paid the Indonesian military and police for security at its operations, which have been responsible for a large number of deaths.

EAST TIMOR

1975-2002: An estimated 100,000 East Timorese were killed during Indonesia's occupation of the territory. Significant petroleum reserves in the Sea of Timor prolonged the occupation, and neighbouring Australia acquiesced in Indonesia's takeover in a bid to benefit from the distribution of reserves.

We are all about to pay the price of ignoring
the coming energy famine. By David Fleming

The wages of denial



CORBIS

It has been known for a long time that there would be oil trouble around the turn of the century. A *Blueprint for Survival* told us so in 1972. The warning came again in a paper by the UK Department of Energy in 1976, and in the *Global Report to the President* (1980). And there was something else they agreed on: it would take many years to develop new sources of energy on the necessary scale, so the sooner it started, the better. Fortunately, there was a period of grace – some 25 years – to begin to take effective action.

Nobody blinked. America, having watched its own oil pass its peak in 1971, simply started to buy it in. It now imports most of its oil, as do most other nations. The world's main supplier is Saudi Arabia, which, thanks to its super-giant Ghawar oilfield, has on its own been able to keep the world supplied with nearly 15 per cent of its steadily growing demand. However, the period of grace is now over.

The new situation has been researched in detail by a small group of geologists with careers in the flourishing oil industry of the 1960s and 1970s. The person who did most to make possible an accurate view of the global future of oil and gas was the late Harry Wassall, founder of Petroconsultants, source of the first and only comprehensive and reliable data. This is the foundation for the detail we now have; it has been interpreted by Colin Campbell, Jean Laherrère and others; in the mid-1990s their work was taken up by Roger Bentley and a group of scientists at the University of Reading, early entrants in a rapidly expanding field, and it is now starting to be reproduced by the industry itself.

The period of turning points which separates the past of abundant cheap oil from the future of scarce and expensive oil has now started. The 1999 turning point was local: production from the UK North Sea passed its peak; it is now falling at six percent a year. A more significant turning-point occurred in the middle years of this decade, when the

combined total of 'conventional' oil (ie oil from liquid deposits) from all producers with the exception of Middle East Opec (Saudi Arabia, Iran, Iraq, Kuwait and the United Arab Emirates) turns down. Towards the end of the decade it will be falling so fast that the total of conventional oil from all producers including, Middle East Opec, will turn down. This in turn will be shortly followed by a turning point at which the supply from all sources – conventional and 'unconventional' (ie heavy oils and tar sands) – will go into decline. Then, in the middle years of the decade 2010-2019, production by Middle East Opec itself will start to fall, and decline will also set in for the combined total of both oil and gas. These turning-points are 'best-case' in that they are based on the assumption that there will be no major surprises in international relations.

Now, what we have here is a case of the fuel on which our civilisation depends starting to run down; it is not a case of running out. Oilfields are opened up in series, starting with the largest; the output of each producing nation rises to a peak at about half-way stage, and then declines. This pattern works through to global production, so what really matters is the timing of the turning-point at which production begins to fall.

It can be expected to do so in, or shortly after, 2010. That will be the start of a sellers' market, putting the

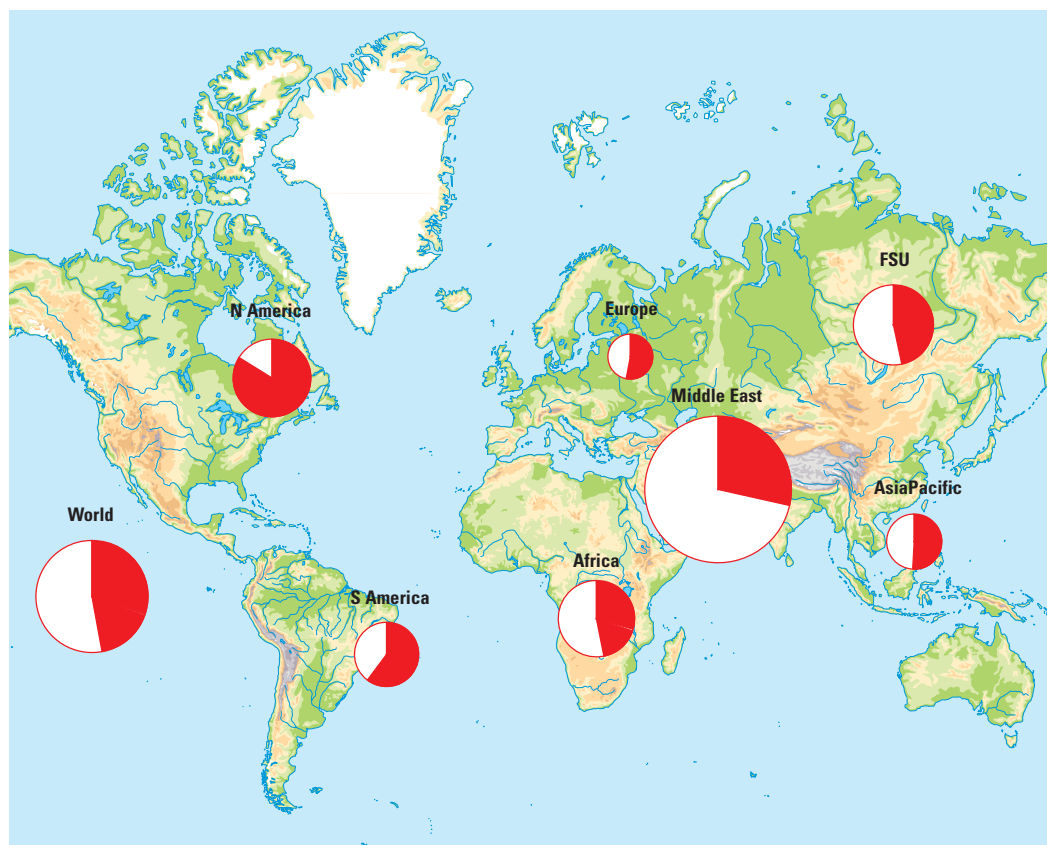
producers in control. The consequences will be devastating. Oil production will be the victim of politics; any single large supplier will be able to raise global prices. The high price of oil may be capped by falling demand in the ensuing economic recession but, in relation to incomes and in response to periodic crises, it will reach acutely high peaks. There will be actual interruptions in supply. Among the first to feel the effects of this will be people in the third world: farmers who use oil to drive irrigation pumps, traders who need fuel for transport, and governments who cannot take on even larger debts to pay very high prices for their oil. However, the developed nations will be almost equally exposed. They depend on transport for everything from importing and distributing food to getting people to work. The global market economy is built on limitless cheap, reliable transport. Brief breakdowns in the supply of fuel can be survived; with sustained interruptions, however, the global market economy would cease to exist.

There is an alternative to conventional oil in huge quantities in the heavy, sticky deposits of unconventional oil in Canada, Venezuela and Siberia. However, it takes correspondingly huge amounts of natural gas, water and land to get hold of it. You have to dig out some 75 metres of overburden, quarry the sands, ►

extract the tar, heat it, turning it into synthetic crude oil, and get rid of the waste. Canadian Natural Resources Inc has plans to produce a daily 235,000 barrels of synthetic crude (an insignificant amount by global standards) in Alberta by 2011; the process will use 3.5 cubic metres of water a second (the course of a river is being diverted to supply it), and an estimated 25 percent of Alberta's gas production. On a scale large enough to offset the decline in conventional oil, it is not an option.

What about gas? For Paul Hawken, Amory Lovins and Hunter Lovins in their book, *Natural Capitalism*, there are abundant sources of gas – 'at least two centuries worth' – but there is no reality in this. Gas production tends to remain flat until about 80 percent of the accessible total has gone; in the case of the UK North Sea, however, compressors have been used to accelerate the extraction, and the turning-point is around now. Britain and the remainder of Western Europe will rely on Norway, and then on Russia (in particular, Siberia) for supplies of gas. The UK's national grid, which substantially switched from coal to gas in the 1990s, will depend not only on Russia being willing to sell at a reasonable price despite its near-monopoly, but also on the security of a very long pipeline. Then, around 2030, Russia's gas will approach its own limits.

A more immediate shock with respect to gas, however, is America's supply. The gas provinces both of America and of Canada (which already provides about a fifth of America's gas consumption) are now mature, and are unlikely to sustain current production beyond the middle of this decade. Within as little as two or three years, therefore, North America will face an acute shortage of gas, and will have no alternative to shipping it in the form of liquid natural gas (LNG) from Norway, Russia and the Middle East. The facilities to compress the gas, to load it and ship it are all vulnerable to insurgency – and are



not yet built.

In principle, none of this would matter if renewables could be brought in quickly to fill the gap. We need to do this now, with intense commitment and urgency; the problem is that we have run out of time to do it successfully. Renewables will rely on solar power, wind, tide, wave and biomass, supplemented with some coal; they will require energy storage systems, consisting mainly of hydrogen, along with gas and liquids derived from biomass and coal; a transformation in efficiency, reducing the energy used by some 70 percent; localised minigrids and radical changes in patterns of land-use and transport. One indication of how long all this would take to build is provided by the LTI-Research Group in Germany, who suggest that it could be done in 50 years, given unprecedented priority and urgency.

Energy famine

The conclusion to draw is that a devastating energy famine lies

ahead. America is beginning to wake up to this. What drives America's Middle East policy is not a fat-cat desire for Iraq's oil; it is – mixed in with the issues of terrorism and international order – a well-founded concern. If Iraq's ambitions, with nuclear backing, were successful to the point of mastery of Saudi Arabia and other nations in the region, access to purchases of oil worldwide would be under the control of interests explicitly hostile to the American-led market economy.

This would sharply bring forward the collapse of the global economy, including food exports, with the loss of many lives. Suddenly, as forecast 30 years ago, there is no room for manoeuvre. America's determination to take military action to prevent the Middle East being closed-off as a reliable seller of oil can be thus be better understood as a case of self-defence ■

The size of the clocks shows the discovered endowment of conventional oil; the 'hands' show how much has been used so far (black), and how much remains (white). The chart shows the extent to which America has become dependent on a sustained flow of oil from the Middle East.

David Fleming is writing a book, *The Lean Economy*, about the shattering consequences of the coming oil shock, and how to cope with them.

30 steps to an oil-free world

Our addiction to oil is NOT inevitable. We can all take steps to kick the habit.

- 1** Walk, cycle, take public transport or consider a car-pool whenever possible.
- 2** Reduce your travel by air.
- 3** If you need a car, buy the most fuel-efficient (currently Toyota's Prius and Honda's Insight – both hybrid cars that use petrol and electricity) or one that runs on bio-diesel or natural gas.
- 4** Service your car regularly – keeping the engine tuned and your car tyres at the maximum recommended air pressure saves petrol.
- 5** Live as close to work as possible.
- 6** Shop locally rather than in out-of-town superstores.
- 7** Buy regionally and seasonally produced organic food whenever possible.
- 8** Switch your investments away from fossil fuel to renewable energy companies, or exercise your right as a shareholder to pressure energy companies to make the transition to renewables.
- 9** Boycott the products of companies like Esso that are obstructing the transition to renewables.
- 10** Lobby your political representatives to press them to act, and vote accordingly.

11 Accept a target of phasing out oil & gas use within 50 years.

12 Discontinue all direct and indirect subsidies to the oil & gas industry.

13 Refuse licenses for the exploration and development of new oil & gas reserves.



14 Provide investment, grants, and tax breaks for the development and purchase of clean renewable alternatives to oil and for energy efficient vehicles.

15 Increase investment in public transport.

16 Pedestrianise city centres and introduce congestion charges in cities.

17 Require car makers to ensure an escalating proportion of their vehicle fleet sales consists of petrol-free vehicles.

18 Increase minimum energy efficiency standards for vehicles.

19 Change tariff policies on imports to support the local consumption of goods (particularly food) that have been produced locally.

20 Phase out subsidies to industrial food production, which is petrol-intensive, and support conversion to organic methods instead.

21 Oil & gas companies should commit to converting themselves into renewable energy companies, and redirect their investments accordingly.

22 Car makers should commit to mass-manufacture cars now that run on hydrogen fuel cells or other renewable fuels, and that use lighter materials.

23 Companies should convert their truck and car fleets to the lowest petrol-consuming vehicles available.

24 Companies should provide incentives for employees to leave their cars at home and use public transport instead, reduce air travel, and promote telecommuting.

25 Companies should site their offices close to public transportation.

26 Retailers should adopt a purchasing policy that provides preference to goods from short supply routes and regional markets.

27 Companies should shift freight out of trucks and onto rail and waterways.

28 Farmers should convert from industrial to organic farming methods.

29 The plastics & packaging industries should replace their use of oil with corn, soybean, potato starch or limestone derivatives.

30 The clothing industry should use vegetable starch and natural fibres, such as wool and cotton, instead of oil derivatives in their products.



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Edward Goldsmith is the founder of The Ecologist and winner of the Alternative Nobel Prize.

Jerry Mander is president of the International Forum on Globalization.

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Skylarks make easy symbols of persistence, yet their survival is being threatened by intensive farming techniques.

Why did Iftikhar Azmi want to see the skylark? The cursory answer is that I'll never really know, because the Sufi poet, translator of Omar Khayyam's *Rubaiyat* and family friend died in 1994, and I'd never thought to ask him. While he was running poetry meetings in Berkshire with my mother and other local poets, I was gadding about on bird reserves and farmyards with my own reasons for hunting skylarks – reasons which I suspect were quite different from Azmi's.

The skylark has a big personality. It climbs the sky, head uplifted, swaying, like Icarus, on frantic wings towards the sun, yelling as it goes. Then, as if burned by over-ambition, it launches into a demented plunge back to earth, braking later than you would think possible before it settles on the ground to regroup itself and start all over again.

To watch this bird perform in the open spaces of a springtime field is to celebrate with it the end of a hard winter and the joyous hope of the summer to come. The skylark lifts the spirits, and has done so for generation upon generation. And this is the great joy I get from the skylark: a sense of connectedness with my heritage. I know that my grandfather, as he prepared his pre-war farmland for the potential yield of another year's harvest, would have looked up at this optimistic bird – Shelley's 'blithe spirit' – and drawn hope. For the poet Edward Thomas, as he cycled his way from London to the Quantocks just before WWI, the lark rose 'up above an earth only less free than the heavens'. John Milton wrote of how 'the herald lark left his ground-nest, high tow'ring to descry the morn's approach and greet her with his song'. All these people have come and gone, but the skylark is still there, and now it's my turn to feel inspired by its lust for life.

This sense of linear connection with our ancestors lies at the root of much of our conservation work. Yet what of those –

like Azmi – whose own ancestors may never have heard of skylarks, let alone seen one. Today's Britain is fresh: millions of us can trace our ancestral history back to the villages of west Africa, the streets of Faisalabad or the deserts of the Middle East. Britain's diversity of experience and history is changing, and will continue to change, broadening and globalising the level at which our pasts are shared.

Amer Butt, whose Muslim family arrived in Britain in the 1950s, is the



warden of Swindon's Hagbourne Cope nature reserve. 'I was born in Swindon, and I identify hugely with the way people used to live here,' he says. 'There was more of a relationship with the land, a realisation that we're all responsible for what we do, what happens. We should be aware that everything has repercussions, and that we are all of us custodians of the land. It's a way of life.'

Conservation is about accepting that mankind has made many ignorant mistakes in the past, and created all sorts of repercussions in the process, yet learning from them and trying again and again to get things right. Skylarks, for example, are one of the UK's more struggling species. Thanks to new and intensive agricultural processes, the number of them breeding on lowland farms fell by 75 per cent between 1972 and 1996. With the sowing of autumn crops (so that fields do not lie fallow during the winter), not only have the birds' winter feeding opportunities been reduced, but

springtime shoot growth is too tall by the time the nesting season comes around. The dwindling number of skylarks around today are a link to my heritage, which I love, but they cannot recreate the past. But skylarks also provide a link to our futures, and, with the efforts of Amer Butt and many others, they can continue to do so. Skylarks are part of change, yet they rise above that change, too.

And this, I think, may be why Azmi wanted to see one. As a Sufi, he would have been very familiar with the work of Farid ud-Din Attar, the 12th century poet from what is now Iran, and in particular his allegorical narrative *The Conference of Birds*. The tale is about a pilgrimage: the birds set out to seek their lord, the King of Birds, and many die on the way. Between them, the birds represent the full range of human nature and characteristics – the

passionate nightingale, the fearful sparrow, the proud hawk. Their decisions and fate along the journey allow for a great diversity of interpretations, depending on each reader's own personality.

When the surviving birds – just 30 of them – reach their final goal, they are told that their lord will not see them. 'We shall not leave,' they say. 'Our soaring love is fire, which commands us to draw near to Him as the moth draws near to the candle's flame. We shall not retire from this vocation, our flesh and soul, the cloth from which we're cut.' And their lord relents and grants them entrance.

Of all the birds, this spirit of passionate perseverance is most embodied by the skylark. No wonder, then, that Azmi wanted to see one.

Malcolm Tait is a freelance journalist.



SLOW FOOD • Next time you find yourself 'grabbing a bite to eat' ... STOP.**Fast food blights our lives and the environment. It's time to slow down.**

On November 9, 1989 a remarkable organisation was born. At the Opera Comique in Paris the International Movement for the Defence of and the Right to Pleasure – or 'Slow Food' movement – officially came into being. The archetypally slow snail was chosen as the movement's symbol. The manifesto, which is printed opposite, and the philosophy that guides the movement were endorsed by delegates from Argentina, Austria, Brazil, Denmark, France, Germany, Holland, Hungary, Italy, Japan, Spain, Sweden, Switzerland, the US and Venezuela. Today there are over 60,000 members worldwide.

**THE PHILOSOPHY OF THE SLOW FOOD MOVEMENT**

One of the first books devoted entirely to snails was written in 1607 by Francesco Angelita of L'Aquila in Italy. His particular focus was on what human beings could learn from the silent life of snails. Careful observation revealed behaviour that can be summed up as follows: the snail is 'of slow motion, to educate us that being fast makes man inconsiderate and foolish'; and, since it carries its house, 'wherever the snail is, that is its home'.

Angelita believed all creatures to be God-sent bearers of the divine message. He considered slowness, adaptability and the ability to settle anywhere, in any situation, to be essential virtues. By slowness, Angelita meant both prudence and solemnity – the wit of the philosopher and the moderation of the authoritative governor. We could extend this interpretation to say that the snail takes its time as it trails along, impervious to haste and readily at home everywhere. Cosmopolitan and thoughtful, the snail prefers nature to civilisation – which it carries on its own back in the shape of its shell.

We all know that speed has been the obsession of the modern world for the past 100 years, that it dominates every aspect of social organisation and consequently also regulates our meals. But speed also multiplies our leisure time and empty hours – extending that part of the week devoted to relaxation, recreation and pleasure. It is a contradiction that still requires a solution. If only we could look around like snails – warily come out of our shells, save energy and draw more from our contact with the earth and its fruits. Surely, this would be a new way of life?

FAST FOOD FIGURES

\$110 billion	US expenditure per year on fast food – more than is spent on higher education
90 per cent	of the money Americans spend on food is used to buy processed foods
\$1.4 billion	value of US artificial flavouring industry
70,000	number of Dactylopius insects needed to produce a pound of carmine (used to make processed food pink, red or purple)
49	number of ingredients in typical artificial strawberry flavouring
25 per cent	of Americans will visit a fast-food restaurant on any given day
25 per cent	of American adults are obese (double the level in 1980)
560	calories in a Big Mac (recommended daily allowance: 2,000-2,500)
£1.26 billion	Spending per year in Britain on burgers; the UK fast food industry as a whole is worth more than £5 billion a year
200	litres of soft drink consumed on average per year by every British child
\$10 million	amount paid by McDonald's last year to Hindu and vegetarian groups following the revelation that the firm cooked its fries in beef tallow
600	stores opened in 2002 by McDonald's (down from 2,000 in 1996)
1 million	people work for McDonald's worldwide, 'feeding' 35 million people a day

CHEESE WAR

In defiance of trends in both taste and trade regulations, the Slow Food movement is leading the defence of unpasteurised or 'raw-milk' cheese.

The production of this cheese has a long cultural history, but it is under threat from the sanitation and homogenisation typical of modern mass-produced foods. European Union, World Trade Organisation and US Food and Drug Administration regulations have all aimed to impose uniform norms of dairy production, supposedly to protect human health. Yet Slow Food argues that a diet of sterile food is detrimental to human health. The movement says our immune system may become ineffective and reliant on medication without bacteriological challenge from food.

Increasing commercial standardisation has also squeezed raw-milk cheese off the supermarket shelf. Those that suffer as a result are almost always the small, independent cheese producers. Once their knowledge is lost, it can never be regained.

Moreover, enforced pasteurisation affects the unique flavour and aroma of cheese. Raw-milk cheese is, therefore, at the forefront of the Slow Food movement's campaign to protect our threatened regional foods.

You can become part of this campaign by sending the message 'I also eat raw-milk cheese' to the e-mail address: rawmilk@slowfood.com.



To find out more about the Slow Food Movement, contact it at:
Via MendicITÀ 8, 12042 Bra (CN), Italy;
Tel: +39 (0)172 419 611 Fax: +39 (0)172 421 293;
Email international@slowfood.com: Website: www.slowfood.com

The Slow Food Award was set up in 2000 to publicise and reward those who work to preserve natural biodiversity in both agriculture and gastronomy. Among the winners in 2002 were:

ERPE, Riobamba, Ecuador

Founded in 1962, this pioneering radio station began by broadcasting literacy lessons across poor, rural areas. In 1991 the station began a series of programmes on organic farming.

Focusing on quinoa, an Inca staple, the broadcasts encouraged local farmers to convert to organic methods. By securing a US market for the produce, ERPE was able to restore a livelihood and native crop to a people in danger of losing everything.

**The American Chestnut Foundation, Vermont, USA**

The vast chestnut forests of the central Appalachians disappeared less than a century ago – the victims of blight carried on seedlings imported from the east. By 1950 less than 100 of an estimated 4 billion trees remained.

In 1980, the American Chestnut Foundation set out to restore the forests. First, they bred US chestnuts with blight-resistant Chinese trees. They then bred successive new generations with US parent trees. The result was blight-resistant trees that are 15/16ths American.

Last year, the foundation planted the last inter-cross generation. It hopes to begin distributing its seeds by 2006.

Dimitrios Dimos, Avra, Greece

Before Dimitrios Dimos threw himself into rescuing the breed, the Katerini cattle of Greece were on the verge of extinction.

From one bull and five cows Dimos now has a herd of 110 cattle. He sustains his enterprise through the sale of the animals' meat.

Having, almost singlehandedly rescued an ancient indigenous breed from extinction, Dimos now hopes to repeat the project with sheep, goats and pigs.



Our century, which began and has developed under the insignia of industrial civilisation, first invented the machine and then took it as its life model.

We are enslaved by speed and have all succumbed to the same insidious virus: 'fast life', which disrupts our habits, pervades the privacy of our homes and forces us to eat fast foods.

To be worthy of his name, *Homo sapiens* should rid himself of speed before it reduces him to a species in danger of extinction.

A firm defence of quiet material pleasure is the only way to oppose the universal folly of fast life.

May suitable doses of guaranteed sensual pleasure and slow, long-lasting enjoyment preserve us from the contagion of the multitude who mistake frenzy for efficiency.

Our defence should begin at the table with slow food. Let us rediscover the flavours and savours of regional cooking, and banish the degrading effects of fast food.

In the name of productivity, fast life has changed our way of being and threatens our environment and our landscapes. So, slow food is now the only truly progressive answer.

That is what real culture is all about: developing taste rather than demeaning it. And what better way to set about this than an international exchange of experiences, knowledge, projects?

Slow food guarantees a better future.

Slow food is an idea that needs plenty of qualified supporters who can help turn this (slow) motion into an international movement, with the little snail as its symbol.

In a further extract from *Fatal Harvest's* devastating exposé of agri-business, *The Ecologist* rubbishes the claim that industrial farming is efficient.

Bigger but not better

Myth number 5

The truth: small farms produce more agricultural output per unit area than large ones. Moreover, larger, less diverse farms require far more mechanical and chemical inputs, which are ruinous for the environment.

SIBHOC

Proponents of industrial agriculture claim that 'bigger is better' when it comes to food production. They argue that the larger the farm, the more efficient it is. They admit that these huge corporate farms mean the loss of family farms and rural communities, but they maintain that this is simply the inevitable cost of efficient food production. And agri-business advocates don't just promote big farms; they also push big technology. They typically ridicule small-scale farm technology as grossly inefficient, while heralding intensive use of chemicals, massive machinery, computerisation and genetic engineering – the affordability and implementation of which are only feasible on large farms. The marriage of huge farms with 'mega-technology' is sold to the public as the basic requirement for efficient food production. Argue against size and technology – the two staples of modern agriculture – and, agri-business apologists insist, you're undermining production efficiency and endangering the world's food supply.

SMALL IS BOUNTIFUL

While the bigger-is-better myth is generally accepted, it is a fallacy. Numerous reports have found that smaller farms are actually more efficient than larger industrial farms. These studies demonstrate that when farms get larger the costs of production per unit often increase, because larger acreage requires more expensive machinery and more chemicals to protect crops. In particular, a 1989 study by the US National Research Council (NRC) assessed the efficiency of large industrial food production systems compared with alternative methods. The NRC's conclusion was exactly contrary to the bigger-is-better myth. 'Well-managed alternative farming systems nearly always use less synthetic chemical pesticides, fertilisers and antibiotics per unit of production than conventional farms,' the NRC found. 'Reduced use of these inputs lowers production costs and lessens agriculture's potential for adverse environmental and health effects, without decreasing – and in some cases increasing – per-acre crop yields and the productivity of livestock management systems.'

Moreover, the large monocultures used in industrial farming undermine the genetic integrity of crops, making them more susceptible to diseases and pests. A majority of our food biodiversity has already been

lost. This genetic weakening of our crops makes future food productivity using the industrial model far less predictable and undermines any future efficiency claims of modern agriculture. Moreover, as these crops become ever more susceptible to pests, they require ever greater use of pesticides to produce equal amounts of food – a classic case of the law of diminishing returns. This increasing use of chemicals and fertilisers in our food production results in serious health and environmental impacts.

So, how does the bigger-is-better myth survive? Partly because of a deeply flawed method of measuring farm productivity that falsely boosts the efficiency claims of industrial agriculture while discounting the advantages of small-scale farming.

OUTPUT VERSUS YIELD

Agri-business and economists alike tend to use 'yield' measurements when calculating the productivity of farms. Yield can be defined as the production per unit of a single crop. For example, a corn farm will be judged by how many metric tons of corn are produced per acre. More often than not, the highest yield of a single crop like corn can be best achieved by planting it alone on an industrial scale in the fields of corporate farms. These large monocultures have become endemic to modern agriculture for the simple reason that they are the easiest to manage with heavy machinery and intensive chemical use. It is the single-crop yields of these farms that are used as the basis for the bigger-is-better myth, and it is true that the highest yield of a single crop is often achieved through industrial monocultures.

Smaller farms can rarely compete with this monoculture single-crop yield. They tend to plant crop mixtures, a method known as 'inter-cropping'. Additionally, where single-crop monocultures have empty 'weed' spaces, small farms use these spaces for crop planting. They are also more likely to rotate or combine crops and livestock, with the resulting manure replenishing soil fertility. These small-scale integrated farms produce far more per unit area than large farms. Though the yield per unit area of one crop – corn, for example – may be lower, the total output per unit area for small farms (often producing more than a dozen crops and numerous animal products) is nearly always higher than that of larger farms.

Clearly, if we are to compare accurately the productivity of small and large farms, we should use total agricultural output balanced against total farm inputs and 'externalities', rather than single-crop yield as our measurement principle. Total output is defined as the sum of everything a small farmer produces – various grains, fruits, vegetables, fodder and animal products – and is the real benchmark of efficiency. Moreover, productivity measurements should also take into account total input costs – including large-machinery and chemical use, which often are left out of the equation in the yield-efficiency claims. Perhaps most important, however, is the inclusion of the cost of externalities such as environmental and human health impacts, which industrial scale monoculture farms allow society to pay. Continuing to measure farm efficiency through single-crop yield in agricultural economics represents an unacceptable bias against diversification, and reflects the bizarre conviction that producing one food crop on a large scale is more important than producing many crops (and higher productivity) on a small scale.

Once the flawed yield measurement system is discarded, the bigger-is-better myth is shattered. As food policy expert Peter Rosset says: 'Surveying the data, we indeed find that small farms almost always produce far more agricultural output per unit area than larger farms. This is now widely recognised by agricultural economists across the political spectrum as the "inverse relationship between farm size and output".' Rosset notes that even the World Bank now advocates redistributing land to small farmers in the Third World as a step toward increasing overall agricultural productivity.

Government studies underscore this 'inverse relationship'. According to a 1992 US Agricultural Census report, relatively smaller farm sizes are two to 10 times more productive per unit acre than larger ones. The smallest farms surveyed in the study, those of 27 acres or less, are more than 10 times as productive (in dollar output per acre) than large farms (6,000

acres or more), and extremely small farms (four acres or less) can be over 100 times as productive.

In a last-gasp effort to save the efficiency myth, agri-businesses will claim that larger farms are at least able to make more efficient use of farm labour and modern technology than smaller farms. Even this claim cannot be maintained. There is virtual consensus that, because of management and labour problems inherent in large operations, larger farms do not make as good use of even these production factors. Mid-sized and many smaller farms come far closer to peak efficiency when these factors are calculated.

It is generally agreed that an efficient farming system would be immensely beneficial for society and our environment. It would use the fewest resources for the maximum sustainable food productivity. Heavily influenced by the bigger-is-better myth, we have converted to industrial agriculture in the hope of creating a more efficient system. We have allowed trans-national corporations to run a food system that eliminates livelihoods, destroys communities, poisons the earth, undermines biodiversity and doesn't even feed the people. All in the name of efficiency. It is indisputable that this highly touted modern system of food production is actually less efficient, less productive than small-scale alternative farming. It is time to re-embrace the virtues of small farming, with its intimate knowledge of how to breed for local soils and climates, its use of generations of knowledge and techniques like inter-cropping, cover-cropping and seasonal rotations, its saving of seeds to preserve genetic diversity, and its better integration of farms with forest, woody shrubs, and wild plant and animal species. In other words, it's time to get efficient.

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GHOST TOWN BRITAIN • Thanks to the relentless rise of supermarkets, the UK is fast becoming a nation of out of work shopkeepers.



percentage of Tesco's turnover spent on locally-sourced products

number of shops

number of independent stores left by 2050, trends c

lost when a supermarket moves into an area

All figures taken from *Ghost Town Britain – the threat from economic globalisation to livelihoods, liberty and local economic freedom* by the New Economics Foundation – tel: 0207 089 2800; www.neweconomics.org

to have closed since the 1940s

000,001

number of independent grocers in 1987; by 2002 the number had fallen to 28,319

47,068

number of local shops and services that closed between 1995 and 2000

30,000

number of butchers in 1985; by 2000 there were just 9,721

23,000

number of rural shops open today

12,000

number of general stores that have closed since 1996

8,000

6,000

number of pubs expected to close by 2006

1,102

number of supermarket superstores in 1997; in 1986 there were 457

953

number of convenience stores that closed between 2000 and 2001

547

number of post offices that closed in 2001

356

number of small newsagents that folded in 2001

300

number of rural shops that close each year

276

number of jobs lost when...



If you want to understand why globalisation is so destructive, you need look no further than the invisible food giant Cargill. By Brewster Kneen

Size is everything

We are the flour in your bread, the wheat in your noodles, the salt on your fries. We are the corn in your tortillas, the chocolate in your dessert, the sweetener in your soft drink. We are the oil in your salad dressing and the beef, pork or chicken you eat for dinner. We are the cotton in your clothing, the backing on your carpet and the fertiliser in your field.' (Cargill corporate brochure, 2001).

You don't see its name on the products you buy. It's doubtful you've even heard of the company. Yet you probably ate food it produced in the last week, if not the last 24 hours. The firm is Cargill – the largest privately owned company in the world, with sales last year in excess of \$50 billion. Cargill is the world's seventh largest food company; only Nestlé, Pepsi, Coca Cola, Philip Morris, Unilever and ConAgra are bigger, all of which (Con Agra apart) you're probably entirely familiar with. The question is, then, how does Cargill get to be so big without anyone having heard of it?

The corporate leviathan

Until a decade or two ago Cargill was primarily a global trader (and speculator) in bulk commodities (wheat, corn, soya, salt, cotton, sugar, coffee, etc), a primary processor in some of these commodities (ie, flour milling and corn-syrup and animal-feed production), and a livestock and poultry processor. Hardly the stuff of glamorous ad campaigns and brand-building exercises.

In 1971, on the eve of Russia's massive grain purchases, Cargill reported that it had annual revenues of \$2 billion. By 1982 this figure had jumped to \$29 billion, and by 1994 it had nearly doubled to \$47.1 billion.

In 1994 a Minneapolis newspaper published figures, obviously provided by Cargill, on the changes in the firm's business activities between 1970 and 1990. They showed that merchandising (trading in bulk commodities) had fallen from 37.3 to 17.6 per cent of Cargill's business. Non-merchandising (processing of oil seeds and corn, and flour milling; agricultural

products such as poultry, feed and seed; industrial products like steel, fertilisers and salt; and financial services) had increased from 62.7 to 82.4 per cent of its business.

This transformation was engineered in response to changes in the state of global trade. For, in spite of all the current hype about the global market, bulk trade has been slowing globally. As a consequence, the firms that used to be known primarily as trading companies have begun to diversify over the past several years so as to avoid unnecessary competition in the marketplace.

Each of what used to be called 'the grain majors' (Bunge, Continental, Andree, Dreyfus and Cargill) has differentiated itself from the other major players in the food sector. (One could be forgiven for thinking that this was all planned centrally, except that might be called collusion.) Bunge, for example, is now the world's largest oil-seed processor, while Cargill has become the major glucose, fructose and starch producer. What is even more revealing is that to achieve this rationalisation firms have actually swapped facilities, and have formed partnerships or joint ventures with their erstwhile competitors further 'downstream'.

Cargill's use of its available capital as leverage to acquire the facilities it needs (or to control the commodity sources it desires) is reflected in its growing list of partnerships and joint ventures.

Cargill has clearly decided that joint ventures – whether with local and regional farmers' cooperatives or with fellow multinationals like Monsanto, Dow, the Indian company Tata and Mitsubishi – are the way to go. They enable the firm to magnify the power of its capital while minimising risk (something capital avoids like the plague) and maximising control over the supply and price of the raw materials needed for its huge and increasingly complex processing facilities. Of these facilities, Cargill's corn-processing complex at Blair, Nebraska, is the embodiment of the firm's complex and highly interlinked network.

Cancerous growth

Cargill opened its \$200m corn wet-milling plant at Blair in 1995. Its original purpose was to produce fuel-grade ethanol, cattle feed and high-fructose corn syrup. Soon a plant to process corn germ into corn oil was added, then a facility to produce erythritol (a sugar alcohol derived from corn) in a joint venture between Cargill and Mitsubishi Chemical. By this stage capital investment in the Blair complex amounted to about \$400m. A lactic acid plant was also added to the complex (lactic acid is a natural organic acid used as a flavour agent, preservative and acidity adjuster in foods) in a joint project between Cargill and CSM of Amsterdam. The lactic acid plant supplied polylactic acid polymers to Cargill's EcoPLA plant near Minneapolis, which was really a pilot plant for Cargill Dow Polymers – formed in a joint venture with Dow Chemical. In January 2000, Cargill Dow Polymers announced the construction of a new \$300m ►

'world-scale facility' at Blair to manufacture PLA polymers (polymers made out of agricultural products such as maize). The PLA polymer plant was named NatureWorks PLA. Yet another addition to the Blair complex was Midwest Lysine, a \$100m production site that opened in 2000 as a joint venture between Cargill and Degussa-Huls Corp – a subsidiary of Degussa-Huls AG of Germany. Midwest Lysine manufactures the amino acid and livestock feed supplement lysine. The latest addition at Blair is an itaconic acid plant, which supplies the itaconic acid business of the Cargill-owned Cultor Food Science of Finland. Cargill is now the

Cargill's bosses have always worked to ensure that government policy does not conflict with the company's interests.

First there was William Pearce, a former Cargill vice president for public affairs. He became deputy special representative for trade negotiations in the Nixon administration. In 1972 Pearce was one of the main drafters of the report of the Presidential Commission on International Trade (the Williams Commission), which recommended that other countries should remove their agricultural trade barriers and other policies that supported 'inefficient' farmers. In 1974 Pearce was on the Committee for Economic Development, which aspired to develop US domestic agriculture by removing 'excess human resources' – ie, farmers. After that he re-joined Cargill.

Then in 1983 Daniel Amstutz (Cargill's assistant vice president for feed grains from 1967 to 1972, and president of Cargill Investor Services from 1972 to 1978) was made chief policy officer for US farm programmes in Ronald Reagan's first administration. In 1985 he drafted a proposal for a five to 10-year programme to phase out all government support for farmers; during this period farmers would have to 'adjust' either to a free market or to a 'transition' out of agriculture. While this proposal failed, it re-emerged 10 years later and was enacted as the US's devastating Freedom to Farm Act. Since 1989 Amstutz has been working as a consultant for Cargill.

Former Cargill chairman and CEO Ernest Micek was one of 38 members of Bill Clinton's President's Export Council. The council advises the US president on government policies and programmes that affect US trade performance. He is currently chairman of the Emergency Committee for American Trade, a coalition of US multinationals which lobbies, largely through the World Trade Organisation, for trade liberalisation.

Micek's predecessor as Cargill chairman, Whitney MacMillan, was appointed in 1993 (while still chair at the corporation) to a panel shaping the final negotiations on the General Agreement on Tariffs and Trade.

And Frank Sims, president of Cargill Ag Producer Services, is a member of the US Department of Agriculture's newly formed advisory committee on agricultural biotechnology. The committee advises the US government on policy related to the creation, application, marketability, trade and use of agricultural bio-technology.

Adapted from CorporateWatch briefing 'Cargill – arrogance incorporated', available at www.corporatewatch.org.uk



Cargill operates at every stage of the agricultural food-supply chain – from seed to packaged end product. It is this vertical integration, together with the firm's vision of contract farming, which explains Cargill's extreme enthusiasm for GM food. GM fits Cargill's vertical integration model perfectly: a seed is genetically modified first so that it works with (and only with) Monsanto pesticide and Cargill fertiliser; it is modified secondly (to Cargill's precise specifications) so that it contains all the vitamins, proteins, nutrients and antibiotics necessary for poultry feed. The chain works as follows:

The farmer buys his seeds from Renessen (a company formed by an alliance between Monsanto and Cargill)

↓

He buys his herbicide from Monsanto

↓

He buys his fertiliser from Cargill

↓

He signs a contract (which determines the precise growing and handling conditions) to deliver the produce to Cargill at a specified price and quality

↓

He sells the harvest to a Cargill storage facility

↓

Cargill then processes the harvest into animal feed

↓

Cargill then ships the animal feed to Thailand

↓

In Thailand the animal feed is fed to poultry, by a farmer under contract to Cargill

↓

Cargill then buys the poultry and processes, cooks and packages it

↓

Cargill ships the packaged product to Europe, and sells it to McDonalds or a supermarket



world's largest supplier of itaconic acid, which is used in everything from the latex backing on carpets to coatings on paper that make water bead up. By now, the total investment in the Blair complex must be at least \$1 billion.

While corn milling itself has not changed much in 30 years, former Cargill CEO Ernest Micek has said that the 'back end' now 'looks a lot more like a large-volume drug store'. Micek gave a simple explanation for the more complex product line at Blair: 'Regular glucose is [worth] about eight cents per pound. Fructose is [worth] about 12 cents per pound... citric acid 70 cents per pound and itaconic acid \$1.80 per pound.'

Cargill's golden rule

Many people still seem to think that the big threat to the family farm comes from corporate agriculture. By this they mean corporations buying up farms, consolidating them and turning the farmers into hired labour. Cargill has always been too clever for that. Its golden rule? Always use the gold of others.

In every one of the firm's joint ventures, it is obvious that Cargill has the upper hand; though the press releases announcing new ventures always make them sound very much like mutually advantageous partnerships. The announcement for a 'marketing alliance' with the 558 growers of the Southern Minnesota Beet Sugar Cooperative (SMBSC) to sell and distribute SMBSC sugar products to food and beverage manufacturers is a good example.

'This is the latest example of Cargill's renewed efforts to deepen its relationship with the grower community,' said Pat Bowe, president of Cargill Sweeteners North America, last December. 'We are confident this alliance will benefit the co-op members as well as Cargill, as together we seek to serve customers in innovative ways.'

The fact of the matter is that sugar-beet growers in the upper Midwest of the US are in desperate shape and need a company like Cargill to sell their sugar for them. And this deeper 'relationship to the grower community' delivers to Cargill a guaranteed supply of the raw materials for its processing businesses.

Over the past few years Cargill has entered into a very large number of deals with small farmer-owned grain cooperatives in the Midwest and the Canadian prairies. Cargill is buying up, at very little cash cost, not the farms but the farmers. Glad to have an apparently stable and reliable marketer of their grains (one which might even buy the grains for itself), the farmers seem eager to trade their independence and entrepreneurial capacity for Cargill's recognition and Cargill's price. (The farmers have little choice, in the future, but to take whatever Cargill is willing to offer them.) From Cargill's perspective, there could not be a better deal: no cash down, and a bunch of vulnerable farmers using their own capital to pay for the storage and handling facilities that the farmers once built themselves in order to escape the clutches of greedy bankers and traders.

While making 'renewed efforts to deepen its relationship to the grower community', Cargill is also making a major effort to 'deepen its relationship' with wholesale-retail giants such as Weston and Walmart, with food manufacturers such as Unilever and Kraft, and with fast-food outlets such as McDonald's. To its traditional beef-slaughtering business it has added further processing operations, and now supplies 'case-ready' packaged retail beef cuts to Walmart and other big retailers. The result? The disappearance of small slaughter-houses and butcher shops and of the skilled butcher at the meat counter of the US supermarket. As always, the fall-out from Cargill's strategy is the extinction of small farmers and small/local processors and retailers.

Food for nought

Cargill does not really do business in food. It deals in agricultural commodities as raw materials to be deconstructed and reconstructed into value-added products to produce profits for the corporation. It may do this with consummate skill, but we must remember that the globalised industrial system that works for Cargill is a very recent (post-1945) invention. It may have succeeded in making Cargill and a small elite of the world wealthy, but has done so at an increasingly unacceptable cost to the earth, its creatures and the majority of its people. The industrial system may be able to produce quantities of food, but it cannot produce the justice required to ensure that everyone is adequately nourished.

Cargill deals in volume. To get sufficient volume, both when buying and selling, it has to do business trans-nationally and industrially. The scale, as much as the style, of the operation is crucial, and there is a definite threshold beneath which a company like Cargill cannot function even if it wanted to. Therein lies the key to resistance and the pursuit of alternatives.

The refusal to use Cargill's and others' hybrid or patented seeds (or highly processed food that has travelled from some centralised production facility), and the rejection of industrial monoculture (franchised fast food) are the beginning of this resistance. The deliberate use of traditional open-pollinated seeds, and the pursuit of diversity and self-reliance are then the basis for building ecologically sound and socially just alternatives.

Around this resistance a new form of 'open-pollinated' social organisation is emerging: communities that thrive on and, in turn, generate diversity and inclusivity. These communities share a recognition of the interdependence of every organism, and commonly identify personal long-term wellbeing with the good of their community and of society as a whole.

It's hard to imagine a place for Cargill, or any other food trans-national, in such a community ■

Brewster Kneen is the author of *Invisible Giant – Cargill and its transnational strategies*.

- It's the seventh largest food and drink company in the world, the third largest in the US, the third largest in Europe, the largest in Asia and the largest in South America
- It's the 16th largest company of any kind in the US, and the largest privately-owned (ie, not listed on any stock exchange) company in the world
- In 1999, its global sales were US\$ 50 billion
- In the US, Cargill is the third largest beef packer, the fourth largest pork packer, the second largest animal-feed plant, the largest terminal-grain handler, the largest corn exporter, the largest soya bean exporter, the third largest flour miller, the second largest soya bean crusher and the fourth largest ethanol producer
- Cargill Dow Polymers, a 50:50 joint venture with Dow Chemical (the world's largest plastics company), is developing plastics from maize and wheat
- In 1997, it bought Akzo Nobel's US salt business, making Cargill the second largest US salt company
- In 1999, Cargill bought the grain distribution division of Continental Grain (then its second largest competitor). Combined, these two companies control 94 per cent of the soya bean market and 53 per cent of the corn market

You don't get to be as big as Cargill without getting your hands dirty... a lot.

1937 Cargill suspended from the Chicago Board of Trade for cornering the maize market

1976 A Senate sub-committee accuses Cargill and five other grain traders of supplying false market data in order to influence market prices

1984 Cargill announces it will buy one million bushels of Argentinian wheat in order to force down the US wheat price, and strengthens US anti-farmer policies in the process

1987-1993 The firm is cited for 2,000 US health and safety violations, including spilling 40,000 gallons of a toxic phosphoric solution into Florida's Alafia River in 1988

1988 Cargill is ordered to pay about \$2.6 million to poultry producers who served a processing plant in Florida; the lawsuit alleged that Cargill had intentionally under-weighed the poultry

1991 Arkansas governor Bill Clinton criticises Cargill for releasing animal waste equal to the excrement produced by 10 times the state's human population into Arkansas rivers

1993 Cargill buys the Seminole fertiliser plant at Ford Meade, Florida; all the employees are made to sign resignation slips, before some are hired back at lower wages and with only two weeks' holiday

Adapted from Corporatewatch briefing 'Cargill - arrogance incorporated'

GLOBAL WORMING – Why do we dispose of organic waste in landfill sites? Shouldn't we – individuals, councils and businesses – all be using worms to compost it? By Janis Crawford.

Contrary to instinct, organic waste actually does more harm than good in landfill. In a process called laxiviation (that is as repulsive as it sounds) organic waste gets compacted and mixed in with toxic elements such as oils, paints and detergents. Since oxygen is absent, organic materials undergo anaerobic decomposition and emit biogases such as methane and carbon dioxide that contribute to the greenhouse gas effect. Once the organic waste liquefies it seeps down into underground waters and takes all the toxic elements mentioned above along with it. This mess then hits the closest river source, potentially polluting all related water bodies, soils and living organisms, including humans. Some waste-management companies have found ways of dealing with these problems, but only with limited success and always with huge price tags attached.

COMMUNITY WORMS

Many cities, town councils, school canteens, restaurants and community groups are planning and piloting worm composting as an efficient means of dealing with organic waste instead of filling up landfill sites.

Large-scale vermicomposting has been practised for more than 20 years by various municipalities and industries as a cost-efficient and environmentally friendly way of reducing waste. The city of Toronto, for example, now uses a vermicomposter to treat the organic waste picked up from citizens' doorsteps. Once the organic waste has been separated from recyclable and unwanted materials, anaerobic digestion is used to produce biogas and organic material that can be made into compost. The finished compost is then used in landscaping, agriculture, soil erosion control and soil remediation projects. The worm compost is also sold to gardeners and farmers, but its benefits are poorly known, so the market for it is as yet undeveloped.

WHY WORM COMPOST?

Amazingly, 'red wigglers' (also known as manure worms) can eat the equivalent of their weight in organic 'waste' every day. Once ingested the organic waste is neutralised in the worm's gut before being excreted as a nutrient-rich, dark humus called castings. The worms work in close collaboration with many micro-organisms that decompose organic matter, the results of which get mixed in with the worms' castings and produce rich, life-giving compost. The benefits are numerous:

- a worm-composting system takes a greater range of waste, breaks waste down more rapidly and requires less maintenance than a regular composter;
- it can work all year round;
- the nutrients produced by the worms are already plant-soluble;
- the worms neutralise many toxins in the original material;
- worm compost has a more complete and generally more complex nutrient base;
- with worms, composting is a continual and rapid process, which means that there is always some compost ready and available for use in your bin.

AT HOME

Having a worm bin is one of the few ways in which people living in cities can have a real impact on a huge environmental and economic problem – organic waste in landfill sites. By harnessing the power of the lowly worm, city dwellers can reduce their household waste output by up to 40 per cent each year, and can produce a constant supply of high-quality fertiliser for their house plants, garden, lawn or friends. And on their way toward zero waste, 'wormers' can feel more connected with the earth and become fascinated with their very own ecosystem. See the opposite page for instructions on setting up your own worm bin.

HOUSEHOLD WASTE

25.1	million tonnes of UK household waste collected per year
23.2	kilograms of household waste collected on average per UK household per week
78	per cent of household waste in England disposed of in landfill per year
63	per cent of all landfill waste that is entirely biodegradable (Defra estimate)

HOW GOOD IS WORM COMPOST?

Worm compost or humus is a very powerful fertiliser for plants of all kinds. The neutral, nutrient-rich and airy compost is often called 'black gold' as it greatly improves soil quality and enhances plant growth, health and disease resistance. It also controls soil erosion, increases soil's water-holding capacity, reduces water demands of plants and trees, neutralises soil toxins, fixes heavy metals and reduces mineral leaching from the soil. There is no excuse to use inorganic fertilisers and pesticides.

As if a rich compost was not enough, worm composting can also produce 'compost tea' for your plants. You can make it at home just by diluting the run-off liquid from your bin, or you can go professional and brew some compost with a glucose source and fungal elements to improve its effectiveness.

HOME COMPOSTING

In 1996 the US Composting Council analysed back-yard composting programmes and concluded that they were successful and cost-effective throughout the US, regardless of community size or socio-economic status. The benefits include:

- lower collection, transfer and centralised processing costs;
- lower residential rubbish bills (where unit costing exists);
- new jobs through home composting programme management;
- less air and water pollution and traffic congestion;
- less need for fertilisers and pesticides; and
- reduced environmental and health damages.

The council calculated that worm composting could save \$44 per ton of solid waste disposal costs. The US creates more than 230 million tons of municipal solid waste annually, which means worm composting could save it more than \$10 billion a year.

As members of the Annelid phylum, red worms have probably been around for at least 500 million years.

It has been said that the ancient Babylonians used worm composting to create the Hanging Gardens of Babylon, one of the Seven Wonders of the World.

Red worms were taken to North America in the 17th and 18th centuries by European travellers who carried their plants with them. They've been used for breeding and composting since the 1950s.

Worms have no arms, legs or eyes, but they do have five hearts.

There are approximately 2,700 kinds of earthworms.

In one acre of land there can be more than one million earthworms.

The largest earthworm ever found was in South Africa and measured 22 feet from its nose to its tail.

Charles Darwin spent 39 years studying earthworms more than 100 years ago.

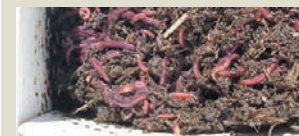
Worms are cold-blooded animals.

Worms can grow a new tail but not a new head if they are cut off.

Even though worms don't have eyes, they can sense light, especially at their anterior (front end). They move away from light and will become paralysed if they are exposed to light for too long (about one hour).


If a worm's skin dries out it will die.

Worms are hermaphrodites, which means that each one has both male and female organs. They mate by joining their clitella (swollen area near the end of a mature worm) and exchanging sperm. Then, each worm forms an egg capsule in its clitellum.



Websites to visit for more information:

<http://www.wormdigest.org/>
<http://www.happydranch.com/>
<http://www.wormfarm.com/>
<http://www.wormwoman.com/acatalog/index.html>



It's easy, cheap, fascinating and can be done outside or inside all year long. Even if you live in a tiny flat, all you need to start worm composting is:

A BIN – Build your own from wood or purchase a worm composting bin (many are offered on the web). As for size, each square foot of surface area will process a pound of food. (Example: a 2' x 3' x 12" worm box will accommodate waste generated by a family of two.)

A BED – Put about two inches worth of hand-shredded newspaper in your bin. You can also add crumpled dry leaves, shredded cardboard (the glue makes the worms horny) or wood chips. Then add some water to the bedding until it's damp like a wrung-out sponge. It should be loose so as to allow the passage of air while shielding the worms from the light, neutralising potential odours and keeping pests away.

WORMS! – Get some from other avid wormers who have just harvested their bin and want to share. You can also buy them on many websites and stores that sell them for fishing. Make sure they're red wigglers and not earthworms (which are slow and uglier, it's a worm thing). A pound should be fine to start.

A NICE HOME – Worms like to be in a stable environment, at temperatures between 32° and 84° Fahrenheit. If you notice they're not squirming much, move them to a warmer place. Experiment with different locations until you find the right one.

FOOD – All things organic. Add fruit and vegetable scraps, tea leaves, coffee grounds (they make the worms peppy), crumbled eggshells, grass cuttings, ashes and nasty gooey things at the bottom of your fridge. Even old T-shirts will eventually get eaten up by the worms. Bury the food under the bedding, and change the corner you put it in every so often. Start with a little food to see what they can take, and increase the amount as they get used to their environment. Worms are highly adaptable: the more food you add, the faster they will multiply. Stay away from meat scraps, oily foods and milk products. If you have pets, home vermicomposters can literally turn pets' poo into beautiful compost; but it's recommended to use a separate worm bin for this and some companies even sell a specialised poo composter. As the alternative name 'manure worms' indicates, animal waste is a natural habitat for red worms.

A SENSE OF BALANCE – Worms have a simple life: they just eat, defecate and have sex. But in order to do this they do need moisture, oxygen, darkness and a balanced diet (a diversity of nitrogen-rich [green], carbon-rich [brown], acidic and basic foods). Moderation and sensitivity to changes in your bin are the keys to success. If it feels too dry, add some water. Too moist, make more draining holes and add some bedding. Smelly? Perhaps you're adding too many acidic foods (like citrus fruit), or there's a lack of oxygen. Give the worms time to eat up the food they have, move things around a bit to aerate the system and add a little garden lime if you wish. The worms will stay where they're happy and only try to escape when things get bad.

And after about three months your bin should be half-full of beautiful dark compost thanks to your miraculous, hard-working worms.

Many people dismiss environmentalism as a middle-class luxury that few can afford. But in Mexico City a group of impoverished street punks are pioneering radical social alternatives because their survival depends on it. Holly Wren reports

Like flowers

breaking through

Chiwy lives in Mexico City, one of the fastest growing metropolises in the world. Though it was built on marshland, many of the city's once famous rivers have ceased flowing because of diversion and contamination. Mexico City's air is foul, there is little open space, and – with a population of 25 million – the city creates 1.3 kilograms of garbage per resident per day.

In a city that has only ever landfilled its rubbish, Chiwy is among a group of youths who are working on local recycling and composting programmes. They go into neighbourhoods to teach residents how to sort waste, and build depots where recyclables can



be taken for collection. The needs of the city are that basic, and, rather than waiting for the government to institute solutions, Chiwy and co are doing it themselves.

Chiwy, with his floppy mohawk and boyish face, is a member of the *Juventud Antiautoritaria Revolucionaria* (Jar) – 'Anti-Authoritarian and Revolutionary Youth'. The patches on his black clothing proclaim 'freedom lives when the state dies', and 'resistance exists'.

During visits to Huehuecoyotal eco-village south of Mexico City, Chiwy and Jar learned permaculture techniques, which they then took back to the city. Often working in the toughest neighbourhoods, they

promote the dream that one day every building will have a roof garden, that vacant lots will become community spaces and rivers will be clean enough for kids to play on their banks and fish.

City dwellers

Recently Chiwy, along with his friends and fellow Jar members Raul and Alejandra, gave a workshop on how they are taking their work to other parts of the city as well. After being shown a home-made video in which the trio were shown studying radical texts together, protesting neo-liberal trade agreements in the streets, and silk-screening the shirts they sell for fundraising purposes, an

Argentinean in the audience expressed his disagreement with Jar's urban focus; the group should leave the city and go to the countryside where things are healthier.

But while many environmental activists focus upon rural living, others recognise that green-cities initiatives are a realistic approach to the fact that urban populations are on the rise, and it is in cities that most of today's young will make their homes.

Most of the Jar youth cannot, and will not leave the city. Instead, they have been developing plans for an urban eco-village. The fact that they lack the funds to purchase a piece of land, does not deter them from this goal. In the meantime, Jar has been loaned a property with a small backyard from which they have cleared several truck-loads of household trash, abandoned appliances and wood debris. They make do with what is shared or donated in a spirit of mutual aid. As the text on Alejandra's T-shirt says, '*somos como flores irrumpiendo en el cemento*' ('we are like flowers breaking through the cement').

without a permit. Working tax-free as bricklayers, painters, labourers and electricians is also possible, though always sporadic. Rents are high and wages low, so many Jar activists (most of whom are aged between 16 and 25 years old) live at home. Some sleep on the street. The reality of their daily existence makes their work for change that much more vital. It is not an intellectual exercise, as it often is for middle class wannabe revolutionaries in the North. It is a matter of survival.

Alejandra works with *Colectivo Ecologico Social Tierra Viva*, an independent group that often collaborates with Jar. Her jet-black hair falls below her waist. She is small and tough, with the guarded air of someone who has lived in the city all her life. She says: 'It is very difficult. You have everything going against you. You are young, you are poor and you are making change.' Alejandra survives by making and selling botanical cosmetics and soaps; she is well versed in the wisdom of her ancestors, who used plants to heal long before Monsanto discovered the rainforest.

igh the cement

Confronting waste, creating 'autonomous zones' and dismantling machismo, they liberate their neighborhoods a little bit more each day. This includes surviving in a hand-to-mouth way instead of taking meaningless full-time jobs that would consume valuable time which is better spent rebuilding communities and sharing their skills and knowledge with others.

Working for stints in their 'rich-neighbour country' (the US) is an option for some, while others direct passengers at the bus station in exchange for a few coins from the bus drivers. Still others vend TV cases on the street, risking an occasional beating by the cops for selling

As well as their efforts to clean up the city, the Jar collective also engages in customary punk activities such as zine publishing, music recording for the 'Jar Core' label, and taking to the streets against the consumer culture. Jar blames that culture for the 'desperation of millions of people, who are left with no way to live but in humiliation, apathy, and egoism'. In October the group celebrated nine strong years of existence. For Jar's members, punk is not fashion; it is a constant struggle for freedom and self-determination. 'We think the world we dream of is ours to the extent we create it.'

Holly Wren is a freelance journalist.

- Area: 1,958,201 square kilometres – eight times the area of the UK, and the third largest country in Latin America after Brazil and Argentina.



- Population (1998): 96.5 million (the 11th largest in the world).

- 74 per cent of the population live in cities or towns. In 1980 this figure was 66.4 per cent, and in 1950 it was 42.6 per cent.

- Population under 18 years of age (1996): 41.6 per cent.

- Capital: Mexico City; the total population of Mexico City's metropolitan area is estimated at about 20 million.

- Malnutrition: From 1985 to 1995 there was an average of 1.7 million malnourished children under 5 years of age.

- Principal trading partners (1997): The US (85.4 per cent of exports), Latin America/ the Caribbean (6.3 per cent), the EU (3.6 per cent), Canada (2 per cent), Japan (1 per cent).

- Manufacturing accounts for 86 per cent of all exports. Nearly half of this comes from the *maquiladora* (sweatshops) sector.

- The *maquiladora* sector is made up mainly of border-based and foreign-owned assembly plants. In total 2.5 million work in *maquiladoras*.

- An average of 14.9 per cent of Mexico's population was living on less than \$1 a day between 1981 and 1993.

- In 1994 36 per cent of the overall population, 29 per cent of the urban population and 47 per cent of the rural population were living below the poverty line. In 1984 the comparable figures were: 34 per cent of total population, 28 per cent in urban areas, and 45 per cent in rural areas.

- Also in 1994, 12 per cent of the overall population, 6 per cent of the urban population and 20 per cent of the rural population were living in indigence (unable to afford even sufficient food). The comparable figures for 1984 were: 11 per cent of total population, 7 per cent in urban areas and 20 per cent in rural areas.

- That same year the Forbes ranking of the richest individuals in the world included 24 Mexicans.

- The official figure for urban unemployment is usually in the range of 3-4 per cent. However, the government considers a person employed if they work only one hour per week. Other estimates give an unemployment rate of about 18 per cent, with under-employment affecting 25-40 per cent of the population and rising even higher in rural areas.

- Foreign debt (1998): At US \$174.4 billion, the second largest in the Third World.

With human beings about to become a predominantly urban species, Dan Box asks whether cities can ever be sustainable.

Greening cities

We are fast approaching a unique point in human history. Within five years half the earth's population will live in cities. By 2006, we will be a predominantly urban species.

In 1800 London was the only city with a population over 1 million. Today, there are 20 cities around the world with more than 10 million residents, 35 with more than 5 million and hundreds with a million or more residents. Every two weeks, the combined population of these cities swells by a million more.

This rate of change is driven by the shift from rural to industrial economies in the developing world. Asia alone accounts for half the world's urban population. Within 10 years China plans to create 100 new cities – each with a population of more than a million people. And the cities of Latin America are growing at five times the rate of their smaller, scarcer North American counterparts. The scale of this migration marks the greatest social change since agriculture began 15,000 years ago.

Ecological footprints

The growing number of people living in cities is matched by massive increases in the resources they consume and the pollution they create. Cities rely on their

ability to import resources and export their waste. This open loop cannot be sustained.

The ecological footprint of a city represents the area of land required to provide the resources it consumes and to assimilate the waste it generates. London's footprint alone is now the equivalent of the entire productive land in Britain. Over half of that land is required to absorb the 60 million tonnes of carbon dioxide London produces every year. In producing that carbon dioxide, the city consumes 20 million tonnes of oil per year; that's two super-tankers worth a week. Unable to meet this demand within its own borders, Britain is set to become a net importer of oil and gas within three years.

Isolated progress...

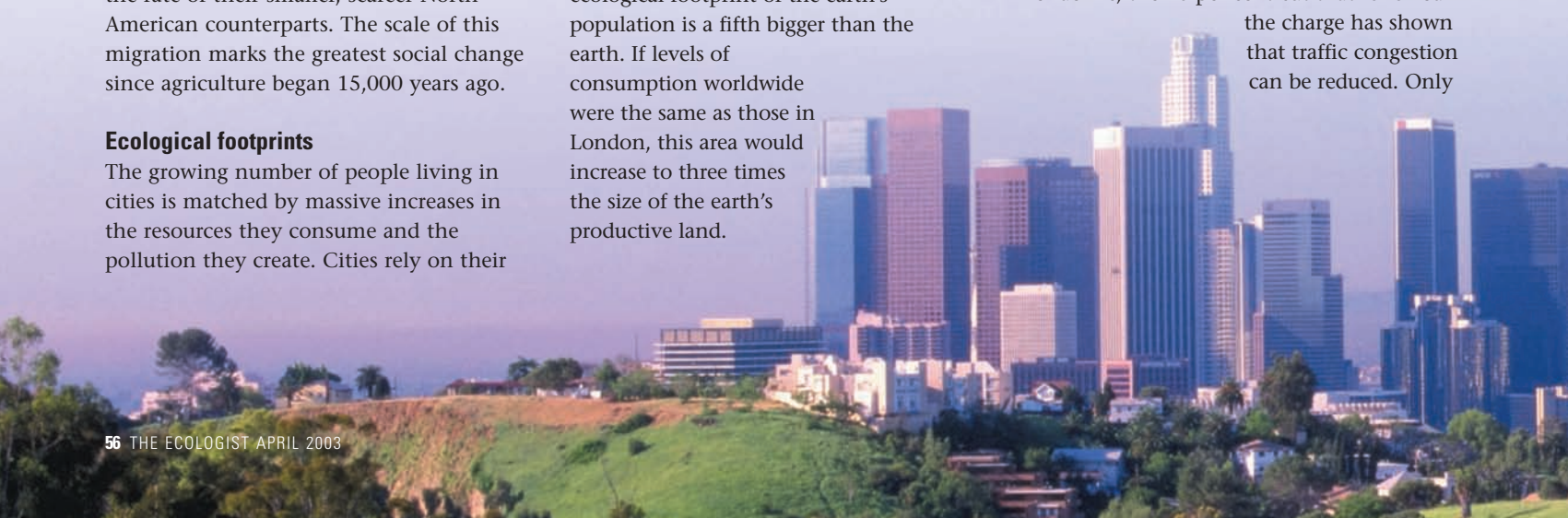
This pattern of consumption is recreated in every city across the world. At present, the ecological footprint of the earth's population is a fifth bigger than the earth. If levels of consumption worldwide were the same as those in London, this area would increase to three times the size of the earth's productive land.

Wally N'Dow, secretary general of the second UN Conference on Cities, says: 'Urbanisation is bringing about one of the most significant transformations in history. The problems this creates are staggering.'

Most urban centres in the developing world will face extreme water shortages within 15 years. Already, 'more than a billion people cannot get clean drinking water,' says N'Dow. This 'causes 80 per cent of diseases in the developing world'.

Faced with this prospect, individual cities are working to reform their urban systems. They are aiming to limit the causes of consumption and waste production to ones which are naturally sustainable within their boundaries.

In London, the introduction of congestion charging has proved the efficiency of political action at this level. Where once the growth of traffic appeared endemic, the 20 per cent cut that followed the charge has shown that traffic congestion can be reduced. Only



the week before the British government had abandoned its national target to reduce car traffic by 6 per cent over 10 years, because, transport secretary Alistair Darling claimed, nothing could be done. The initial success of London's congestion charge now suggests otherwise.

In south London the BedZed housing project provides public housing while producing no net increase in carbon dioxide. The scheme's energy-efficient design reduces the demand for electricity and heat, which is generated from tree waste that would otherwise go to landfill.

In Copenhagen, a similar approach has been extended across the city. Hot water as a waste product of power generation heats nearly 70 per cent of the city's buildings. Waste water from kitchens and compost from household waste are used to fertilise food-producing gardens. The city also maintains a fleet of bikes for public use. The bikes are financed through advertising on wheel surfaces and bicycle frames.

...But the system can't be sustained

While successful, each of these projects can only limit the increasing demands continued urbanisation creates. Although the sustainable city may be possible, urban society is international; emphasising the individual city only limits our response.

For no city stands alone. Almost all land, sea and air transport is between cities and carries the resources to sustain them. This trade is controlled by international markets focused on city exchanges, and is essential to the functioning of these cities' economies. The emphasis on making cities sustainable within their own confines fails to address this.

Cities are the products of an international economic system predicated on growth. Describing New York, the author Lewis Mumford wrote: 'Its executives conceive it as their duty to funnel more traffic into the city, through new bridges and tunnels, than its streets and parking spaces can handle – while contributing to the lapse of a

High above sea level on the plateau of Serra do Mar, the city of Curitiba is the capital of the Brazilian state of Parana.

Since the 1950s, its population has grown from 150,000 to over 1.6 million. With careful planning, however, the authorities have created a city that is a model of sustainable urban design.

Its expansion has been controlled by a system of coordinated public transportation and land use. Concentric circles of local bus lines connect to five lines radiating from the centre of the city. On the radial routes, buses in their own traffic lanes carry 300 passengers each. They go as fast as underground trains, but at 1/80th of the construction cost.

The buses stop at tube stations where passengers pay their fares, enter through one end of the tube and exit from the other. Faster loading and unloading means less idling and air pollution. While the stations provide a sheltered place for waiting, the system is so efficient that passengers don't have to wait much anyway.


As a result, while the city has one car for every three people, two thirds of all journeys within it are made by bus. The system carries more than 50 times as many people today than 20 years ago, and has massively reduced traffic pollution.

The chief architect of this development is John Larimer, now the city's mayor. Larimer says: 'When a city accepts as a mandate its quality of life, when it respects the environment, when it prepares for future generations, the people share the responsibility for that mandate. This shared cause is the only way to achieve that collective dream.'

In Curitiba city centre all household waste is taken by council trucks for recycling. Those in the slum settlements unreachable by truck take their waste to local centres, where it is exchanged for bus tickets or food from outlying farms.

The waste goes to a plant, itself built of recycled materials, that employs handicapped people, recent immigrants and alcoholics. Recovered materials are sold to local industries.

The recycling programme costs no more than a landfill system, but the city is cleaner, there are more jobs, farmers are supported and the poor get food and transportation. In this way, the city's own waste production is used to sustain it.



more adequate system of public transport. This policy has resulted in mounting traffic congestion, economic waste and human deterioration – coupled with a constant rise in land values and speculative profits.'

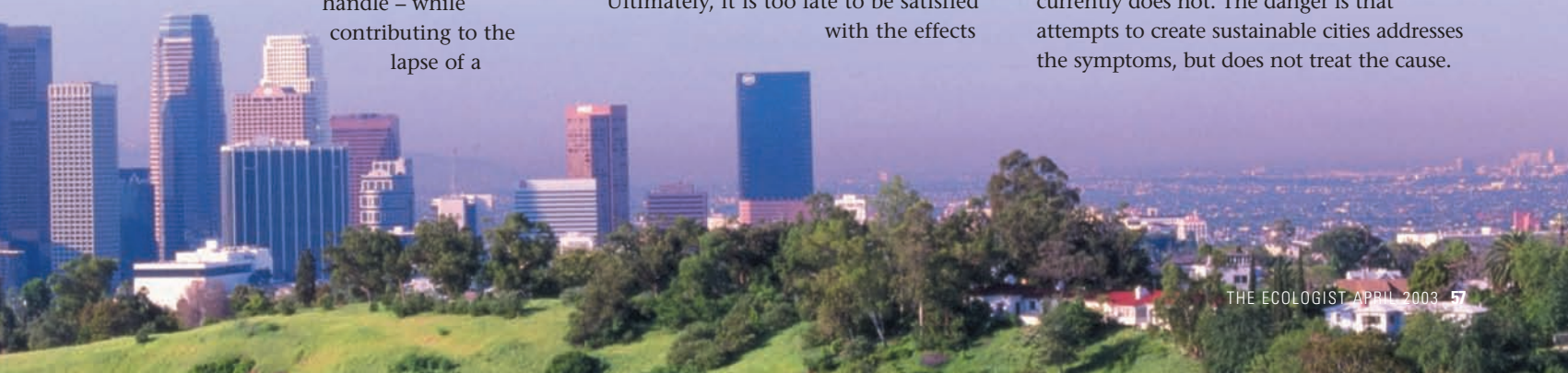
Plans for a new airport on the outskirts of London will mean an increase in pollution created both in and by the capital. Yet, the UK government argues, not to act would harm business in the city.

In the developing world, local authorities are increasingly unable to provide for those attracted by the same unfettered economic growth. In Cairo and Dar es Salaam, the resulting slums account for to up to 70 per cent of the population. Within these slums, little infrastructure of any kind exists. How can they be sustainably developed?

Ultimately, it is too late to be satisfied with the effects

of sustainable development. At best, it only mitigates the incidental effects of constant economic growth: the quantities of resources consumed and waste produced. Our urbanised society already consumes more than our planet can provide, and urbanisation is still gaining pace.

The world population is increasingly isolated in urban centres surrounded by hinterlands drained of the resources these centres demand. So far, the reaction has been to attempt reform of individual cities. This approach is limited by the boundaries of those cities. It is a mistake to treat a city on individual terms. Cities exist within an international economic system, and their faults must be seen as systemic. The problems they create go beyond their borders. The response to these problems currently does not. The danger is that attempts to create sustainable cities addresses the symptoms, but does not treat the cause.



Unaware of the value of diversity, the EU wants to streamline Portugal and abolish Portuguese as an official European language.

'One-a slice-a-pizza! Ciao bella!' The boisterous Italian vendor of pizza slices in London's Leicester Square smiled at his latest satisfied customer. But I knew he was not Italian. Seconds later, a small boy approached him. 'Então, filho, não tens aulas?' the man asked his son. Another member of the Portuguese underground exposed.

I walked on, past a Japanese restaurant. Tempura was on the menu – one of Portugal's finest contributions to world cuisine. A grateful customer tried to show off to the waiter. 'Orrigato!', he exclaimed. Or 'obrigado', as we like to say it. Next door, a family was tucking into a chicken massala, Britain's favourite dish, as Robin Cook famously reminded us. How grateful he must be that we took curry ('caril') to India.

A shopper passed me, a box of Tetley's in her bag. It was the Portuguese who introduced the English to tea. A travel agent advertised a cheap weekend in Amsterdam. The Dutch are still grateful that we took them tulips. People were queuing to see the latest James Bond movie – a character invented in a casino in Lisbon's suburbs.

Portugal is Europe's oldest nation-state, we were the first to abolish capital punishment, followed France in becoming a republic, and were admired by Coleridge, Byron and Hans Christian Andersen, who wrote of our advanced culture, society and technology.

And besides phoney pizza vendors, Nelly Furtado and DJ Rui Silva, our contribution to contemporary culture is everywhere, no more so than in Britain. Ever since the Iberians arrived, named Tiger Bay and showed Celtic farmers how to build their distinctive round stone-houses, we have been here, unseen, part of your culture and that of many other societies.

But there are moves afoot to abolish Portuguese as one of the official languages

of the European Union. Enlargement is the excuse to 'streamline' the linguistic portfolio of the community. In fact, it is part and parcel of a reshaping of our cultures and landscapes designed to discourage heterogeneity.

Portugal is home to an indigenous mixed forest farming system (which is what modern environmentalists call 'permaculture') so skilfully balanced that it is ecologically more biodiverse than the wilderness forests from which it was



shaped.

Farmers are now being told to bulldoze the delicate matrix of vegetation, supposedly to improve tree vigour and reduce fire risk. In fact, it is a major cause of dieback as soil is eroded, dry woody matter is left on the ground, and the forests shrink as natural regeneration is wiped out.

Farm policy planners in Brussels tell us that the thick maquis which clings to steep hillsides is 'unproductive', and so give logging companies subsidies to turn them into plantations to supply British businesses with cheap paper and the European market with timber.

Development policy makers shell out millions of taxpayers' Euros to build destructive dams to give foreign tourists lush golf courses, whilst rural villages go dry in the summer.

A few weeks ago, I was sat under an oak tree with Fransisco, a community leader, sipping potent strawberry tree

liquor – a high quality local brandy which is punitively taxed and banned from export.

The tree has historic importance – it was here that, over 30 years ago, people gathered under the cover of night to listen to Radio Free Portugal in defiance of the Salazar dictatorship which successive British and American governments helped to keep in power.

The man I sat with had participated in the clandestine political meetings in the cobbler's workshop in the nearby village, and helped transport literature and printing presses on ox-drawn carts under bales of hay.

Now, though, he was planning another revolt. EU regulations had forced him to close down his olive mill... and more than half a dozen others in a 10 kilometre radius of where we sat. The traditional circular mat presses have been effectively outlawed – only high-energy and large-scale stainless steel mills are now tolerated.

Portuguese farmers like him were being offered generous incentives to rip up old olive groves to switch to intensive agriculture. At the same time, they are being given subsidies to plant irrigated olive tree plantations designed to produce oil in bulk.

As Portugal prepares to mark the 30th anniversary of the Carnation revolution this time next year, the country faces one its biggest threats to its cultural independence.

'We have to reclaim our identity,' said Fransisco. 'We may only be a small nation, but what we have is the best there is.'

Next time you buy a slice of pizza in London – you may have just made contact with the underground...



You know a peace movement's getting stronger when the policemen start hugging you, writes PAUL KINGSNORTH

It's not often you get hugged by a policeman you expected to arrest you, but when it happens it usually means that something very odd, and perhaps very wonderful, is happening. This happened to me recently, during an anti-war demonstration at the US Air Force Base in Fairford, Gloucestershire. Fairford has the biggest military runway in Europe: apparently built in the UK because it was felt that building it in any other European country might elicit opposition. The Americans had apparently calculated that the Brits loved them so much that we wouldn't dream of complaining when they used our soil to launch their wars. Either that, or we were judged to be the least likely people in the EU to get up off our arses and do something about it.

Wrong on both counts, it seems. Over 1000 people turned up that Sunday, in buoyant and defiant mood. We marched, we sang, we shouted and then, after an hour or so, we fanned out around the edges of the base, and things started to get interesting. It wasn't long before somebody produced a pair of bolt cutters and merrily set to work on the perimeter fence. One thing led to another, and before we quite knew what was happening, about 50 of us were inside, running full-tilt to avoid police dog handlers who kept promising to release their hounds in our direction if we didn't come back this instant.

I was in there for about 20 minutes before I was finally run to ground by a large policeman in a large van. I slouched towards him, expecting retribution. Instead, what I got was a smile, a squeeze, and a slap on the back.

'Well done mate,' says the cop, 'you gave us a good run there. Now, I'm taking you back to the fence and you can get out the way you came in.'

'What, you're not going to arrest me?' I ask, slightly disappointed.

'No one's going to arrest you', says the

cop. 'We're all on your side. Bloody disgrace this Iraq business is. I was at Greenham Common in the 80s, you know – outside the fence. You won't find many lads here who don't agree with you. Bloody Blair's gone bloody bonkers.'

'Couldn't you let us all run about for a bit longer then?' I ask, hopefully.

'Love to,' he says, 'but there's times you can get away with turning your back and times you can't. Come on then, I've got



others to round up.'

I've been on quite a few marches, demonstrations, protests and direct actions in my time, and every one is different. There is one way, though, in which many are similar: the same people – or at least the same sort of people – always turn up. Often I know a lot of them by name. I suppose I'm one of them; a professional 'activist', the sort of mildly weird human being who's always off protesting about something or other. Whatever the government, whatever the issue, from GM crops to trade rules to foreign wars, these people will be out on the streets complaining about it. Most of them are very nice, very committed and very hard working, and as a rule governments ignore them utterly, because they can afford to. Because they object so loudly to so much, most people can't quite relate to them, and the politicians know that whatever happens they won't be happy. The fact that they are so committed, curiously, actually makes them less effective.

Unless, that is, they are not alone. For there are other types of protest too; those in which the usual suspects are joined by vast swathes of 'real people' – the sort who normally wouldn't be seen dead with placards in their hands. The last time I saw this on any scale was during the road protests of the 1990s, when vegan hippies stood arm in arm with local teenagers, and second world war veterans gave their medals to dreadlocked blokes living in tunnels because, they said, they were fighting the same battle. Retired women would bake cakes and bring them up to the treehouses, and cops would turn up at the fireside of an evening to drink tea out of cracked mugs, listen to guitars and tin whistles and turn a blind eye to the enormous joints doing the rounds.

That was a genuine 'peoples movement'. They are far rarer than some activists would have you believe, at least in this country. But the protests against the war show every sign of becoming one of these. At Fairford I joined grey-haired Quakers, Japanese monks, well-dressed middle-aged men and women, posing student anarchists, Greenham common veterans and, in spirit at least, a good few police officers. Like the million or two who took to the streets of London on February 15, these people have been

politicised. Whatever happens in Iraq now, there's no going back from something like that: and for any government, that's very bad news.

After we'd all been thrown back out of the base that Sunday, we reassembled at the main gate. There, a sensible-looking Middle English man and his sensible-looking Middle English wife had set up a tea stall of the sort you see at any village fete, to dole out free tea to the activists. It was good, I said to him, to see local people here; otherwise it would just be those of who had come from elsewhere in the country, turning up and invading your streets.

'Well,' he said, straight-faced. 'The fact is that you are invading our streets. But if you hadn't invaded them we would have had to invade them ourselves. So the least we can do is make you some tea.' And he smiled.

Paul Kingsnorth's book on the global resistance movement, *One No, Many Yeses*, is published by Simon and Schuster in April.

The Money Changers: currency reform from Aristotle to e-cash

Edited by David Boyle

Earthscan 2002 ISBN 18538389550

Reviewed by Jon Napier



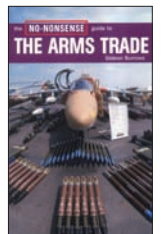
Money is so dominant, so omnipresent a force in society that it is often taken as a natural phenomenon, an established and unchanging fact. In reality, it is a cultural product and is influenced by and reflects the political, economic and ethical character of the societies that use it. Boyle's fascinating book collates a range of key economic thinkers' arguments, from the historical to the present day, and analyses their work in a unique discourse.

The No-Nonsense Guide to the Arms Trade

Gideon Burrows

Verso 2002 ISBN 185984426X

Reviewed by Jon Napier



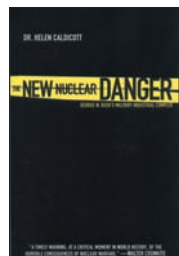
The latest in the ever-reliable and informative No-Nonsense series is a disturbing book which names the players in the arms trade and charts the impact their 'work' has had on war, human rights and development. The arms trade has flourished since the end of the Cold War. Most weapons are made by UN Security Council member countries. Exposing the cynicism and corruption that characterise the trade, Burrows not only looks at the market in conventional arms but also at the transfer of torture tools to some of the world's worst human rights abusers. He concludes his examination by reviewing the ways in which the arms trade could be controlled or even abolished.

The New Nuclear Danger: George W Bush's military-industrial complex

Dr Helen Caldicott

New Press 2002 ISBN 1565847407

Reviewed by George Lewis



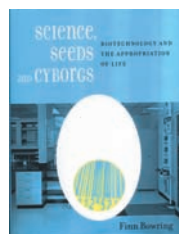
With uncanny timing, one of the leading advocates for the anti-nuclear movement puts her case with an astonishing fusion of passion and fact. Focusing on the Bush administration's links with the nuclear arms industry and the latter's ability to influence foreign policy, this concise critique is ammunition for campaigners and an enlightening read for newcomers to the topic.

Science, Seeds and Cyborgs: biotechnology and the appropriation of life

Finn Bowring

Verso 2002 ISBN 1859846874

Reviewed by Jeremy Smith



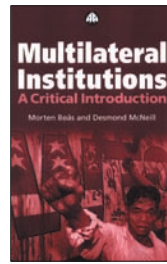
The far-reaching ethical implications of biotech are often ignored by scientists, while the developments themselves are invariably exploited by corporations more concerned with profits than morality. The rest of us are left to live with the results. *Science, Seeds and Cyborgs* offers a general critique of biotech's science and development – from the test tube to field trials. Charting countless scientific flaws, Bowring argues that our current technocratic fixations will result in a world devoid of sympathy and affection. This book should be read by anyone even vaguely interested in the social, ecological and ethical implications of biotechnology.

Multilateral Institutions: a critical introduction

Morten Boas and Desmond McNeill

Pluto Press 2003 ISBN 0745319203

Reviewed by Jon Napier



A collaboration between a political scientist and an economist, *Multilateral Institutions* discusses new challenges within the

global system. From the importance of achieving consensus in multilateral development institutions, to the distribution of policy-making power, we learn how and why current policies came into existence. This exhaustively researched work also includes valuable overviews of the Bretton Woods-related institutions.

Bayou Farewell: the rich life and tragic death of Louisiana's Cajun coast

Mike Tidwell

Pantheon Books 2002 ISBN 0375420762

Reviewed by Jon Napier

The culmination of two years hitchhiking on Cajun fishing boats, Tidwell introduces the culture and ecology of coastal Louisiana. Describing the food,



the music, and the lives of those who live along the bayou, this is a mixture of vivid travel writing and ecological journalism.

The land is sinking into the sea at a rate of 25 acres a day, slowly submerging a unique and diverse culture. The vivid descriptions open our eyes to a threatened and under-publicised lifestyle.

Against War with Iraq: an anti-war primer

Michael Ratner, Jennie Green and

Barbara Olshansky

Seven Stories Press 2003

ISBN 1583225919

Reviewed by George Lewis



This primer explores the notion of impending war with Iraq. The authors examine the justifications given, lay out the legal reasons why the US should not go to war with Iraq, and suggest ways in which the public can protest against such a violation of international law. The book takes you through various aspects of the UN charter, clearly showing the illegality of Bush's position on Iraq.

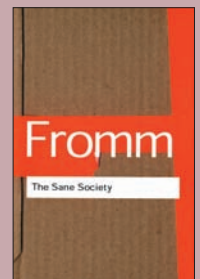
The Sane Society

Erich Fromm

Routledge Classics 2001 ISBN 0415270987

'We eat a bread which is tasteless and not nourishing because it appeals to our fantasy of wealth and distinction – being so white and "fresh". Actually, we "eat" a fantasy and have lost contact with the real thing we eat. Our palate, our body, are excluded from an act of consumption which primarily concerns them. We drink labels. With a bottle of Coca-Cola we drink the picture of the pretty boy and girl who drink it in the advertisement, we drink the slogan of "the pause that refreshes", we drink the great American habit; least of all do we drink with our palate. All this is even worse when it comes to the consumption of things whose reality is mainly the fiction the advertising campaign has created, like the "healthy" soap or dental paste.'

Written in 1955, *The Sane Society* was prophetic then and is even more relevant now. Fromm argues that we are increasingly alienated and estranged from ourselves and one another by consumer-oriented industrial society. He calls for a new way of living and thinking in which each individual could fulfil their individual needs while maintaining the bonds of social fraternity.



The End of Over-consumption: towards a lifestyle of moderation and self-restraint

Marius de Geus

International Books 2003

ISBN 9057270463

Reviewed by Jeremy Smith



Carefully examining the norms, values and beliefs that contribute to our environmental problems, this philosophical challenge to

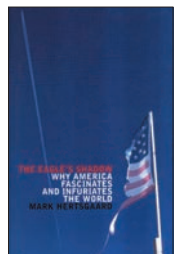
consumerism explores the roots of our dreams and desires and finds them shallow and unnecessary. It tackles a range of issues, including the inherent flaws in the concept of sustainability in a liberal democracy and the dilemmas and constraints imposed upon Utopian thought. Showing how consumer society's hedonism has blurred the traditional distinction between 'needs' and 'wants', Geus concludes that the simplification and moderation of our lifestyles is an inevitable and approaching cultural change.

The Eagle's Shadow: why America fascinates and infuriates the world

Mark Hertsgaard

Bloomsbury 2002 ISBN 0747560536

Reviewed by Jon Napier



Hertsgaard travels the world and finds that the common perception of the US has much in common with his own – an

interesting culture, democracy after a fashion, but a touch too far in the direction of the extreme right as far as the elite is concerned. A mix of quirky quotes from foreigners interspersed with current affairs lessons obviously aimed at US readers, he writes: 'Our foreign policy is often arrogant and cruel... Our democracy is an embarrassment to the world... Our economy is dividing us into rich and poor, our signature cultural activities are shopping and watching television.'

The Party's Over: oil, war and the fate of industrial societies

Richard Heinberg

New Society Publishers 2003

ISBN 0865714827

Reviewed by George Lewis



An impassioned plea to governments and individuals alike to change their lives so as to stop catastrophe.

Heinberg charts the short history of industrial societies, using the analogy of a party and its inability to continue *ad infinitum*: everyone has a great time, but after a while the drink runs out. The author remains upbeat while making tough and eminently sensible recommendations about how to face the challenges in our lives before it is too late. This is a serious wake-up call to a society running on an empty tank.

The New Settler Interviews, Volume One: boogie at the brink

Edited by Beth Robinson Bosk

Green Books 2000 ISBN 189013239X

Reviewed by Jon Napier



For more than fifteen years, *New Settler* magazine has been documenting the growth of uncon-

ventional communities in the forests of northern California. The first book-length collection of these mesmerising dialogues includes an insightful interview with David Katz – the multi-millionaire solar-energy entrepreneur who has US government helicopters scouring his property searching for cannabis plantations. Introducing readers to a rich collection of fascinating personalities, Bosk takes us through the keyhole of the counter-culture lifestyle, and captures the spirit of spontaneous adventure among communities that have proved capable of sustaining themselves in the world's most industrialised country.

'Our reach is unmatched around the world. We're reaching people from the moment they wake up until they fall asleep.' *Rupert Murdoch, News Corporation, 1999 annual report.*

Manufacturing Consent: the political economy of the mass media

Noam Chomsky and Edward S Herman, Pantheon Books 2002 ISBN 0375714499

Herman and Chomsky show how an underlying elite consensus largely structures all facets of the news.

Hidden Agendas

John Pilger, Vintage 1998 ISBN 0099741512

In this alternative history of the media age, Pilger removes the layers of deception and omission that shape mass-media coverage of contemporary events.

Necessary Illusions: thought control in democratic societies

Noam Chomsky, Pluto Press 1991 ISBN 0745303803

An essential introduction to the 'propaganda model' of media analysis. Chomsky also reminds that resistance is possible, necessary and effective.

The Habits of Highly Deceptive Media: decoding spin and lies in mainstream news

Norman Solomon, Common Courage Press 1999 ISBN 1567511546

Solomon looks at how centralised media power routinely skews media coverage of key issues in favour of corporate interests and militaristic foreign policies.

Global Spin: the corporate assault on environmentalism

Sharon Beder, Green Books ISBN 1870098676

Reveals the sophisticated techniques being used around the world to change the way the public and politicians think about the environment.

Free to be Human

David Edwards, Green Books ISBN 1870098889

Edwards shows how the corporate-controlled mass media of western democracies serve as a giant filter system – distorting our understanding of personal, ethical and spiritual issues.

Fairness and Accuracy in Reporting (FAIR) • www.fair.org

US media-watch group, criticising media bias and censorship. Also publishes *Extra!*, a bi-monthly magazine.

Project Censored • www.projectcensored.org

Highlights and tracks under-reported and 'buried' stories.

Media Lens • www.medialens.org

UK-based media-watch project, which – as well as cataloguing media distortion – includes quotes, media contact details and other resources.

Media Channel • www.mediachannel.org

Monitors the mainstream media and offers news, reports and commentary.

PR Watch • www.prwatch.org

Investigative reporting on the public relations industry.

Common Dreams • www.commondreams.org

Eclectic mix of politics, issues and news from progressive perspectives.

Alternet • www.alternet.org

News and investigative journalism on subjects from the environment to the drug war.

Indymedia • www.indymedia.org

International network offering grassroots coverage of important social and political issues.

Znet • www.zmag.org

Massive site, constantly updated, offering cutting-edge commentary and news.

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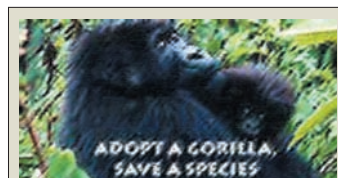
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Join in **Open Democracy's Contested Exchange.** At Open Democracy, leading thinkers from around the world present alternative views on the most pressing global issues of our time. Contested Exchanges are designed to generate a real, global dialogue and unlock better ways forward. www.opendemocracy.net

Cafédirect Ltd is calling for campaigners to **lobby local supermarkets** to support the UK launch of the first ever 100 per cent fair-trade drinking chocolate. Visit: www.cafedirect.co.uk

Take action to **protect British Columbia's endangered pink salmon.** An outbreak of sea lice decimated eight runs of salmon in 2001, putting them on the brink of extinction. Send a free letter to the companies who are refusing to provide safe passage for wild salmon around their fish farms. www.wildcanada.net/farmedanddangerous

Global Women's Strike invites you to join its women's anti-war picket at Parliament Square, London, from 6-7pm on Wednesdays. Building on the International Women's Day of Action in March, the campaign highlights the fact that 80 per cent of those displaced by war are women and children. email: womensstrike@server101.com

Sign the international petition to support the bushmen of Botswana. The tribesmen are being brutally evicted from their ancestral land. The authorities have driven them from their homes in the Central Kalahari Game Reserve, cut off their water, forbidden them to hunt or gather food and are forcing them into 'resettlement camps'. To add your name to the international petition, visit www.survival-international.org

Send an anti-GM e-card. Five years after agro-chemical giant Monsanto started selling its genetically engineered soya, a team of Belgian scientists has discovered it contains a section of completely unknown DNA. Greenpeace has designed an e-card highlighting this issue to send to friends and colleagues. It will include links to cyber-actions and further information. www.act.greenpeace.org

Speak out against the war in Iraq. Project Underground is encouraging you to write directly to the White House and voice your opposition to the planned attacks. Write to George W Bush, President, Washington Office, 1600 Pennsylvania Avenue, Washington DC 20500, USA; or email president@whitehouse.gov www.moles.org

Take part in the GM public debate. After September 2003 the UK government will decide whether to allow commercial GM planting. Make your voice heard at: <http://www.gmpublicdebate.org>

Campaign to save the Chilean sea bass. One of the most over-fished species in the world, some populations could become commercially extinct within the next five years. Tel: 01458 426 444; visit: www.takeaction.worldwildlife.org

CAREERS



Survival, the worldwide organisation supporting tribal peoples, is seeking an assistant for the director general, based in its London office. S/he will assist the director and work closely with all departments. Computer literacy, communication skills and commitment to Survival's objectives are essential. Languages an advantage. £13,000 to £16,000, depending on experience. Tel: 020 7401 5328; visit: www.survival-international.org/work.htm

Growing careers. A website featuring a wide range of rewarding and challenging career options for any job-seeker in the following sectors: fresh produce; nurseries and garden centres; landscaping, gardens and design; environment and conservation; horticultural and land-based engineering. Visit: www.growing-careers.com



Environmental jobs and volunteering. Sectors covered include conservation, renewable energy, organics, recycling, environmental campaigning and environmental education. Great jobs posted every day. www.environmentjob.co.uk

People & Planet's new **Ethical Careers Service** is here to help you. Whether you are a student, graduate, careers service, student union or other organisation, the Ethical Careers Service has something to offer you. Subscribe online to get password access to hundreds of links to recruitment agencies, organisations and businesses. Costs just £9 per year. www.peopleandplanet.org/ethicalcareers

Ends environmental job search.

New appointments and training opportunities in various fields, including contaminated land consultancy, project development management, and air-quality consultancy. Updated weekly. Visit: www.ends.co.uk/jobs

COURSES

Organic food days. Elm Farm Research Centre holds organic food days four times a year, organises educational visits and runs a variety of training talks/ seminars for farmers and growers. Tel: 01488 658298; email: judith.t@efrc.com

Lake Baikal eco-tour. July 31-August 21, 2003. Join renowned photographer/ author Boyd Norton and Gary Cook, director of Baikal Watch (an Earth Island Institute project), for a special three-week eco-tour to Lake Baikal this summer. email: baikalwatch@earthisland.org

'Taking Corporate Responsibility Seriously' March 30-April 4 at Schumacher College. What does it mean to be a truly responsible corporation? With guest speakers Anita Roddick, Mark Ritchie and Dr Alan Knight. Tel: 01803 865934.

Birkbeck, University of London

As London's leading provider of part-time university courses, Birkbeck offers a broad range of subjects at a variety of levels. These include short courses, certificates, diplomas, undergraduate degrees, and post-graduate taught and research opportunities. Tel: 0845 601 0174.

The Magdalen Project is an educational charity, a resource for learning and a place to experience. A 36-bed residential centre at the heart of an organic farm offering a variety of environmental courses for school and adult groups, it is also an ideal venue for independent seminars, conferences and workshops. www.themagdalenproject.org.uk

VOLUNTEER



Join a toad patrol. Would you help a terrified toad to cross the road? The Wildlife Trusts needs volunteers to come to the aid of amphibians this breeding season. Toad-patrol volunteers carry frogs and toads across roads in buckets, erect warning signs and encourage toads to use specially constructed underpasses. Volunteers will also carry out population monitoring. Tel: 0870 036 7711; visit: www.wildlifetrusts.org

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Volunteers who can give five hours a month to **help a refugee feel more at home in the UK** are needed in Birmingham and Glasgow. Free training in mentoring volunteers is offered and ongoing support over a year-long programme. Tel: 020 7401 5328; visit: www.timebank.org.uk/mentor

Conservation volunteers, based in Iceland.

A team of volunteer officers joins BTCV-Iceland for three months each summer, working throughout Iceland on a series of trail-building projects.



Food, travel and accommodation are provided, but volunteers must meet their own travel costs. The remote work sites, basic living conditions in tents, and the notoriously changeable weather in Iceland make this a very demanding programme. No previous experience of this work is necessary as all training will be provided, but applicants should have some experience of practical work, hill walking and camping. Tel: +354 (0)570 7400; email: C.Goemans@btcv.org.uk; visit: www.btcv.org.uk

Be a green volunteer. Choose from projects and organisations across a wide range of species, habitats and locations.

Visit: www.greenvol.com

Two selected projects are listed here:

a. Asociación de Rescate y Conservación, Guatemala

Join a wildlife rescue centre working to rehabilitate and release wild animals confiscated from traffickers. Volunteers help clean cages and feed and care for the animals. Special projects may include observing animals in the rehabilitation area, building cages, animal releases, etc. Research and internship opportunities available. Volunteers can stay as long as they want.

Cost: \$60-\$80/week for room and board.

Tel: +502 476 6001;

e-mail: arcas@intelnet.net.gt;

visit: www.rds.org.gt/arcas

b. Biosphere Expeditions Worldwide

Wildlife conservation expeditions. The projects are not tours, photographic safaris or excursions, but genuine expeditions with real conservation content. Between two weeks and three months long, prices start at £900.

Tel: 01502 583 085;

email: info@biosphere-expeditions.org;

Visit: www.biosphere-expeditions.org

World Wide Opportunities on Organic Farms

(WWOOF) is dedicated to helping those who would like to volunteer on organic farms, and to supporting the work of such farms in the process. WWOOF compiles an international list of organic farms that welcome volunteers, available upon membership.

Visit: www.wwoof.org

The Institute of Cultural Affairs (ICA) is a

global network of private, non-profit, non-governmental organisations concerned with the human factor in world development. The Volunteer Service Programme of the ICA is for those interested in volunteering overseas. It offers short courses for the orientation, training and preparation of volunteers and a small number of placements each year.

Visit: www.ica-uk.org.uk

Frontier, a conservation and research NGO is recruiting **volunteers for research in Madagascar, Tanzania and Vietnam**. Work includes biodiversity surveys, disturbance and resource-use assessments, socio-economic work and practical projects. No prior experience or skills necessary; full training provided. Tel: 020 7613 2422; email: info@frontier.ac.uk; visit: www.frontier.ac.uk

AidCamps International offers short-term **volunteer work overseas on Third World development aid projects** in Kenya, Cameroon, and India.

Visit: www.AidCamps.org

Earthwatch offers conservation volunteer opportunities across the world. Find out about its work at the Royal Geographical Society with the first of a series of lectures running through 2003. On April 10 speakers will discuss the koalas of St Bee's Island and Madagascar's lemur population. Tel: 01865 318856; email: info@earthwatch.org.uk; visit: www.earthwatch.org

Volunteer in Chiapas, Mexico. Sipaz (the International Service for Peace) is a coalition of North American, Latin American, and European organisations looking for volunteers dedicated to supporting the peace process in Chiapas, Mexico. Tel: +01 425 1257;

email: volcom@sipaz.org

Volunteers at Friends of the Earth carry out a variety of administrative support work – from helping with mail-outs and press cuttings to assisting with research and information gathering. You can volunteer at the head office in London, at a regional office, with a local group or overseas.



Tel: 020 7490 1555, or visit: www.foe.co.uk/press_for_change/volunteer

Help promote sustainable land use in rural England. The Council for the Protection of Rural England is looking for volunteers to support office work in London.

Tel: 020 7981 2800;

email: DuaneS@cpre.org.uk;

visit: www.cpre.org.uk

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visit: www.leckmelmholidays.co.uk

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MARCH

29 MARCH, LONDON, UK

Kyoto March. Two years after Bush abandoned the Kyoto protocol, join the 'March to the End of the World' (symbolising where Bush's decision is leading us) from the ExxonMobil HQ in Leatherhead, 20 miles to the US embassy in London. After a rally at the Imperial War Museum at 3.30pm, the march will continue to the embassy, where an End of the World Party begins at 5.30pm. Tel: 020 8855 3327; email: info@campaigncc.org



APRIL

1 APRIL, UK

Join a pre-emptive strike against an attack on Iraq during an April Fools' Day of disobedience. Get (dis)organising now. For more information, visit: www.stopthewar.com

5-6 APRIL

Reclaim the Bases is organising a weekend of protest, non-violent action, and civil disobedience at military bases throughout the UK. Tel: 07950 567 099; e-mail: email@reclaimthebases.org.uk; visit: www.reclaimthebases.org.uk

6-7 APRIL, LONDON, UK

Natural Products/ Organic Products Europe 2003. Trade show, presentation of Organic Business Awards and National Conference for Organic Food Processors. Held at Olympia. For more information, contact Dom Lane on 0117 9142451.

7-9 APRIL, UNIVERSITY OF MANCHESTER, UK

Staying Poor: chronic poverty and development policy. A conference for researchers, policy analysts and practitioners who seek to make poverty reduction more effective. Held at the University of Manchester. Contact: david.hulme@man.ac.uk or a.shepherd@odi.org.uk

7-13 APRIL, UK

Real Nappy Week. Activities around the UK to raise awareness of the environmental impact of disposable nappies and inform parents of modern, fitted cloth nappies and laundry services. Organised by the Women's Environmental Network. Tel: 020 7481 9004; visit: www.wen.org.uk

9-10 APRIL NORTHANTS, UK

Improving Urban Green Spaces. Northampton County Council, awarded beacon status for its Pocket Park, is staging two half-day seminars, which will cover all aspects of sourcing, funding and maintaining Pocket Parks. Held at Knuston Hall, Nr Wellingborough. Contact: Dave Entwistle at: caver@northamptonshire.gov.uk

10-13 APRIL, CIRENCESTER

Fourth International Organic Workshop. Held at the Royal Agricultural College, the International Association for Veterinary Homeopathy will host this weekend event. Tel: 01367 710 324; email: cday@avmc.globalnet.co.uk

11 APRIL-4 MAY, UK

National Trust Easter Trail. Children up and down the country are invited to join the National Trust Easter Trails at over 130 properties in England. Tel: 0870 458 4000; visit: www.nationaltrust.org.uk

Ethical Consumer World 2003
11-13 APRIL, LONDON, UK
Ethical Consumer World 2003. An exhibition where visitors can purchase, place orders for and find out more about ethical products or services. Held at Wembley Stadium. Tel: 0800 052 991; visit: www.ecw2003.com

12-13 APRIL, WASHINGTON DC, USA

IMF/ World Bank meeting. Join non-violent demonstrations. To find out how, either email: protestsinfo@abolishthebank.org or visit: www.abolishthebank.org

13 APRIL, LONDON, UK

The Flora London Marathon. The UK's top one-day charity fundraising event. Thousands take to the streets of the capital to compete and raise money. To join them, visit: www.london-marathon.co.uk

17 APRIL

International day of protest against GMOs and GM patents. Organised by Via Campesina, this worldwide campaign aims to demonstrate the illegitimacy of neo-liberal globalisation as the prevailing worldwide economic model. Visit: www.rds.org.ln/via/17april to find out more.

19-26 APRIL, INVERNESS, UK

'No Place Like Home. Localisation in Action.' Conference on the fast-growing localisation movement. With a focus on community economics, engaged spirituality, eco-building, energy and waste, fair trade, arts and culture and community-based organic farming. Held at the Findhorn Foundation. Tel: 01309 690311; visit: www.findhorn.org

22 APRIL

Earth Day, involves tens of thousands of events, from rallies and teach-outs to concerts and earth fairs. Send out the message that the planet is precious, perishable, and that we are all responsible for its wellbeing. Visit: www.earthday.net

22 APRIL, FASLANE, SCOTLAND

The Really Big Blockade. Protest against Britain's Trident nuclear submarine programme outside the Faslane naval base. Tel: 0141 423 1222; visit: www.banthebomb.org

24 APRIL, LONDON, UK

Shut down BP's Annual General Meeting. Rising Tide invites you to join in shutting down BP's Annual General Meeting with a massive celebration that says 'yes' to social and ecological justice, and 'no' to Big Oil, war, capitalism and climate chaos. The Royal Festival Hall, South Bank, London. Tel: 01865 241097; email: london@risingtide.org.uk; visit: www.risingtide.org.uk

24 APRIL, LONDON, UK

The Military and Politics in India: a long view from outside. Professor Linda Colley discusses why the army in post-independence India has remained within bounds. This lecture gives a long, broad view of the arguments. Old Theatre, Old Building, LSE; 6.30pm. Free and open to all. Tel: 020 7955 6043; e-mail: events@lse.ac.uk

MAY

1-2 MAY, ABERDEEN, UK

Disrupt Big Oil's recruitment drive. BP and Esso will be at the Robert Gordon University, Aberdeen, as part of their £750,000 recruitment drive. The perfect chance to register your disdain. Tel: 020 7802 2410; email: jcostelloe@ukooa.co.uk; visit: info@risingtide.org.uk

1-31 MAY, UK

The Big Swim. Raise money to support the WWF's work with endangered whales. Get sponsored and get down to your local swimming pool to raise money. You can swim anytime during May and at any pool. Tel: 0845 766 8860; visit: www.wwf.org.uk/bigswim

11-17 MAY

Christian Aid Week. Join up to 300,000 volunteers across the UK raising funds to help some of the world's poorest communities. An education programme visiting schools across the country will also run throughout the week. Tel: 020 7620 4444; visit: www.christian-aid.org.uk

ALERT – STOP IF THEY START

Join the national Stop the War Campaign to protest on the day British troops go to war. On the day fighting begins, demonstrate at 6pm in your town centre (in London meet in Trafalgar Square). A national demonstration will be called immediately. Visit: www.stopwar.org.uk



For further information visit: www.theecologist.org

Care for others as you care for yourself



Viridian is a new kind of vitamin company dedicated to ethical business practices including environmental awareness, pure ingredients and charity donation.

In fact, in 2001/2002, Viridian is donating £30,000 to a range of environmental, children's and other selected charities including NSPCC, Friends of the Earth, Childline, Woodland Trust, Shelter, The Orangutan Foundation, Help the Aged, Amnesty International, Terrence Higgins Trust, Barnados, National Deaf Children's Society, RSPB, Trees For London, UNICEF, Hackney City Farm, Born Free Foundation and Maggie's Cancer Care. Viridian supplies specialist health food stores and each year the stores vote which charities will benefit the

following year – as the company grows, so do the charity donations.

Viridian vitamins and herbs are excellent quality and cost no more than comparable, non-donating brands found in the mass market. So, by switching to Viridian, you not only get the best in nutrition, you also help generate thousands for charities. Everyone's taking vitamins these days and what better way to take them than with a large dose of Viridian's feel-good factor.

The Viridian range of vitamins, minerals, herbs, amino acids and nutritional oils is available from selected independent health food stores.



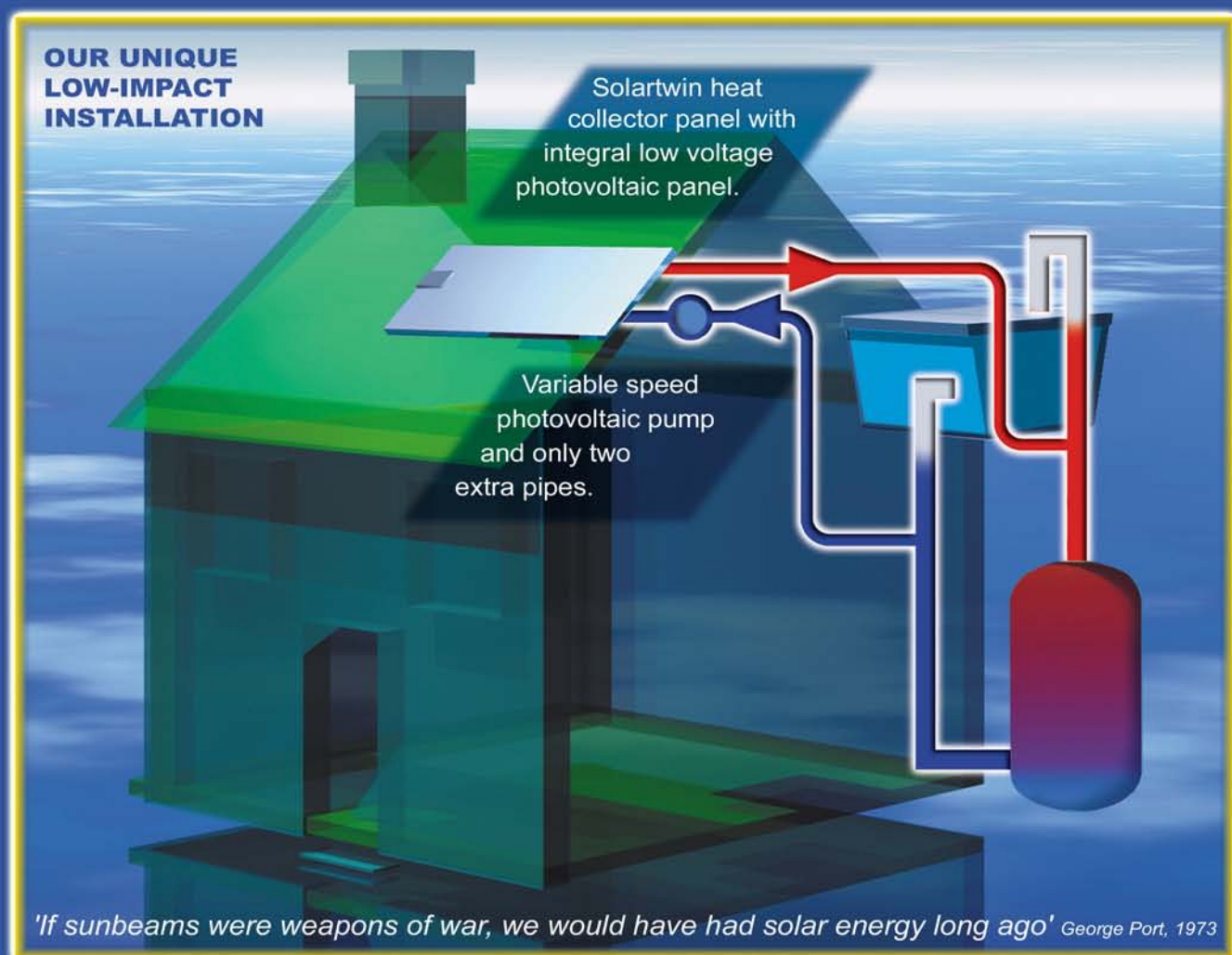
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