

ecologist

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LOOKING EXTINCTION IN THE EYE

It's time we faced up to
their reality

**LOOK BACK
IN ANGER...**
Climate
Change &
The New York
Times

**DOMESTIC
SUPERBUGS**
Antibacterials
and the rise
in community
MRSA

**Is the
AMAZON
RAINFOREST
about to
kill itself?**

**I THINK
THEREFORE
I AM...I THINK**
Have we lost
touch with
reality?

**BEHIND
THE LABEL**
Wet wipes

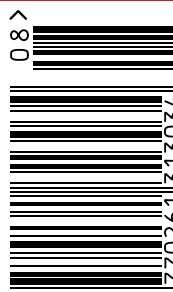
SUN
Are we
getting
enough?

Your 32-page guide to ethical living
green pages

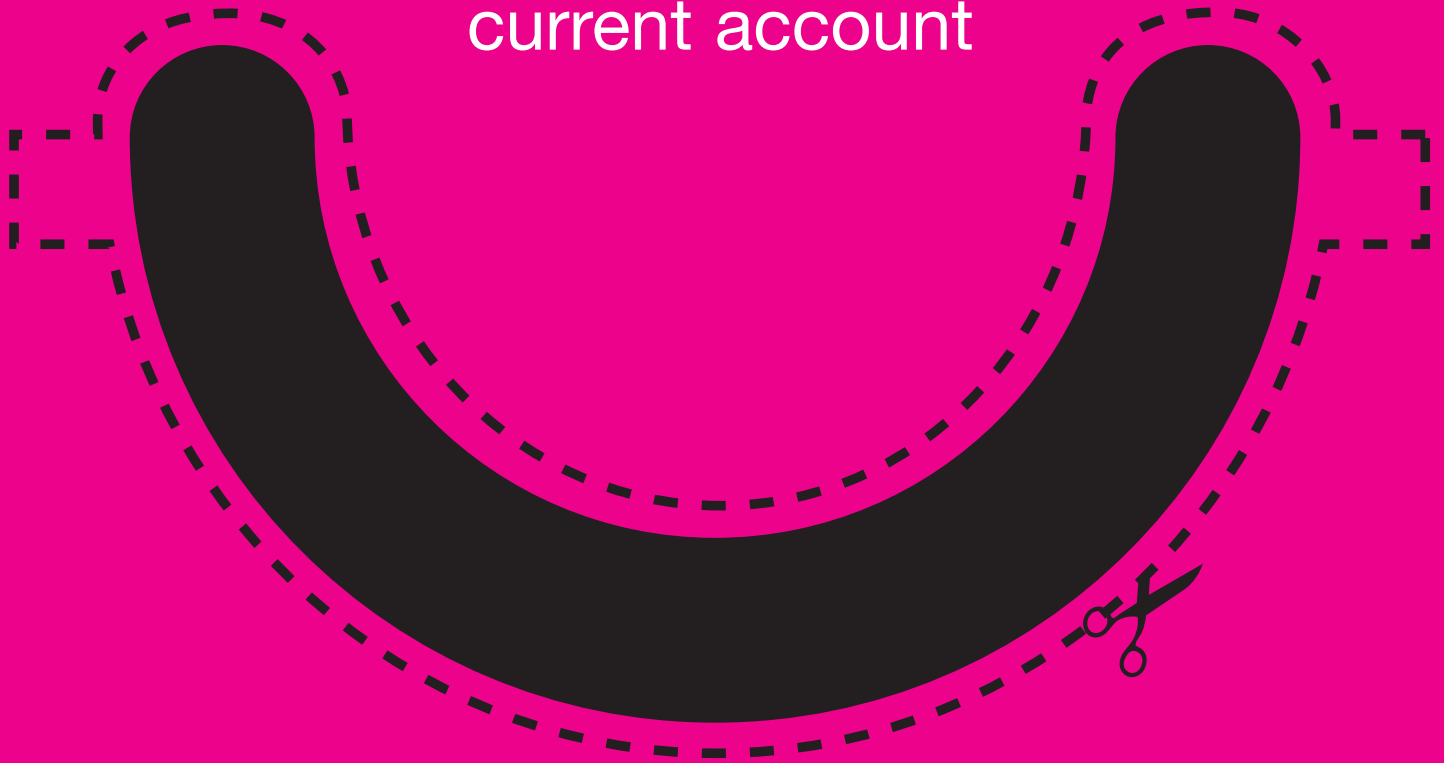


**GREEN
PAGES**
OUR 32-PAGE GUIDE
TO ETHICAL LIVING

Hugh Fearnley-Whittingstall celebrates July
Monty Waldin on deep rooting Loire wines
An Egyptian taxi drivers' recipe for summer Sea Bream
Is it time to work the 7,000 nerves in your feet?
**Plus: Natural swimming pools • Making jam while
the sun shines • 200+ ethical organisations**



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THIS MONTH IN HISTORY: AUGUST 1945

On 6 and 9 August 1945, atomic bombs were dropped on the Japanese cities of Hiroshima and Nagasaki. After the Hiroshima atomic attack US president Harry Truman issued the following statement: 'It was to spare the Japanese people from utter destruction that the ultimatum [to surrender] of 26 July was issued at Potsdam. Their leaders promptly rejected that ultimatum. If they do not now accept our terms, they may expect a rain of ruin from the air the likes of which has never been seen on this earth.'

More than 330,000 people died either instantly or from the resulting sickness and injury over the years following the attacks. A survivor wrote: 'People had no hair because their hair was burned, and at a glance you couldn't tell whether you were looking at them from [the] front or [the] back... They held their arms bent [forward], and their skin – not only on their hands, but on their faces and bodies, too – hung down. If there had been only one or two such people... perhaps I would not have had such a strong impression. But wherever I walked I met these people... Many of them died along the road. I can still picture them in my mind – like walking ghosts.'



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EDITORIAL



Given the failure of past attempts at eradicating poverty – Comic Relief, Live Aid and so on – it's hard to justify real hope in the Make Poverty History campaign.

The campaign does go further than its predecessors. It calls on rich countries to double the amount of money given in aid to African nations, to cancel their debts, and to do all they can to provide poor countries with greater access to Northern markets.

But what is the likely outcome? Recent announcements by various G8 finance ministers suggest the campaign will be met with partial success. But partial success in this case may prove worse than failure.

Governments are already promising, for instance, to deliver more aid to Africa. But whereas the MPH campaign demands 'better' aid, the message we're getting from G8 leaders is that aid is uniformly good, and requires no improvement – only an increase. On past record, this doesn't look promising.

Western aid has rarely been treated as a means of reducing poverty. One US government website was quoted in *The Guardian* recently boasting that 'the principal beneficiary of America's foreign assistance programmes has always been the US. Close to 80 per cent of the US Agency for International Development's contracts and grants go directly to American firms'.

Similarly, when the leaders of Britain's three main parties vowed to increase our overseas aid budget, they no doubt expected a hearty cheer. But do we really want to be investing more money in variations of the now notorious Andhra Pradesh: Vision 2020, for instance? That 'poverty alleviation' scheme involved £100m of British money being allocated for investment in the creation of a vast industrial monoculture in southern India and the displacement of about 20 million unwilling small farmers.

Debt relief is also on the cards. But it, too, will come with tangles of so-called 'conditionalities', the purpose of which will be to further align Southern countries to an IMF export model that has resulted in massive human and environmental costs.

The third pillar of the campaign is 'trade justice'. But what is trade justice? If it leads to a situation in which countries can protect their fledgling industries against foreign multinationals, and re-develop their domestic food economies in the interests of real food security, then the campaign would represent a triumph. But if it results only in providing Southern exporters with greater access to Northern markets (and greater access for our own multinationals to theirs) then the problems will escalate.

Albert Einstein once said: 'Problems can never be solved at the same level of awareness that created them.' If we're serious about tackling poverty, we need to rethink some assumptions. Specifically, we need to re-assess the view that to advance, a country must reorient its domestic food economy towards intensive production for export. That has been the agenda for decades, and it has been a recipe for disaster – a fact finally acknowledged in the UN Conference on Trade and Development's Least Developed Countries Report. 'Even where the LDCs have increased their overall export growth rate,' the report says, 'better export performance rarely translates into sustained and substantial poverty reduction.'

Former IMF economist Davison Budhoo goes further. Export orientation, he says, 'has led to the devastation of traditional agriculture and the emergence of hordes of landless farmers in nearly every country in which the IMF operates'. The facts support this view: 80 per cent of the world's malnourished children, for instance, live in countries whose economies have already been reoriented towards export agriculture.

So it's time to face up to the fact that the experiment hasn't worked... that the favoured remedy itself has become the problem. The Make Poverty History campaign has blasted poverty onto the agenda. But if it wants real results, it needs to avoid the temptation to self-congratulate as the G8 leaders cherry-pick from its menu with a view to advancing the same old agenda.

A handwritten signature in blue ink, appearing to read 'Zac Goldsmith'.

STOPS

ANIMAL TESTING

ANIMAL TESTING: SCIENCE OR FICTION?

MPs, medical professionals and scientists unite in demanding a thorough evaluation of the utility of vivisection in safer, non-animal, drug development

More than 10,000 people a year in the UK are made blind by eye disease. Many studies published in the scientific literature comparing drug side effects in humans and animals have found animal tests to be less predictive than tossing a coin.

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Photo: iStockphoto.com

ANIMAL TESTING

KILLER DRUGS

More than 10,000 people a year in the UK are made blind by eye disease. Many studies published in the scientific literature comparing drug side effects in humans and animals have found animal tests to be less predictive than tossing a coin.

More than 10,000 people a year in the UK are made blind by eye disease. Many studies published in the scientific literature comparing drug side effects in humans and animals have found animal tests to be less predictive than tossing a coin.

Photo: iStockphoto.com

ANIMAL TRAGIC

Re' the article on vivisection by Kathy Archibald ('Animal testing: science or fiction?', May 2005). It is now calculated that deaths from adverse side effects of prescribed drugs are the fourth biggest killer in the Western world. All these lethal drugs passed the 'safety tests' on animals.

Archibald gives a few examples of the many drugs which had such a tragic effect on people. Here are just two more examples: cloquinoxol, prescribed for diarrhoea, caused thousands of cases of blindness and paralysis in humans; and the antibiotic clindamycin, which rodents tolerate in doses 10 times greater than the human dosage. Clindamycin can be given to cats, but kills horses. The list of disasters caused by testing drugs on animals is endless.

Animal tests were used to show that tobacco and asbestos were harmless to people. Clinical observation and epidemiology proved these substances are dangerous. Non-animal methods of testing and research include in-vitro testing, the use of human tissues and organs, post-mortem studies, genetic research, epidemiology and PET and MRI scans. We must

ask our MPs to support the early day motion (tabled in Parliament in December) calling for an independent scientific evaluation of vivisection.

**MW Haughton
Leeds**

BOOT OUT TEFLON

The cover of the June *Ecologist* featured the words 'Breakfast with Teflon'. I received it a couple days after I went shopping for a new pair of hiking shoes. About 90 per cent of the boots on sale had Gore-Tex waterproofing. What's wrong with Gore-Tex? It's a Teflon-treated plastic. It also gives me a rash. Generally, plastics are made by combining toxic chemicals into long-chain molecules called polymers. The process is never perfect: there are always toxic chemicals that leach into whatever comes into contact with them - food, air and you. Teflon is no different.

Sadly, it is becoming impossible to find clothing that doesn't contain some form of synthetic chemical. Besides, Gore-Tex, nanoparticles are rapidly taking hold; so too are antimicrobials. Our bodies don't stand a chance in this toxic soup.

**Paul Goettlich
By email**

BLOOD-STAINED LIPS

I read with interest your article on lipstick (Lip Service, April 2005). My concerns are twofold. First, I am aware of the journeys these products take, as most of the ranges referred to as 'natural' come from Germany, the US and Australia, clocking up thousands of miles before reaching our bathroom shelves. As we are more and more encouraged to 'choose local', this must surely be a consideration for the environmentally aware before they make a purchase.

My second concern is over the ingredients used in these products. I have been advised by many cosmetic companies that it is impossible to make a 'decent' lipstick without the use of lanolin or beeswax. That may be acceptable to a vegetarian, but is a no-go area for a truly committed vegan.

However, the most worrying problem lies in the widespread use of carmine, a dye extracted from crushed beetles and used in everything from hair colouring to skin cream and, most particularly, as the pink pigment in almost every lippy ever made. Bearing in mind how many lip products are sold the world over, that is an awful lot of dead beetles.

A well-known 'natural' brand wrote in answer to my questions about this that the use of this ingredient had far less of a harmful impact upon the environment than the mineral dyes used by its competitors. I was informed that there were no known alternatives, but anyone who has ever spilt beetroot, blackcurrant or turmeric down a fresh white T-shirt knows the power of natural dyes. So, I am sure an alternative could be

found, given the will and the money for research.

In the meantime, I for one, do not need beetle blood to colour my lips in the name of beauty, and my husband has no desire for such stained kisses. Better for the environment it may be, but not so good for the poor beetles.

Sue Williams
By email

GRINGO LINGO BINGO

Your reader challenge ('The seductive language of development', June 2005) really made me chuckle. Having taken a development module in my anthropology course at university this year, I became convinced that academics and development-industry professionals waste an enormous amount of time spouting complex jargon to make themselves sound clever, when in reality all this rubbish terminology masks some very simple concepts.

For example, 'rapid rural appraisal' was re-termed 'participatory rural appraisal', before going out of fashion and re-emerging as 'participatory learning analysis', or something like that – the terms don't make much difference.

How about CBNRMs ('community-based natural resource-management' schemes), CUZs ('community use zones') and RADs ('remote area dwellers') with regards to 'managing' the San Bushmen in Botswana? Or 'diverse livelihoods strategies', 'sustainable livelihoods framework' (I like the 'sustainable' bit) and 'indigenous knowledge research'?

'Complex landscapes' is another buzz-term, which, if you drop it often enough into your research proposal, is likely to win you more grant money, even if no one actually knows what it means (and my tutor certainly didn't).

Needless to say, I got a bit frustrated during this course, and raised the issue with the tutor that perhaps anthropologists would be better placed to take a step back and critique the entire 'development' discourse. The response was that the consensus among anthropologists is that, because bodies like the World Bank and the Department for International Development use these terms (and indeed still use the term 'development', which I personally believe should be banned), we might do better trying to change the development discourse from within.

Ps: In the world of NGOs, there can also be 'INGOs' ('international NGOs'), 'GONGOs' ('government-led NGOs'), and something else called 'briefcase NGOs'. Thoroughly confused, I was tempted to make a mockery of the whole thing in my exam by calling them 'GRINGOs' and 'BONGOs'.

Venetia Appelbey
By email

PARTY LINES

Despite getting 257,758 votes (that is to say, 1 per cent of the votes) in the general election the Greens won no seats in Parliament in May. But under a hybrid system of first-past-the-post and proportional representation, they have seven seats in the Scottish Parliament and two in the London Assembly.

Why is it that politicians can advocate PR systems for the newly devolved bodies, but brush the issue away when it comes to electoral reform for Westminster? For those of us who are genuinely passionate about environmental issues, and, for that matter, democracy itself, electoral reform is imperative. Unless the issue goes to the top of the public interest agenda, nothing will be done. The holders of the political monopoly will not give it up without a fight.

Siobhan Farrell
Hove

CASE OF KREBS

Sir John Krebs' attitude to organic food (Hero or Zero?, Up Front, June 2005) reminds me of how my late mother-in-law used to defend her increasingly bizarre opinions. She simply declared: 'I am not going to be influenced by facts.' Incidentally, 'Krebs' is the German word for cancer.

Beata Bishop
London

BIOTECH BEES

In 2003, I wrote to *The Ecologist* saying that the British Beekeepers Association (BBKA), which sees itself as environmentally friendly, is endorsing so-called bee-friendly pesticides in

return for financial gain from the biotech firms Syngenta, Bayer, Belchim and BAS (Letters, February 2003). Two years later, the situation remains the same.

At present, numerous county beekeeping associations (15 so far) are being lectured courtesy of Bayer on the advantages of growing GM crops – including their benefits to the environment.

As far as I know, the BBKA neither supports nor condones GM technology and/or crops. As I say, it considers itself to be a group with environmental credentials. Yet it is still well ensconced within the corporate pocket, and the association continues to mislead beekeepers about its toxic-pesticide endorsement policy.

The BBKA never at any time consulted with its members in relation to their thoughts or ideas on endorsing such toxic pesticides.

In the June edition of *BBKA News*, however, the association's chairman, Glyn Davies, states: 'This process has confirmed that we are on the right lines with our policy of working with agro-chemical companies and not in conflict with them.'

Such a statement is indicative of incredible naivety and culpable ignorance, especially when one considers that Bayer went to the High Court, unsuccessfully, in 2000 to stop Friends of the Earth telling people how to access safety data on pesticides – including data about a weedkiller for use on GM herbicide-resistant crops in the UK GM field trials.

Paul Harty
Witnesham, Suffolk

Ecologist READER CHALLENGE

As Lewis Carroll observed, the beautiful thing about words is that they can mean anything that you want them to mean.

THE SEDUCTIVE LANGUAGE OF DEVELOPMENT

The following words used by the development industry's highly paid propaganda machine have been used by the author of the article. He highlights the language and defines each word in his own words. Do you think he's right? Or are there other words in the language of development that you think can be used to describe the same phenomenon and add 'new' meaning? Submit them to the page by clicking on the link that appears below. There are prizes for the best definition submitted by each.

One word can be selected as the typical development language of the month. For more on this, see the competition rules on the page.

Prizes: 1st runner-up: £100, 2nd runner-up: £50, 3rd runner-up: £25. The runner-up will also receive a copy of the book 'The Seductive Language of Development' by the author.

The deadline for entries is 15th July 2005. The winner will be announced on the 15th August 2005.

For more information, see the competition rules on the page.

COMMENTS

| Word | Definition | Author's Definition | Author's Example |
|------|---------------|--|--|
| 1 | Locality | Geographical location | Geographical location |
| 2 | Community | A group of people living in the same area | A group of people living in the same area |
| 3 | Participatory | Involving people in the decision-making process | Involving people in the decision-making process |
| 4 | Appraisal | An evaluation or assessment | An evaluation or assessment |
| 5 | Development | Progress or growth | Progress or growth |
| 6 | Resource | Something that can be used to produce goods or services | Something that can be used to produce goods or services |
| 7 | Management | The process of dealing with things or organisations | The process of dealing with things or organisations |
| 8 | Framework | A basic structure or system of ideas | A basic structure or system of ideas |
| 9 | Strategic | Relating to the long-term goals and actions of an organisation | Relating to the long-term goals and actions of an organisation |
| 10 | Complex | Having many parts or elements | Having many parts or elements |
| 11 | Landscapes | The physical features of an area | The physical features of an area |
| 12 | Indigenous | Originating in a particular area | Originating in a particular area |
| 13 | Knowledge | Information and skills acquired through experience or education | Information and skills acquired through experience or education |
| 14 | Research | Systematic investigation into a subject to gain new knowledge | Systematic investigation into a subject to gain new knowledge |
| 15 | Propaganda | Information, ideas or opinions deliberately spread to influence public opinion | Information, ideas or opinions deliberately spread to influence public opinion |
| 16 | Highly paid | Receiving a large amount of money | Receiving a large amount of money |
| 17 | Machine | A device or system of parts that work together to perform a task | A device or system of parts that work together to perform a task |



PHOTOGRAPH BY SOIL ASSOCIATION/ C SAINSBURY-PLACE (2003)

BOTH ORGANIC AND GM PLANTINGS UP, SAY REPORTS

Thirty-six nations achieved organic 'mega-country' status in 2004, a new study claims. The 'mega-country' label means each of the countries has more than 50,000 acres of land under organic cultivation. According to the International Federation of Organic Agriculture Movements' report *The World of Organic Agriculture: statistics and emerging trends 2005*, more than 26 million hectares of land is now organically certified worldwide; it generated more than \$25 billion in revenue in 2003.

By contrast, the International Service for the Acquisition of Agri-Biotech Applications

(ISAAA) issued its annual report on the amount of global biotech crop acreage. The ISAAA, which describes itself as 'a not-for-profit organisation that delivers the benefits of new agricultural biotechnologies to the poor in developing countries', says there were 14 biotech mega-countries in 2004.

The biotech figures have been challenged, however. For instance, even the industry coalition Agricultural Biotechnology in Europe has admitted that the ISAAA's claims that 500,000 hectares are being farmed for GM in South Africa are grossly exaggerated. And a recent report from the international environmental campaign Grain (www.grain.org) demonstrates that the number of farmers growing GM Bt cotton in South Africa has fallen from 3,000 to 700, and that many of those 700 are now in serious debt. Also, 98 per cent of the world's GM crops are still grown in only four nations: the US, Canada, Argentina and China.

■ To purchase a copy of *The World of Organic Agriculture: statistics and emerging trends 2005*, go to www.ifoam.org

“ Unless we find a viable way of discussing these risks, a mature national conversation on important policy questions such as GM science will be impossible

Tony Blair, seemingly forgetting that in last year's public consultation on GM the vast majority of the UK public rejected the technology

”

HERO OR ZERO?



HERO: SYDNEY POSSUELO

protector of Amazonian tribes and their habitat

In hundreds of expeditions to remote parts of Brazil since the 1960s, 'sertanista' (Indian expert) Sydney Possuelo has located and protected some 60 previously unknown indigenous tribes, most of them Amazonian.

Under threat by prospectors, loggers, smugglers, and ranchers (as well as TV crews chasing a scoop), such tribes used to be subject to attempts by the Brazilian government's Indian Department (Funai) to bring them out of the rainforest and into the 'modern world'. But in the early 1990s, Possuelo was made director of Funai, and under his leadership the department's policy has changed dramatically. Tribes are now placed under legal and physical protection and left to continue their traditional way of life. It's dangerous work: *sertanistas* receive death threats from lumbermen, and beleaguered tribes can feel threatened by Funai and respond violently. The UN declared Possuelo one of its seven 'unsung heroes' of 2001 for his work on cultural conflict. Yet in May this year, Brazil's Supreme Court overturned a protection order so as to allow loggers to enter a tribal area the size of greater London.

WAR OF WORDS

Just how seriously does the US really take the 'war on terror'? A Pentagon report on the need of America's security services to understand languages other than English revealed that it was not until May 2004 that a decision was made to assess the issue; that it won't be until July 2005 that the Pentagon will issue guidance for how to manage a language programme; that it will take another five months for a database of personnel with foreign language skills to be created; and that the management system to run a language programme won't be in place until September 2007 – six years after the World Trade Center was destroyed.

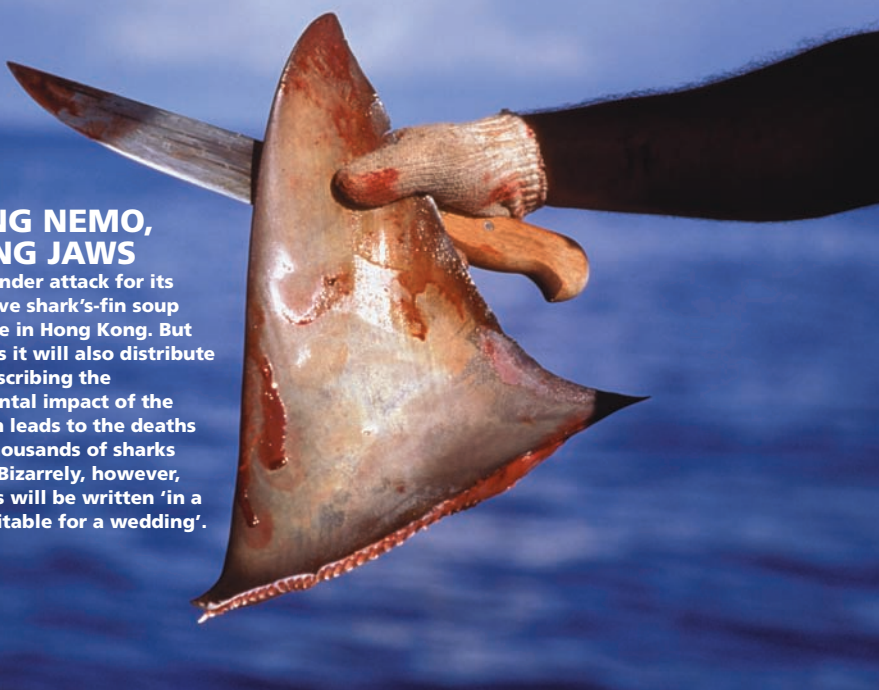


DOW RATTLED BY GOLDEN SKELETON SPOOF

London bankers responded enthusiastically to the unveiling of the 'Dow Acceptable Risk' mascot, Gilda the Golden Skeleton. The bankers also signed up for licences for the 'Acceptable Risk Calculator', which helps firms determine the point at which human casualties resulting from their activities will start to cut into profits. The mascot and calculator were unveiled during a London lecture delivered by anti-corporate pranksters the Yes Men (above). The Yes Men, posing as representatives of US chemicals firm Dow, described various industrial crimes, including IBM's sale of technology to help the Nazis for use in identifying Jews, as 'golden skeletons in the closet' – ie, lucrative and therefore acceptable. To try out the Acceptable Risk Calculator for yourself, visit <http://dowethics.com/risk/>.

FINDING NEMO, SLAYING JAWS

Disney is under attack for its plan to serve shark's-fin soup at its centre in Hong Kong. But Disney says it will also distribute leaflets describing the environmental impact of the dish, which leads to the deaths of many thousands of sharks each year. Bizarrely, however, the leaflets will be written 'in a manner suitable for a wedding'.



WHAT WE LEARNT LAST MONTH...

■ Last issue we reported how thousands of toads at a lake in Austria mysteriously exploded. Now we have learned that thousands of frogs fell from the sky in Serbia in May. And a Russian lake disappeared.

■ France's second favourite soft drink is currently Mecca Cola.

■ In preparation for a visit by incumbent Californian governor Arnold Schwarzenegger, a San José road crew dug a 10-15-foot hole, just so the Governor could pose for a photo-call filling it back up again.

■ All nine officials on Thailand's anti-corruption commission were found guilty of corruption.

■ The American Diabetes Association has signed a promotional deal with Cadbury Schweppes.

■ Japanese scientists developed a fuel cell that runs on blood.

■ A study found that phthalates, chemicals present in products that range from plastics to cosmetics and medical equipment to toys, cause infant boys to grow smaller penises.

■ An ambulance service for plants was launched in Chile.

■ An Australian undertaker has brought out a hearse equipped with a mini-bar and DVD player.

■ Singaporean computer experts have invented a program enabling people to pet chickens online.

■ Meanwhile, back in California, a couple were fined for allowing their chicken to cross the road.



MOST OF BORNEO'S FORESTS TO BE DESTROYED BY 2020

More than two thirds of the forests of Borneo could be destroyed within 15 years, leaving the survival of pygmy elephants and orang-utans seriously in doubt, a report by WWF claims. The report, *Treasure Island at Risk*, shows that 850,000 hectares of forests, an area roughly half the size of Wales, are being lost every year. If the current deforestation rate were to continue it would mean that most of Borneo's lowland forests – the country's most biologically significant forests – could disappear in less than 10 years. Pygmy elephants and orang-utans would be left to live in small, isolated islands of forest, unable to meet and breed with other groups, causing serious health problems from interbreeding that would jeopardise the viability of future populations.

'The loss of Borneo's forests is a disaster for both species and people,' said Tessa Robertson, head of WWF-UK's Forests Programme. The main causes of deforestation in Borneo are rampant logging, the conversion of forests to plantations and forest fires. Today, only half of Borneo's forest cover remains: that's down from 75 per cent in the mid-1980s. More than 210 mammals, including 44 that



Loggers clearing a swamp forest for a palm oil plantation

are found nowhere else in the world, live on Borneo. New species are constantly being found on the island, with at least 361 being discovered between 1994 and 2004. The report findings support a 2001 World Bank study that predicted all lowland rainforests in Kalimantan, the Indonesian part of Borneo, would disappear by 2010.

PHOTOGRAPHS BY © WWF-CANON / ALAIN COMPOST



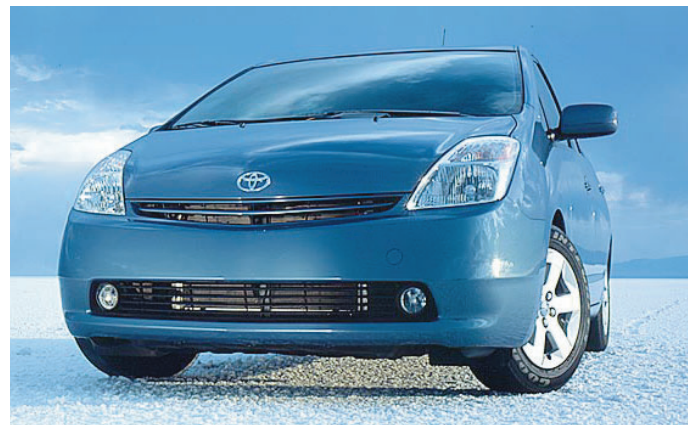
BEYOND THE PALE

BP likes to present itself as the more enlightened of giant oil companies. To ensure it gets this message across, it has, *Advertising Age* reports, 'adopted a zero-tolerance policy toward negative editorial coverage'. According to the marketing trade mag, BP's media buyer, MindShare (a subsidiary of the giant advertising multinational WPP), now 'demands that ad-accepting publications inform BP in advance of any news text or visuals they plan to publish that directly mention the company, a competitor or the oil and energy industry'. Furthermore, the publication must give BP 'the option to pull any advertising without penalty'. Well, *The Ecologist* doesn't take advertising from BP, but we do welcome the chance to run this front cover again. The article it refers to, on BP's actions in West Papua, can be viewed on our website.

■ www.theecologist.org

You got to keep repeating things over and over and over again for the truth to sink in, to kind of catapult the propaganda

George Bush discusses his new plans for social security



JAPAN SETS THE STANDARDS FOR CHINESE ENERGY-EFFICIENCY CAMPAIGN

China has launched a \$80m venture to boost energy efficiency and slash pollution. It aims to quadruple its gross domestic product by 2020 while 'merely' doubling its energy consumption. For inspiration, China might look to its neighbour and sometime rival to the east. In Japan, energy use in industry has remained unchanged since 1973, even as output has tripled. Now Japan is exhorting private citizens to do their bit for energy conservation. They can, for example, buy highly energy-efficient new appliances, like a refrigerator that uses one eighth of the energy of a typical 10-year-old model and which buzzes at energy wasters who leave the door open for more than 30 seconds. The government has also subsidised some \$1.3 billion worth of residential solar systems, and a tax break for fuel-efficient cars has been expanded to include hybrids. The latter is undoubtedly sweet news for Toyota and Honda, world leaders in hybrid automotive technology. China (and the US): take note.



WHEN IS A PALESTINIAN NOT A PALESTINIAN?

Much was made of US first lady Laura Bush being heckled on her visit to Palestine in May. Less was heard, however, about the diplomatic skills displayed by the US Agency for International Development (USAid). To tie in with Mrs Bush's visit, the organisation launched a campaign to buoy up America's image among Palestinians. Unfortunately, none of the Palestinian entertainers and athletes approached would serve as a goodwill ambassador for the US. The solution? USAid recruited an Israeli Arab soccer player to do the job.

6

HUNDRED THOUSAND DOLLARS

The value of the contract PR giant Hill & Knowlton secured with the government of Uganda, 'to improve Uganda's stained reputation as a human rights abuser and democracy laggard'.



A REFUSE OFFER YOU CAN'T REFUSE

Italian Mafia activity that harms the environment enjoyed a boom year in 2004. According to Italian environmental organization Legambiente, 194 Mafia clans were involved in environmental crimes in 2004, compared to just 25 the year before. Much of the activity was involved with waste management and disposal, a sector in which violent clashes and feuds have frequently led to rubbish filling the streets of Naples.



COKE'S GOT A LOT OF BATTLE

Another community in India – this time the village of Gangaikondan in the southern Indian state Tamil Nadu – has decided that it does not want a Coca-Cola bottling plant. But, shrouded by secrecy and conflicting data, the plant (being set up by a franchisee) is still being built. The people of Gangaikondan have already demanded that its licence be revoked, however, claiming that such a water-intensive facility cannot be justified in a community where drinking-water and agricultural requirements are not currently being met. The local struggle is being led by Dalits (former 'untouchables'), and political parties are also involved.

■ www.indiaresource.org/campaigns/coke/2005/gangaikondan.html

3

HUNDRED THOUSAND

The number of residents of the Chinese capital Beijing who have been evicted from their homes to make space for the 2008 Olympics. Some residents who objected to being moved on were sent to prison.

CHINESE ENVIRONMENT PAYS PRICE OF PROGRESS

As China continues to witness rapid economic growth, the environmental indicators keep getting worse. According to a new report by the country's environment agency, last year 218 Chinese cities suffered from severe acid rain, and two thirds of household sewage in the country remained untreated. Wang Jirong, the agency's deputy director, said: 'Rapid economic growth has intensified China's environmental problems. All the problems that developed countries have seen over the past century, China has suffered in the past 20 years.'



HOW THE WTO DESTROYS NATIONAL SOVEREIGNTY



Governments are increasingly using the World Trade Organisation to challenge the national laws of other countries that they consider are restricting their trade. Among challenges currently being considered are:

- EU policies that promote energy efficiency in household appliances, air-conditioning units and heating (challenged by China);
- an EU marking scheme that ensures imports comply with essential health, safety and environmental protection laws (again by China);
- the Australian Heart Foundation's 'tick' scheme, which approves healthy food products (by Malaysia);
- requirements to label canned and processed seafood products if they have more than 1 per cent genetically modified ingredients (by Thailand);
- restrictions on trade in wild animals and products made from them (again by China, but India also says, 'these [animal rights] campaigns could have various motivations not necessarily based on truth');
- restrictions on the use of heavy metals, such as cadmium, lead and chromium, in the production of electronic appliances (Thailand); and
- certain trade measures used to implement the Convention on International Trade in Endangered Species (challenged by the Philippines) and the Montreal Protocol on Substances that Deplete the Ozone Layer (challenged by Malaysia).

For more information, go to <http://www.foei.org/trade/NTBsanalysis.doc>

“The desire of corporations to be accepted by the marketplace and to be personally liked has spawned an entire industry of activism and corporate capitulation that I've never seen before. It's unprecedented... I've seen situations where companies are simply being harassed so badly that it pays to get out of a certain endeavour just to make the harassment stop

Eric Dezenhall, president of the aggressively anti-activist Washington PR firm Dezenhall Resources, lets it be known that protest *does* work

”



A GREAT WHITE SHARK CAUGHT IN A DRIFT NET. The EU banned drift-net fishing in 2002, yet many member states have been slow to implement the ban. Announcing a new report on the problem of bycatch, Susan Lieberman, head of the WWF's Global Species Programme, said: 'Almost 1,000 whales, dolphins and porpoises die every day in nets and fishing gear. That's one every two minutes.' www.wwf.org

MY! GRANDMA, WHAT TOXIC GENES YOU HAVE

Exposure to toxic chemicals while pregnant affects not only a woman's children, but her grandchildren and great-grandchildren, according to a study published in the journal *Science*. The study's lead researcher, Michael Skinner of Washington State University, says: 'This would mean if your great-grandmother was exposed to an environmental toxin at a critical point in her pregnancy, you may have inherited the disease. It is a new way to think about disease.'

SUN

SUN THE GREAT COVER-UP

Panicked into avoiding sunlight by the experts, we are now at unprecedented risk of diseases linked to deficiencies of vitamin D, including cancers, diabetes, multiple sclerosis, depression and high blood pressure. The time has come to let the sunshine in, SAYS PAT THOMAS

Slip. Slap. Slop. We all know the drill. Avoid the dangers of sun exposure by slipping into the shade, slapping on a hat and slopping on the sun cream. Only by following this advice can we avoid setting off the 'skin cancer time bomb' that threatens to blow up in our faces and destroy the health of the nation.

Conventional thinking says that exposure to UV radiation from the sun is the sole cause of skin cancer. The higher the number of sunshine hours you accumulate in your lifetime, the greater your risk. If you stay in the sun until you burn, especially in childhood, your risk also is greater. In response to this thinking, the UK government has spent more than £3m over the last decade on public health programmes, such as the current SunSmart campaign, that advise sun avoidance. At first glance many of the specifics of SunSmart seem sensible enough. For example:

- stay in the shade between 11am and 3pm;
- make sure you never burn;
- when out in the sun, cover up with a T-shirt, wide-brimmed hat and sunglasses;
- use factor 15-plus sunscreen.

But whatever the good intentions, it is advice that first and foremost takes no account of where we live – in a cloudy northerly country where sun is scarce. Worse, during the last decade masses of data have accumulated confirming that on balance the health risks of avoiding the sun are much more serious than the consequences of exposing ourselves to it. Yet public health advice has never been



amended to take these data into account.

SunSmart is lowest common denominator advice doled out to everyone, but appropriate for only the fairest skinned individuals in the UK. We have nevertheless taken it to heart. While a few hard-core sun worshippers remain committed to pursuing the perfect tan, most people have cut down on their sun exposure, and as a nation we are buying more sunscreen each year.

Few parents now allow their children outside without copious and multifaceted sun protection, and media scare stories ensure that this is so. In 2003 Dr Rachael Morris-Jones, a dermatologist at St Thomas's Hospital, London (and consultant to sun-cream manufacturer Vichy Laboratoires), claimed in *The Daily Telegraph* that parents who consistently fail to protect their children against sunburn should be prosecuted for 'physical neglect'.

In some highly publicised cases they have been. In June 2002 Eve Hibbits, a mother from Ohio, was arrested, jailed and charged with three counts of 'child endangerment' after her children got badly burned during a visit to a fairground. She spent eight days in jail before the charges were dropped. In May last year a New Jersey man was charged with child abuse when his mentally disabled 12-year-old son was burned during a day at the beach. The indictment contended that he 'failed to apply enough sunscreen'.

Such is the culture of fear surrounding the sun that proponents of sun exposure are hard to find, especially in dermatology. Nevertheless, there are dissenters who are willing to stick their necks out. Far from being a loony fringe, many are eminent and widely published scientists and academics.

In 1999, Dr Andrew Ness and his colleagues at the University of Bristol suggested in the *British Medical Journal* (*BMJ*) that the risks of sun exposure and the benefits of sun avoidance were vastly overstated. They noted that 'the exact nature of the association between malignant melanoma (see the box 'The epidemic that isn't', over the page) and exposure to sunlight has yet to be determined' and that 'even if reducing exposure to sunlight reduced

the incidence of melanoma, its effect on overall mortality will be slight... Even the most forceful campaign could be expected to prevent only a few of these deaths'.

The editors of the *BMJ* went so far as to issue a statement to the press suggesting that regular sun exposure should be considered healthy. It sparked a furious debate in the medical and lay press in which Ness and his team were accused of undermining public health policies and misleading the public. Ironically, 1999 was also the year that the *BMJ* recorded the first ever case of vitamin-D deficiency in a white infant resulting from the use of high-potency sun cream.

Two years later, when the same authors revisited the topic and suggested that poverty, not sun protection, should receive priority in the government's public health policies, they were vilified again.

Last year Dr Michael Holick, professor of dermatology at Boston University and author of more than 200 important papers on the subject of vitamin D and health, was forced to resign after publishing his book *The UV Advantage*, which advised five to 10 minutes a day of deliberate, unprotected sun exposure in order to stimulate adequate vitamin-D production in the skin. Holick's employers described the ideas expressed in the book as 'an embarrassment for this institution and an embarrassment for him'. Holick says: '[I was] punished for challenging one of the dogmas of dermatology... It's almost like a religion in the sense that you're either a believer or you're not. If your thinking isn't in line with establishment thinking, they don't just get upset; they stop thinking clearly. It was the "without sun-block" bit that they didn't like. Apparently, it's forbidden to tell people to go out without sun-block.'

Among the most outspoken dissenters, though, is Dr A Bernard Ackerman, founder of the Ackerman Academy of Dermatopathology in New York. A

distinguished dermatologist and one of the world's foremost authorities on skin cancer, Ackerman is adamant that dermatology's current view of skin cancer is simply 'replete with nonsense'. He contends that advice to avoid the sun is based on bad science and a dogmatic belief that the sun is the sole cause of skin cancer.

The prevailing belief is that as the body absorbs UV rays, there is a decreased immune response. On the one hand, this reaction is healthy because it prevents excessive swelling and damage to the skin as a result of sun exposure. But in some cases sun exposure may trigger immuno-

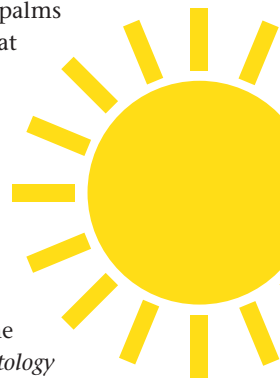
suppression to such a degree that it prevents the immune system from recognising and destroying any potential malignancies. This is not by any means certain, however. The degree of sensitivity to UV radiation varies widely among individuals, and why some of us should be more affected by sun exposure than others is considered a mystery.

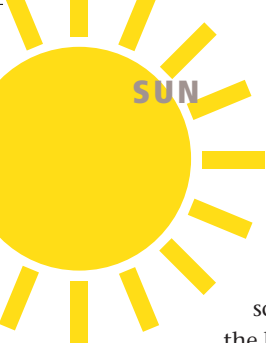
In a recent interview with *The New York Times*, Ackerman said: 'Taken as a whole, the research

Masses of data have accumulated confirming that on balance the health risks of avoiding the sun are much more serious than the consequences of exposing ourselves to it

[linking sun exposure to melanoma] is inconsistent and fails to make the case.' He noted research showing that the most common sites for melanoma among white people – the back of legs and arms in women, and the back in men – are places that accumulate the least amount of sun over a lifetime. In black and Asian people, the most common sites for melanoma are the soles of the feet and the palms of the hands: again, areas that are not regularly exposed to the sun.

He also cited studies showing that increased sunlight exposure paradoxically reduces the risk of both developing melanoma and dying from it. For instance, writing in the *Journal of Investigative Dermatology* in 2003, Dutch scientists reported





that they had found that a lifetime of sun exposure was predominantly linked to a higher incidence of squamous-cell carcinoma (see the box 'The epidemic that isn't', right). As expected, sunburn before the age of 20 was associated with an increased risk of malignant melanoma and other non-malignant skin cancers. What wasn't expected was that while those with the highest cumulative sun exposure over their lifetimes had more moles and warts, they also had a lower risk of malignant melanoma. These results confirmed those of earlier investigations showing that adults who work and children who play outdoors and are regularly exposed to sun are less likely to develop melanoma than those who work or play indoors. The key, it seems is regular moderate exposure, rather than irregular intense exposure that produces burning.

In truth, the factors that can contribute to an individual's risk of melanoma are diverse. Sitting in the sun until you burn is one accepted factor, but lifestyle is also highly influential.

Smoking, for example, can triple your risk of developing skin cancer. Tobacco smoke contains several carcinogenic and co-carcinogenic compounds that

can promote skin cancer, including nitrosamines, polycyclic aromatic hydrocarbons, aromatic amines, unsaturated aldehydes and phenolics. These chemicals also suppress immune functions, which are necessary to combat sun damage. Arsenic-containing pesticides have the same effect.

Exposure to prescription drugs is also a factor. Antibiotics such as tetracyclines and sulfonamides, and drugs such as thiazide diuretics, chlorpromazine, oral contraceptives and anti-depressants can raise the risk of skin cancer by increasing the skin's sensitivity to UV light, making it more susceptible to sun damage. Alcohol – a common component of the sunshine holiday – can also make skin more UV-sensitive.

According to the US National Academy of Sciences, the development of skin cancer is also associated with poor dietary habits. For three decades scientific studies have linked the over-consumption of polyunsaturated fats, from sunflower, safflower and other vegetable oils with the increase in malignant melanoma worldwide. Once consumed, these oils work their way to the skin surface, where they are oxidised by sunlight to create free radicals – unstable molecules that damage skin-cell DNA.

In 1987 Australian researchers showed that melanoma patients' skin contained much higher levels of omega-six polyunsaturated fatty acids than that of healthy individuals. And it's not just people in sunny climates that are at risk. Ten years later, a study of more than 50,000 Norwegians with malignant melanoma also found that high consumption of polyunsaturated oils significantly increased the risk of melanoma, especially in women.

Rather than think about these variables most of us just follow the SunSmart advice to stay out of the sun and cover up with sun-cream; but this, too, is problematical. For instance, while sunscreen use may reduce the risk of squamous-cell carcinoma, its effect on basal-cell carcinoma (see the box 'The epidemic that isn't', right) and potentially deadly malignant melanoma is much less clear. Recent studies indicate a higher rate of melanoma among men who regularly use sunscreens and a higher rate of basal-cell carcinoma among women using sunscreens. The accumulated evidence is now so strong that a June 2004 editorial in the prestigious journal *Archives of Dermatology* concluded that there was simply no evidence to support the idea that sun creams were effective protection against melanoma. What sunscreens can do, however, is drastically lower production of vitamin D in the skin, and this may be their most damaging consequence.

Up to 90 per cent of the body's supply of vitamin D is made in the skin as a result of sun exposure. Available scientific evidence suggests that a sun-protection factor (SPF) eight sunscreen prevents 95 per cent of vitamin-D production in the skin. With an SPF 30 sun cream, there is 99-100 per cent blockage.

Dr Ann Webb, reader at the School of Earth Atmospheric and Environmental Sciences at the University of Manchester, believes that SunSmart advice may have a 'significant negative impact on vitamin-D production'. Working with experts at the Norwegian Institute for Air Research, a team led by Webb recently produced important data showing that 10 to 15 minutes of unprotected sun exposure at noon, exposing around a quarter of your total skin surface area (that is, wearing a



T-shirt and shorts), is necessary for the average light-skinned person in the UK to ensure adequate vitamin-D production. Most of us, however, live increasingly indoor lifestyles and this, in combination with disproportionate fears about sun exposure and increased sunscreen use, has led to documented increases in vitamin-D-deficiency bone disorders such as rickets, osteomalacia and osteoporosis.

But vitamin D and sunlight may be important to human health in ways unrelated to their effects on bone. Throughout the world, vitamin-D deficiency has been linked to the development of cancers of the prostate, breast, ovary and colon, and to lymphoma. It is also implicated in a number of immune disorders such as type-one diabetes, rheumatoid arthritis and multiple sclerosis. The stimulation of alpha-melanocyte stimulating hormone (the substance that controls skin pigment) is directly tied to a range of nervous-system functions, including sex drive, appetite-suppression and a sense of wellbeing, and has a role to play in relieving depression and lowering blood pressure.

Although doctors and scientists are supposed to possess the ability to weigh issues from a risk/benefit perspective, no such balance currently exists when it comes to sun exposure. Factor in the benefits of regular sun exposure, and an alarming picture emerges. In the US the number of deaths from skin cancer is believed to be in the region of 10,000 per year. But in 2003, at the US National Institutes of Health's 'Vitamin D and Health in the 21st Century' conference, William B Grant, a solar-radiation expert and former Nasa scientist who is now director of the Sunlight, Nutrition and Health Research Center in California, stated that lack of vitamin D accounts for 45,000 cancer deaths and 165,000 new cancer cases in the US annually. Several published studies suggest his figures are accurate. Speaking in the UK recently, Grant said that while malignant melanoma due to intense sun exposure claims around 1,600 British lives annually, 25,000 lives are being lost due to inadequate sun exposure.

Cancer Research UK might argue that it has never recommended staying

THE EPIDEMIC THAT ISN'T

The two most common forms of skin cancer are basal-cell carcinoma and squamous-cell carcinoma. In some cases squamous-cell carcinoma can be disfiguring, but these cancers, which rarely spread to other sites in the body, are common and treatable and are referred to as non-malignant or non-melanoma skin cancers (NMSC).

Malignant melanoma is a rare but aggressive form of skin cancer. It originates in the melanocytes (the cells that produce pigment) and produces characteristic dark, fleshy moles on the skin. Melanoma can spread to the lymph nodes and, from there, to other parts of the body such as the lungs, liver, brain or other organs. As a result, it can be fatal to humans.

Diagnoses of all types of skin cancer, but especially malignant melanoma, have increased in recent years. Dr A Bernard Ackerman says this is in part due to the fact that the criteria for what constitutes a suspicious skin growth 'clinically and histopathologically, are diametrically different from those 30 years ago'. In fact, medicine appears to have invented a whole new class of suspicious growth – the 'pre-malignant' mole.

Changing the definition of skin cancer means that small, non-symptomatic moles that would never have raised an eyebrow in the doctor's surgery years ago are now diagnosed as pre-cancerous and treated aggressively. The resulting 'cures' are often celebrated as evidence that we are winning the war against skin cancer.

Interestingly, when organisations such as Britain's Department of Health and the World Health Organization compile their statistics on the incidence of skin cancer, figures for NMSC are excluded. Officially, this is because the figures are unreliable and incomplete. But Cancer Research UK says: 'NMSC is often excluded from cancer incidence statistics because it is usually much less serious than other types of cancer.' In fact, more than 95 per cent of victims suffer no lasting health effects from NMSC.

Nevertheless, rates of NMSC are routinely included in statistics released to the media, and doing so swells the figures [for skin-cancer incidence] by as much as 1,000 per cent. For instance, while there were 70,038 cases of 'skin cancer' in the UK in 2001, only 7,630 of these were malignant melanomas.

On a global scale, when you compare the incidence of different types of cancer, the 'epidemic' of skin cancer is hard to take seriously:

| CANCER | WORLDWIDE CASES ANNUALLY |
|----------------------------------|--------------------------|
| Lung | 1.2 illion m |
| Breast | 1 illion m |
| Colorectal | 940,000 |
| Stomach | 870,000 |
| Liver | 560,000 |
| Cervical | 470,000 |
| Oesophageal | 410,000 |
| Head kand nec | 390,000 |
| Bladder | 330,000 |
| Malignant non-Hodgkin's lymphoma | 290,000 |
| Leukaemia | 250,000 |
| Prostate and testicular | 250,000 |
| Pancreatic | 216,000 |
| Ovarian | 190,000 |
| Kidney | 190,000 |
| Endometrial | 188,000 |
| Nervous ystem s | 175,000 |
| MELANOMA | 133,000 |
| Thyroid | 123,000 |
| Pharynx | 65,000 |
| Hodgkin's ease dis | 62,000 |



out of the sun completely. But this is hard to reconcile with its acquiescence with headlines that shout about 'deadly epidemics'. Nor does it square with the totality of SunSmart advice, which, followed to the letter, would prevent adequate vitamin-D production. Nowhere in the SunSmart ethos is there acknowledgment of the benefits of regular, deliberate sun exposure, full disclosure of the health risks of avoiding the sun or suggestions on how to make the most of the sun whatever your individual skin type and geographic location.

While the British government and Cancer Research UK continue to plough the same tired old furrow, there is a glimmer of hope elsewhere. Earlier this year, a coalition of organisations in the Antipodes, including the Australian and New Zealand Bone and Mineral Society, Osteoporosis Australia, the Australasian College Of Dermatologists and the Cancer Council Australia, produced a small but important document reviewing the risks and benefits of sun exposure. It concluded that daily sun exposure is both protective and desirable. At the same time, the Australian and New Zealand Bone and Mineral Society, the Endocrine Society of Australia and Osteoporosis Australia issued a remarkable position statement, published in *The Medical Journal of Australia*, acknowledging the need for deliberate sun exposure to counter the growing problem of vitamin D deficiency among Australians.

These are bold concessions from a region known as the 'skin-cancer capital of the world', and they open the door for the UK health authorities to finally admit that a decade-long campaign focusing solely on the 'dangers' of sunbathing has caused more harm than good. The collective *mea culpa* required may leave a bitter taste in the mouths of those concerned, but it is now urgently needed to prevent large numbers of us dying for want of a bit of sun.

WHAT YOU CAN DO

In Britain, in particular, it pays to be opportunistic about sun exposure. Frequent short exposures are better than prolonged exposure. Consider these points:

- In the UK in the summer, 15 minutes of unprotected sun exposure on arms, legs, hands and face each day can promote optimal vitamin-D synthesis. In the winter, you may need to accumulate as much as two to three hours per week of exposure.
- Use the UV index positively. The index uses a global scale of one (low) to 11 and higher (extreme) to illustrate the amount of UV radiation at ground level when the sun is at its peak. Commonly, it is used to calculate how much harm the sun will cause in a specific amount of time. In the UK, the UV index rarely goes above a moderate six. According to the Health Protection Agency, this means the risk of burning during less than one hour of unprotected exposure is generally low for all but the most fair-skinned people (see 'Solar Index' information at www.hpa.org.uk).
- If you are going to be out in the sun for a long time, get at least 15 minutes of unprotected exposure first; then put your sunscreen on.
- Clothing also provides useful protection, and most summer clothes provide an SPF of more than 10. Specially designed clothing (reputed to block UV rays) is not only expensive; it's unnecessary. The average T-shirt provides an SPF of seven. Fabrics dyed black, navy-blue, white, green or beige provide the highest SPF.
- Diet can be protective. Last year, the US National Institutes of Health concluded that people whose diets feature foods rich in vitamin D and carotenoids (vitamin A-like substances found in deeply coloured fruits and vegetables) also have a low risk of developing melanoma.
- Get informed: Michael Holick's book *The UV Advantage* provides useful, accessible information on the benefits of sun exposure.
- If you must use a sun cream (for instance, if you need to be outdoors for prolonged periods of time) choose one that contains a physical sun block such as zinc oxide or titanium oxide, which works by reflecting UV radiation away from the skin. On current evidence, these are safer than chemical sunscreens, which absorb UV, thus keeping it nearer the skin.

Mineral-based sun blocks are also less easily absorbed into the skin and are not associated with oestrogenic effects in the way that suncreening chemicals such as benzophenone-3, homosalate, octyl methoxycinnamate and octyl dimethyl-PABA are. Other suncreening chemicals to avoid include isotridecyl salicylate, octyl salicylate and octocrylene.

Don't equate high SPF with high quality. Some chemical sunscreens can be harsh on the skin, breaking down its natural protective barrier and leaving it more vulnerable to sun damage over the longer term. The higher the SPF, the more chemicals the product will have in it. Provided you don't skimp when applying cream, and reapply often, few of us need an SPF higher than 15; for most of us SPF eight is adequate.

Look for sunscreens that make use of vegetable-oil bases (rather than those that use mineral oils or silicones) and those that avoid using preservative such as parabens, which are also oestrogenic. There is some evidence that natural ingredients, such as plant oils and vitamins E and C, may enhance the ability of skin cells to repair cellular and DNA damage caused by UV exposure. Consider those made by:

Green People: www.greenpeople.co.uk
 Weleda: www.weleda.co.uk
 Dr Hauschka: www.drhauschka.com
 Yaoh: www.yaoh.co.uk
 Neal's Yard: www.nealsyardremedies.com
 Aubrey Organics: www.aubrey-organics.com
 Ecolani: www.ecolani.com



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Dear Dr. Tatiana

I'm a marine iguana, and I'm appalled by the behaviour of the young iguanas of today: I keep encountering groups of youths masturbating at me. It's revolting. I'm sure they didn't dare act this way in Darwin's time. How can I make them stop?

Disgusted in the Galápagos



Dear 'Disgusted in the Galápagos'

I get a lot of letters from young male marine iguanas, frustrated because the girls ignore them. But this is the first time I've heard complaints from the other side. Look at it from the guy's point of view. Here he is, a tasteful shade of red, his spiky crest a full 20 centimetres from his crown to his tail; he's ready to go, desperate to use one or the other of his penises (yes, like many reptiles, he has two, a left and a right penis). But being young and, therefore, small he doesn't have much of a chance. It isn't just that you ladies prefer to mate with older, bigger males; it's that even if he manages to mount a female, the odds are he'll be

shoved aside by a bigger fellow before he climaxes. That's why young males masturbate when they see a girl go by. Wanking reduces the time they need to ejaculate during sex, and thus reduces the risk of being interrupted before they climax. So I'm afraid the behaviour may be here to stay. Young wankers probably sire more children than those who abstain.

Do any other animals masturbate? Yes. In many primates, individuals of both sexes masturbate a lot. Take the sooty mangabey, a smoke-coloured monkey from west Africa with a long tail and extravagant tufts of whiskers on its cheeks. Some females use their hands to stimulate themselves during sex.

Male and female orang-utans stimulate themselves with sex toys they make out of leaves or twigs. One female chimpanzee that was raised in a human household masturbated to a copy of *Playgirl*, thrilling to the photos of naked human males – especially the centrefold. Other mammals masturbate, too. Male red deer do it by rubbing the tips of their antlers through the grass. The whole act takes 15 seconds from start to spurt, and during the breeding season some stags masturbate several times a day. But does any other animal do it, like marine iguanas, out of fear of being interrupted in bed? Frankly, the matter hasn't been the subject of much research. There has been more work on a related topic: big balls.

Big balls are a more conventional way for small males to increase their odds of fertilising eggs. The logic is simple. In species in which small males have to sneak to mate, they are guaranteed to be at risk of sperm competition. Sperm competition is like a raffle: more tickets mean more chances. Therefore, small males that invest a larger proportion of their bodies in making sperm can buy more raffle tickets – and improve their chances of success when they mate. Large males, as long as they are reasonably effective at guarding females, don't need so many tickets or such big tackle.

That's why there's often no relation between the size of a man and that of his privates: bigger men do not necessarily have bigger bits. Indeed (more's the pity), it's often the opposite. The plainfin midshipman, otherwise known as the California singing fish, takes this to extremes. Males have either big brains or big balls. The brainy kind excavate cave-like nests beneath rocks in the intertidal zone. Once a male has prepared a nest, he hums to attract females. A single

humming bout can last for a quarter of an hour. Thus, he has large muscles for humming and extra neurones to control these muscles. When a female arrives, she slowly lays her eggs on the ceiling of the nest; as she does this, the male quivers beside her every few minutes, a sign he is releasing sperm. When the female is done, which can take as long as 20 hours, the male throws her out of the nest so that he can guard the fertilised eggs and sing to attract more females. The other type of male – the one with the big balls – sneaks into the nest at the crucial moment. These fellows can't hum: they lack the mental and physical apparatus. The best they can do is grunt. But boy, are they well-hung! A sneak has gonads nine times heavier than a brainy male does: his gonads are so large that his stomach bulges as if he's pregnant. No wonder he grunts.

So you brainy types out there shouldn't feel too smug. Your position is only safe if sneaks are rare. If sneaks are common, then you're at greater risk of sperm competition and should invest more in making sperm. Thus, you should have larger balls. Compare two species of dung beetle: *Onthophagus binodis* and *Onthophagus taurus*. These are among a score of dung beetle species introduced to Australia from other parts of the world.

You see, Australia has no native cows, and the cows imported by humans produced more dung than the native dung beetles knew what to do with. As a result, large quantities of cow manure accumulated in pastures. To solve this problem, dung beetles with a talent for disposing of cow dung were invited to immigrate. Which is to say, dung beetles were captured in other parts of the world, quarantined (I love the thought of an insect quarantine) and then released in Australia.

To return to the matter at hand, *Onthophagus binodis* and *Onthophagus taurus* have similar biology. Just like the plainfin midshipman, males come in two sizes: big ones with horns, and little ones without horns (in *O binodis*, the big males have a single horn on their backs; in *O taurus*, they have – as the name suggests – two curved horns on their heads). Males and females meet at fresh mounds of dung. Females pair up with big males, and the pairs dig burrows, pausing from time to time to copulate. (Copulation in dung beetles has rarely been observed, but in *O binodis* the male caresses the female with his first two pairs of legs, mounts her, and then goes into spasms during which he taps her back with his front legs.) A typical burrow has several passageways branching off from a central corridor. At the end of each passageway,

the beetles deposit a wad of dung. The female lays a fertilised egg on the wad and then seals off the passageway with earth. Although the male will give his partner lots of help collecting dung and so on, he does not like to leave the entrance of the burrow unattended. This is a wise precaution, since smaller males rush into burrows when big males aren't looking and copulate with females. Sometimes, the small males are even sneakier and dig their way into burrows, entering through the walls.

Sneak attacks are more likely to be a problem for *O taurus* than *O binodis*. In the latter, sneaks constitute only a third of the male population, and smaller males have both larger testes and a higher sperm count. In *O taurus*, by contrast, almost two thirds of males are sneaks, and big males and little males are indistinguishable on the basis of balls alone.

A parting word to all you guys who worry about being small or looking unimpressive (and girls, too, take note). In many, many species, males fall into distinct types. Physical characteristics are coupled with personality traits, which means that you can tell how a fellow will behave just by looking at him. The number of types and their particular attributes vary from species to species.

Two types, however, are especially common: the Hunk and the Runt.

The Hunk suffers from a God complex: he has a high opinion of himself, he's always keen to fight, and he spends lots of time strutting and preening. He often has many girlfriends, but he would be horrified at the thought that one of them might cheat on him. And although he's handsome, he has, alas, small private parts.

The Runt is self-effacing in groups of other males. He dislikes fighting, but he's pushy with the girls. He is not to be trusted: he never commits to one woman, and he's not ashamed to cheat on his best friend. But here's the thing: physically puny, he often has big parts. Runts make love, not war.

■ *Extracted from Dr Tatiana's Sex Advice to all Creation by Olivia Judson, published by Vintage, price £7.99*
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Primates' fondness for masturbation has not led to them developing hairy palms



NEW EMPERORS, OLD CLOTHES

Anyone serious about making poverty history needs to understand where poverty actually comes from and what it really is **BY DR VANDANA SHIVA**

From Bob Geldof to Gordon Brown, the world suddenly seems to be full of high-profile people with their own plans to end poverty. Jeffrey Sachs is another one. Unfortunately, he's not a here-today, gone-tomorrow celebrity/politician, but one of the world's leading economists, head of the Earth Institute and in charge of a UN panel set up to promote rapid development. So when he launched his book *The End of Poverty*, people took notice.

But, there is a problem with Sachs' and so many of the other end-poverty prescriptions. Sachs doesn't understand where poverty comes from. He seems to view it as the original sin. 'A few generations ago, almost everybody was poor,' he writes, before adding: 'The Industrial Revolution led to new riches, but much of the world was left far behind.'

This is a totally false history of poverty. The poor are not those who

have been 'left behind'; they are the ones who have been robbed. The riches accumulated by Europe are based on riches taken from Asia, Africa and Latin America. Without the destruction of India's rich textile industry, without the takeover of the spice trade, without the genocide of the native American tribes, without Africa's slavery, the Industrial Revolution would not have led to new riches for Europe or the US. It was this violent takeover of

Third World resources and markets that created wealth in the North and poverty in the South.

Two of the great economic myths of our time allow people to deny this intimate link. First, the destruction of nature and of people's ability to look after themselves are blamed not on growth, but on each other. Poverty, it is stated, causes environmental destruction. The disease is then offered as a cure: growth is supposed to solve the very problems of poverty and environmental crisis that it has given rise to in the first place. This is the message of Sachs' analysis.

The second myth is the assumption that if you consume what you produce, you do not really produce, at least not economically speaking. If I grow my own food, and do not sell it, then this does not contribute to GDP, and so does not contribute towards 'growth'. People are therefore perceived as poor if they eat the food they have grown rather than commercially produced and distributed processed junk foods sold by global agri-business. They are seen as poor if they live in self-built housing made from ecologically adapted natural materials like bamboo and mud rather than in cement houses. They are seen as poor if they wear garments manufactured from handmade natural fibres rather than synthetics.

Yet sustenance living, which the rich West perceives as poverty, does not necessarily imply a low physical quality of life. On the contrary, by their very nature economies based on sustenance ensure a high quality of life – when measured in terms of right to food and water, sustainability of livelihoods, and robust social and cultural identity and meaning.

Because these poor don't share in the perceived benefits of economic growth, however, they are presented as 'those left behind'. This false separation of the processes that create affluence from those that create poverty is at the core of Sachs' analysis. And because of this, his prescriptions will aggravate and deepen poverty instead of ending it.

Modern concepts of development like those of Sachs, however, account for only a negligible part of human history. For centuries, living according to

principles of sustenance has given human societies the material basis for survival. Limits in nature have been respected and have guided the limits of human consumption. When society's relationship with nature is based on sustenance, nature exists as a *commons*. It only becomes a *resource* when profit becomes the organising principle and creates a financial imperative for the exploitation of this 'resource' for the market.

But however much we choose to forget or deny it, all people in all societies still depend on nature. Without clean water, fertile soils and vegetable genetic diversity, human survival is not possible. Today, economic development is destroying these onetime commons, resulting in the creation of a new contradiction: development deprives the very people it professes to help of their traditional land and means of sustenance, forcing them to survive in an increasingly eroded natural world.

A system like this, one that creates denial and disease while accumulating trillions of dollars of super profits for agribusiness, is a system for creating poverty for people. Poverty is not, as Sachs suggests, an initial state from which to escape. It is a final state reached when one-sided development has destroyed the ecological and social systems for maintaining the life, health and sustenance of people and the planet.

The reality is that people do not die for lack of income. They die for lack of access to resources. Here, too, Sachs is wrong when he says: 'In a world of plenty, 1 billion people are so poor their lives are in danger.' The indigenous people in the Amazon, the mountain communities in the Himalayas, peasants anywhere whose land has not been

appropriated and whose water and biodiversity have not been destroyed by debt-creating industrial agriculture are *ecologically* rich, even though they do not earn a dollar a day.

On the other hand, people are poor if they have to buy their basic needs at high prices. Because of dumping and trade liberalisation, farm prices in India are tumbling, meaning that the country's peasants are losing \$26 billion each year; this at a time when 'development' is all the while creating markets for costly seeds and agri-chemicals. Unable to exist in the world that has been created for them, these now poverty-stricken peasants are committing suicide in their thousands.

Patents on medicines increase the cost of Aids drugs from \$200 to \$20,000, and cancer drugs from \$2,400 to \$36,000, for a year's treatment. Water is privatised and global corporations profit to the tune of \$1 trillion by selling once free water to the poor. So, too, the \$50 billion of 'aid' trickling North to South is but a tenth of the \$500 billion being sucked South to North thanks to interest payments and other unjust mechanisms in the global economy imposed by the World Bank and the IMF.

If we are serious about ending poverty, we have to be serious about ending the systems for wealth creation which create poverty by robbing the poor of their resources, livelihoods and incomes. Before we can make poverty history, we need to get the history of poverty right. It's not about how much more we can give, so much as how much less we can take.

■ Vandana Shiva is director of the Delhi-based Research Foundation for Science, Technology and Ecology

The \$50 billion of 'aid' trickling North to South is but a tenth of the \$500 billion being sucked South to North thanks to interest payments and other unjust mechanisms imposed by the World Bank and the IMF

THE TROUBLE WITH ORGANICS

Organic food is not necessarily the automatic choice for the ethical consumer **BY JOANNA BLYTHMAN**

Over the past two decades, the organic movement has made formidable progress in Britain. Organic food has gone from being seen as a slightly cranky obsession of an eccentric few and touched the mainstream. Most consumers now have some appreciation of the principles underpinning organic farming. Many people are fed up with having to shop defensively, trying to protect themselves and their families following unpalatable revelations about the provenance of our food. Organics have come to represent a safe house in a disturbing world where food quality and safety are constantly under siege.

Ten, even five years ago, I frequently defended organic food to the hilt. I would argue that organic farming was better for the environment because it used almost no pesticides. I would say it was better for human health, not just because you reduce your exposure to pesticide residues and additives, but because of the mounting body of evidence that shows that organic food can offer better nutrition than its conventional equivalent. I would point out that Soil Association organic standards represented the best animal-welfare practices around.

On none of this do I feel any need to recant. What's more, I think that the organic movement has been a wholly positive force by giving anxious shoppers something to do with their concerns and by setting about building a reliable, trustworthy alternative to factory farming. I take my hat off to the Soil Association for framing and focusing the whole debate around food quality in Britain. Though Jamie Oliver has stolen the show on school meals, more credit should rightly go to those activists in the Soil Association who campaigned and tirelessly on this and many other fronts.

But while organics once seemed like the nearest we could get to a total solution to our food ills, now it is being tested on several fronts. A growing number of people have reservations about its practicalities and how they overlap with other ethical concerns. Somehow, the old mantra 'if you're worried and want better food, then buy organic' seems too glib. That was 'Understanding Food Stage One'. Now we need stage two, and that, inevitably, is more complicated.

The biggest challenge to organics currently is to do with local food and distribution. There is a persistent and growing feeling that it makes sense to buy locally, or at least regionally or nationally. The organic movement, of course, thoroughly approves of eating local food. It is one of its cherished goals. But in practical terms, it seems to struggle to make this goal a reality. An alarmingly high percentage of organic fruit and vegetables continues to be imported, clocking up food miles and contributing to global warming.

The organic movement's solution to this dilemma is to recommend buying from a local organic box scheme. This I do faithfully. But there's no escaping the fact that such schemes are still heavily dependent on imports, or that some of those imports look rather jet-lagged, and that a lot of the locally produced stuff – items like carrots and swede – seems to have been stored for the purpose of padding the box out, thus robbing it of any true seasonality.

At my local greengrocer, in contrast, the seasons come and go vividly. A much higher proportion of what's on sale is British. In fact, there's been an explosion of labelling lately that underlines this virtue: 'Yorkshire-grown courgettes', raspberries 'grown near Blackpool',

'Norfolk asparagus', and so on. Should we ignore such produce because it isn't organic? Or does it make more sense in taste and environment terms to deviate from organic orthodoxy and buy conventionally grown, fresh English coxes from a greengrocer in September, in preference to organic New Zealand galas that have been stored in a modified atmosphere for six months before being sold in a supermarket?

The organic movement has been seduced by the supermarkets: they have dangled before it the prospect of a mass market. The big chains are less idealistic. Organic lines let them stud their corporate-social-responsibility crowns with strategically positioned organic jewels. This apparently mutually beneficial liaison has spawned a portfolio of organic foods that consist overwhelmingly of 'lookalikes' for conventional food. Supermarket organic produce invariably tastes just as bad as its conventional equivalent, and costs more.

Many big organic brands of breakfast cereal, pasta sauce, cheese and so on are little better. Why, I wonder, should I buy glutinous Seeds of Change pasta (a brand owned by a global food corporation) just because it's organic, when I could buy superior-tasting, traditional Italian pasta from an expert, but non-organic, smaller-scale business like De Cecco?

Even within the organic movement, there is resentment at how the supermarkets have muscled in on the organic message. And when pioneering organic brands like Green & Black chocolate are acquired by the likes of Cadbury, you can see why some organic home-delivery schemes and wholefood shops are murmuring mutinously about looking for smaller, alternative, possibly more principled brands.

Then there's the dilemma at the farmers' market. I can buy local organic meat there, unlike my nearest supermarket, where the organic beef comes from Argentina and the organic pork from Holland. But, whether it's down to bad butchery or lack of hanging, it just doesn't eat well. I have defected to the non-organic stallholders: small farmers who reliably supply me with well-hung Aberdeen Angus (a traditional breed, properly matured) and delicious

rare-breed pork from pigs that I know spent their lives rolling in straw. There is no organic chicken on sale at my farmers' market at all. A friend told me that she tried buying hers from Marks & Spencer, but gave up because what was on offer was so tough and unyielding. Is this how organic chicken is meant to be? What is M&S doing to its organic chicken to make it eat so badly?

Dotted around Britain, there are many fantastic organic farmers and growers who make outstanding products. As well as embracing the ideology of organics, they also appreciate in a practical way what goes to make good food. It seems churlish, however, to turn one's back on other excellent small artisan producers just because they aren't organic. Part of the success of the Italian Slow Food movement's 'eco-gastronomy' approach is that it is not doctrinaire; it shows respect to small-scale traditional foods that have evolved and developed over time, irrespective of whether or not they have organic certification.

When it comes to wider ethical concerns, more consumers belatedly appreciate that an organic label does not guarantee that a product has been fairly traded. Obviously, if you want to help producers in the Third World, then relieving them of the health-and-safety nightmare posed by the over-use of pesticides is an important contribution; but a higher rate of pay would clearly help to put a smile on workers' faces, too. Some organic products are also fairly traded. This should be a natural pairing. Most are not, however, because pay and conditions are simply not addressed by current organic standards.

Soil Association food standards, (though not necessarily those of other less rigorous certification bodies), are generally tight. But there is the odd serious lapse, most notably with fish. Organic standards were developed for land-based farming; they have been stretched unconvincingly to cover matters piscine. The very concept of 'organic farmed salmon' is a nonsense, one that has allowed the Dutch- and Norwegian-owned Scottish salmon farming industry to wriggle off the hook of consumer concern and stall for time with environmental critics. Fish farming has proven to be a disaster for the salmon and looks set to do the same damage to other splendid wild fish like cod. The organic movement compromises its integrity by having any truck with it.

What do I want from food these days? Like many other thinking consumers, I'm looking for really fresh, preferably local or at least national food from a diverse range of small to medium-sized producers who appreciate food quality – people whose products reflect the seasons and flag up some sort of geographical specificity. Whether it's at home or abroad (some food inevitably needs to be imported), I'd like to know that the people who produce my food were properly remunerated for doing so and enjoyed decent working conditions. I want to support localised food production and the independent sector – small shops, box schemes, farm shops and markets, not supermarkets. If I can get all this and it can also be organic, then that is my dream ticket. But when organic food doesn't fit that bill, excuse me for looking elsewhere.

■ Joanna Blythman is the author of *Shopped: the shocking power of British supermarkets* and *The Food our Children Eat: how to get children to like good food* (both published by Fourth Estate)

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NEW ECOLOGY PARTY? THAT'S THE LAST THING WE NEED

The short cut to transformation offered by politics is an illusion **BY PAUL JENNINGS**

Aidan Rankin's response to the desperate need for a new ecological settlement ('Time for a new Ecology Party', February 2004, and 'Grassroots democracy', May 2005) is a thoroughgoing assault on presently existing 'political ecology'. After decades of its under-achievement, despite ever increasing evidence of impending ecological crisis, it would be hard to contradict Rankin's central contention that the Green Party has proved itself to be an inadequate vehicle for the transition to a sustainable society. However, both in terms of general strategy and particular philosophical bias, his proposition that we need a new Ecology Party is fundamentally flawed.

Rankin argues that 'deep ecology' should provide the central philosophical pillar of a new political party. This naive reformist platform claims to be beyond the old categories of left and right, and ignores the intimate inter-connectedness of exploitation along class, race and gender lines with ecological crisis. This is willful ignorance, omission of the strongest insights of the most important ecological thinkers, and it mirrors New Labour's obdurate refusal to recognise socio-economic causes behind social and ecological dissolution.

So Rankin has read Arne Naess. Now perhaps he should read the Russian anarchist Kropotkin and his latter-day US counterpart Murray Bookchin. The last thing we need is a new political party. Political parties are governments-in-waiting. Governments do not solve problems; they move them around.

Even thinking within the horribly constraining parliamentary box for a moment, the position of a new Ecology Party would be invidious and untenable. It would be unlikely to make electoral headway in a system heavily stacked against small new parties. Playing the game by the rules of the elite, how would it relate to other parties? How would it

deal with a little bit of power rather than overall power? The tactical problems of other green parties would also be the problems of a new Ecology Party.

Britain's political system is, to use the tired old oxymoron, a 'representative democracy'. In the wake of the general election result, this absurd charade is surely fooling less of the people than has been the case for several generations. Only 21 per cent of the 44 million people eligible to vote in May supported Labour. Would Rankin's new party be happy to try to transform society having won an election supported by one in five of the electorate? More pertinently perhaps, could an Ecology Party even begin to put its policies in place faced with likely corporate hostility, widespread apathy and a populous given to believing that its 'democratic' role begins and ends with an infrequent trip to the ballot box?

The ecology movement should not be a political movement at all; it should be a social movement. 'The tragic reality,' wrote permaculturist Bill Mollison, 'is that very few sustainable systems are designed or applied by those who hold power, and the reason for this is obvious and simple: to let people arrange their own food, energy and shelter is to lose economic and political control over them. We should cease to look to power structures, hierarchical systems or governments to help us, and devise ways to help ourselves.' As Kropotkin said more than a century ago, 'it is becoming evident that it is merely stupid to elect politicians and trust them with the task of making laws'.

Instead of a new political deep ecology, the answer lies in a reinvigorated social ecology. Social ecology does not demand that people hold this or that philosophical or ideological position; it proceeds on an empirical basis, trying to build appropriate local and bio-regional alternatives using participatory democratic forms. For decades we have had both highly visible

ecological protesters and persistent Green politicians, disasters have been highlighted and lobbying has been ceaseless; but all the while the destruction of the earth has accelerated; the solvent effects of capitalism on society have been largely unchecked; and globalisation has marched onwards.

The task that faces us is not to mould the existing political and economic system into something more amenable to life on earth; there is absolutely no evidence that that is even remotely possible. It is passing idiotic to believe that we can take a system based on exploitation, warfare and greed, and, by using the very political and economic practices that drive it, make it sustainable.

No, our task must be to replace the system, to create the alternative society in its midst; as Bookchin suggests, to hollow out loyalty to the power structures until they collapse. This work, which is also the work of the best permaculturists, organic growers, community activists and good neighbours worldwide, embodies the creation of a better society without the mediation of politicians or their new parties. It is positive direct action in communities and workplaces.

Building a new society is a big job, but the short cut to transformation offered by politics is an illusion. Only individuals and communities can create the future we want. It may not be glamorous; it may not involve dreaming of drawing up the first ecological budget or Queen's Speech, but it is honest work and it is a realistic alternative to passive consumption of green products, green parties, green NGOs and even green magazines. The debate we should be having is how best to make social ecology a reality. To paraphrase a misguided politician: go back to your constituencies and prepare to make the government irrelevant.

■ Dr Paul Jennings is a writer and organic grower

BACK FROM THE DEAD

Vast and enduring, nature defies our attempts to put it in a box BY MALCOLM TAIT

Several years ago *Punch*, or *Private Eye* or some such magazine ran a memorable little cartoon. Two strange and exotic looking birds were standing behind a bush while in the distance some people were walking by. 'Best keep quiet,' one bird was saying to the other. 'We're supposed to be extinct'.

Maybe the birds in the cartoon have now blown their cover. For in the real world, one of the most famous extinct birds, the ivory-billed woodpecker of the southern states of the US, was announced earlier this year not to be extinct after all but very much extant. The bird had been considered lost for decades.

Within a few weeks, another great comeback was announced. The Wollemi pine, once a Jurassic favourite but thought to have been extinct for at least 2 million years, was alive and well and ready to be propagated. Suddenly, the coelacanth, that famous old fish that resurfaced after 65 million years back in the 1930s, and the takahe, a New Zealand flightless moorhen-like bird rediscovered after half a century in 1948, were being dredged up for comparison. All these species, along with several others, are now bracketed together in the 'back from the dead' category that we champions of the underdog love so much.

But the reason these stories are truly magnificent is the fact that none of the creatures and plants involved have come back from the dead at all. A series of comebacks? They never actually went away in the first place; it was just that we weren't with them for a while. They've been going about their daily business, their life cycles, their struggles for existence, just as they always did. We only view them differently because it's human nature to perceive the world around us through the prism of our own experiences. As a result, these are the tales that show that life is actually greater than any label or judgment we can put upon it. If a tree falls in the forest when no one is around, does it make a sound?

Yet from time to time, of course, species really do become extinct. We may not be able to put an exact date on the death of the last individual, but they're gone. And when they're really gone, there's no coming back – at least not in the manner that we know them. We spend a vast amount of our time trying to stop this happen, setting up biodiversity action plans and national nature reserves, surveys and taggings, WWFs and RSPBs, and it's good that we do, but in our attempts at conservation we must never lose our sense of appreciation. Life comes and goes, whether or not we're the agent of its demise, and in all our efforts and hard work to keep it going we must never forget why we're doing so. The life and lives around us – the creatures, the plants and the people – are our pleasure, our stimulation, our interest and our love. Protect them, of course, but above all else enjoy them. That's what we're all here for.

■ Malcolm Tait's new book *The Countryside Companion* is published by Robson Books in September. This article is dedicated to Peter Tait, illustrator for and reader of *The Ecologist*



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INGREDIENTS

Aqua, alcohol denat, propylene glycol, cetearyl isononanoate, cetearth-20, cetearyl alcohol, glyceryl stearate, glycerine, cetyl palmitate, cetearth-12, *Chamomilla recutita*, parfum, allantoin, myrtrimonium bromide, laurtrimonium bromide, bisabolol, methylparaben, butylparaben, disodium phosphate, sorbic acid, diazolidinyl urea, PEG-40 hydrogenated castor oil, trideceth-9, benzoic acid

Nobody washes their hands anymore – the escalation of MRSA in hospitals is just one testimony to that fact. Instead, when we are feeling a little grimy, in a car or on a plane, during a summer picnic or at the office, we reach for a disposable wipe. And in the past decade there has been an unprecedented boom in the use of disposable cloths of all kinds. In any supermarket today, along with hand and baby wipes, you can buy self-tan and deodorant wipes, as well as ones for removing make-up, nail polish and blackheads and washing cars, furniture, floors, fridges and ovens.

Wipes are made from plastic, cellulose and polyester fibres pressed together and soaked in a cleaning fluid. In 2004 their global retail value was approximately \$4 billion. Personal and cosmetic wipes account for around 65 per cent of this market. They are standard issue for US troops in Iraq. In the UK, Wet Ones, manufactured by Jeyes, claims 57 per cent of the adult wipes market.

Figures from North America suggest that if someone were to load all the disposable wipes purchased there last year onto 18-wheel lorries, the convoy would number 9,000 trucks, stretch for 68 miles, and would be carrying 83,000 tons of used convenience cloths.

Wipes have other disadvantages: they are expensive, can't be flushed down the toilet and clog sewer systems when they are. They are also very slow to biodegrade. It is likely that all the wipes we've ever used are still festering somewhere underground. The environmental impact of this has never been studied.

In addition to this, packs of wipes are perfect breeding grounds for germs. The

antibacterial ingredients in Wet Ones Ultra Soft With Camomile Extract are supposed to be effective against *E coli*, salmonella and listeria on the skin. But once you open a packet of wipes and stick an unwashed hand inside, the clock starts ticking: the chances are that all three of these bugs can be found growing in any frequently used packet of personal wipes (especially the money-saving, long lasting jumbo packs of baby wipes).

To deal with pack contamination, manufacturers add large amounts of preservatives and antibacterials. Eight of the 25 ingredients in Wet Ones Ultra Soft With Camomile Extract fall into this category. What happens to these chemicals when they enter the waste system has never been studied. On human skin they can be irritating, break down the skin's own protective barrier and cause sensitisation and dermatitis. Some can be transferred to foods during preparation and into your body when you eat. How often this happens and its consequences have also never been studied.

All wipes contain skin-irritating chemicals we could do without. The cleaning power of Wet Ones is based on solvents like denatured alcohol, which can cause dry, cracked skin – a perfect environment for infections. They also contain the solvent and penetration enhancer propylene glycol, and a range of ingredients with carcinogenic potential – including emulsifiers that can be contaminated with 1,4-dioxane, a formaldehyde-releasing preservative and a PEG compound (which can contain carcinogens). In the face of all this, the addition of skin-soothing camomile seems pointless.



| INGREDIENTS | PURPOSE | ADVERSE EFFECTS |
|--|---|--|
| Alcohol denat | Solvent | Dry skin; contact dermatitis |
| Propylene glycol (derived from petroleum) | Humectant | Skin irritation; contact dermatitis; a penetration enhancer – alters skin structure, allowing other chemicals to penetrate deeper into the skin and bloodstream |
| Cetearyl isononanoate | Semi-synthetic emollient; moisturiser | Possible allergen |
| Ceteareth-20 | Semi-synthetic emulsifier; surfactant; viscosity adjuster | Can be contaminated with 1,4-dioxane, a carcinogen implicated in breast, prostate and skin cancer |
| Cetearyl alcohol and glyceryl stearate | Emollient; moisturiser; emulsifier | Contact dermatitis; skin sensitisation |
| Glycerine | Solvent; humectant; lubricant | Can dry the skin, making it more vulnerable to sun damage and to other harmful chemicals in the mix |
| Cetyl palmitate | Semi-synthetic emollient; moisturiser | Contact allergies |
| Ceteareth-12 | Semi-synthetic emulsifier | Can be contaminated with 1,4-dioxane (see above) |
| Chamomilla recutita | Herbal extract; skin conditioner | Can cause allergic reactions in sensitive individuals, especially those with hay fever triggered by ragweed |
| Parfum | Fragrance compound | Central nervous system disruption (eg, headaches, mood swings, depression, forgetfulness); allergic and asthmatic reactions; skin irritation; some perfume ingredients, such as artificial musks and phthalates, are hormone-disrupting |
| Methylparaben, butylparaben | Preservatives | Skin irritation; contact dermatitis and allergies; parabens are oestrogen mimics: butylparaben and isobutylparaben have the strongest effect. Excess oestrogen is a trigger for oestrogen-dependent cancers of the breast, ovary, uterus and testicles, and may even have effects on foetal development. Scientists analysing breast-cancer tissue have found accumulated parabens in every sample |
| Sorbic acid | Preservative | The skin condition urticaria |
| Diazolidinyl urea | Synthetic preservative | Dermatitis; releases formaldehyde (a carcinogen) as it breaks down |
| Benzoic acid | Preservative | Eczema; allergies |

ALTERNATIVES

The best natural alternative to wipes is soap and water, but this hasn't stopped some 'natural' toiletry companies from marketing their own brands of personal wipes. Don't buy into the hype. From whatever angle you look at it, and even without the addition of skin-irritating chemicals, the wipes phenomenon is a human and ecological disaster we could all do without. Try the following instead:

At work Wash your hands with soap and water: it's still the most effective way of getting rid of germs.

When travelling

Make use of public toilets. Alternatively, carry a damp flannel or two in a sealable plastic bag for use on the go.

For baby Wipes can irritate sensitive skin. Use toilet tissue and damp cotton wool for nappy changes.

Household cleaning

Microfibre cloths made of densely packed fibres thinner than human hair can clean almost every surface without the need for chemical cleaners. Buy the best you can afford and use slightly damp on all washable surfaces.



Pat Thomas is the author of several books on the environment and health, including: *Cleaning Yourself*

to Death: how safe is your home? and *Living Dangerously: are everyday toxins making you sick?* (both published by Newleaf) and *Under the Weather: how the weather and climate affect our health* (Fusion Press)

A STAKE THROUGH THE HEART OF THE WORLD

Scientists mapping the effects of deforestation in the Amazon are increasingly concerned that we are reaching a tipping point – when the forest will start to die back of its' own accord and rain, currently generated by the Amazon forests, will stop falling not just in neighbouring countries but as far a field as the United States and South Africa. **PETER BUNYARD** REPORTS





The Amazon rainforest being burnt so as to enlarge cattle ranches

Last December, a phenomenon never seen before struck the western Amazon, close to the border between Brazil, Colombia and Peru. If you live in that part of the world you get used to the massive thunderstorms and torrents of rain that come in from the east, but no one there had ever before experienced the dense, dry, cough-wracking fog that stagnated for days over the region. For more than a week people remained confined to their homes, and, with visibility down to zero, no aircraft could land, no boats could ply the river. It wasn't long before food and fuel began to run out in the city of Leticia, on the Colombian side of the river, and if anyone required serious medical attention then it was just too bad – no way could they be airlifted to safety.

When I was in Leticia a month or so later, people were still talking about the mysterious fog that had scared the life out of them. Meanwhile, word was coming in that, way to the east, Brazil had carried out another massive burn of the rainforest.

Last year, 2004, was the second biggest burn in Brazil's history, with more than 26,000 square kilometres of pristine rainforest going up in smoke: that's just short of the burn in 1995, when an area the size of Belgium was destroyed. In a matter of decades, more than 17 per cent of Brazil's Amazon rainforest has gone, mainly for beef cattle, soya, timber and land-hungry peasants who are told they must chop the forest down to gain title. In the eastern part of the Amazon, massive amounts of timber have been converted to charcoal to fuel furnaces for making pig iron. In terms of emissions per capita, the quantity of greenhouse gases released by the destruction of Brazil's rainforests puts the country on a par with the US.

Today, the production of soya, whether directly or indirectly, is the principal factor behind Amazon deforestation. In 1998 Brazil produced approximately one quarter of the world's total from a land area a little more than half the size of the UK. In 2004 Brazil exported some 36 million tonnes from 20 million hectares, with an ever increasing proportion coming from Amazonia, in particular the province of Mato Grosso, where the governor, Blairo Maggi, is known as the 'king of soya' for his part in promoting and then controlling production.

Maggi is just one of a number of Brazilians responsible for the death of the rainforest. Sugar cane is now following hard on soya's footsteps, with a 10 per cent increase in the land area used to farm it in Mato Grosso over the past year. With both crops the rapid expansion of the agro-industrial front goes hand in hand with massive investments in transportation to the Atlantic and Pacific Oceans. Opening up waterways and constructing roads fuel colonisation, as well as the extraction of timber. Cattle ranchers are the first to benefit, and Brazil, the world's largest exporter of beef, now has more head of cattle than any other country. Because of the poor soils in much of Brazil's Amazonia, the production of beef per hectare must rank with the lowest in the world.

The short-term gains to the Brazilian economy are self-evident. In 2003 Brazil exported more than US \$8 billion worth of soya and US \$1.5 billion of beef. It also benefited from the export of illegal

Around the Amazon River port of Santarém nearly all the forest has gone for thousands of square kilometres. There is little to be seen but soya plantations. Like the strip of hair on the shaven head of a Mohican, a tiny squared-off patch of dying forest may be left

timber, especially mahogany, most of which went to Japan. Brazil's national development plan, *Avança Brasil*, commits it to an investment of more than \$40 billion over the next five years. At least half that sum is to be spent on constructing and paving highways,

building railways and industrial waterways to export millions of tonnes of soya, laying gas lines and embarking on a bevy of new hydroelectric schemes. In all, 79 major (each with a capacity larger than 100 megawatts) hydroelectric dams are in the planning: 12 million hectares, equivalent to half the UK, of the Amazon forest would be flooded. When covered with water, the forest's trees will decompose, releasing enormous quantities of greenhouse gases, including methane. From the emissions point of view, a large hydro scheme in the Brazilian Amazon is as bad as a coal-fired power station of the same electrical capacity.

Brazil is therefore intent on opening its frontiers to new mining projects, to timber extraction and to major industrial agricultural schemes. Already, the Amazon River port of Santarém has a massive new dock and soya sorting stations; silos are also being prepared for the trucking in of the crop from the southwest of the Amazon basin via newly paved roads. Around Santarém all the forest has gone for thousands of square kilometres, with little to be seen but plantations of tropically adapted soya. At best, like the strip of hair on the shaven head of a Mohican, a tiny squared-off patch of dying forest may be left.

Aerial view
of advancing
deforestation in the
Amazon Basin



One agro-industrial project, along Brazil's new 1,000-kilometre BR-174 highway from Manaus to Boa Vista, will lead to the clearing of 6 million hectares of forest and, former Brazilian president Fernando Henrique Cardoso says, 'double the nation's agriculture production'. The intention is to pave about 7,500 kilometres of roads, some new and others currently dirt track. Bill Laurance, of the Smithsonian Tropical Research Institute in Panama, says: '[This] will greatly affect the ease with which loggers, colonists, ranchers and land speculators can gain year-round access to forests, and will lower considerably the costs of transporting timber and other forest products to urban markets.' The Belém-Brasília highway, created in the 1960s, is today surrounded by a 300- to 400-kilometre-wide swathe of state and local roads and logging tracks. The fragments of forest that remain, quickly degrade, leaving soils impoverished and barely fit for cattle, let alone anything else.

Multinational timber companies, particularly from Malaysia and Indonesia, have entered the Amazon in a big way. In 1996 alone, Asian companies invested more than US\$500m in the Brazilian timber industry. According to Brazil's national environment agency, the Ibama, they now own or control about 4.5 million hectares of the Brazilian Amazon.

In 1997 Greenpeace International investigated the Brazilian trade in mahogany and, through tracking with UV-visible paints, discovered that at least 80 per cent was illegally harvested. Most of that illegal timber finished up in Japan. The Brazilian government accepted Greenpeace's findings and, in order to combat the poor forestry practices that go

with illegal extraction, announced that it would open an additional 14 million hectares in 39 national forests to bona fide timber companies, the rationale being that it would therefore be better able to control and regulate logging practices. Quite obviously, the government has failed and illegal logging continues apace, so boosting Brazil's earnings. Greenpeace estimates that at current rates of logging virtually all the mahogany worth extracting will have been taken in as little as eight years.

The Amazon basin produces some 20 per cent of the world's oxygen. The idea that the basin is 'the lungs of the world' has become a much repeated mantra. But that doesn't take into account that nearly all that oxygen gets consumed by animals, fungi and the plants themselves that live

in the region. In that respect, the Amazon rainforest is not so very different from the plants growing in your back garden. But what about another metaphor, that the Amazon basin is 'the heart of the world'? Because, like a heart pumping blood to the lungs and then back to the rest of the body, the Amazon basin drives energy in the form of water vapour out of the region while completing the 'circulation' with water vapour brought in from across the Atlantic. Trade winds that sweep close to the surface of the tropical ocean, from Africa to Brazil, are crucial to the process. When passing over the warm ocean the winds pick up massive quantities of water vapour, which they then deposit as rain when hitting the Brazilian coast. There, the matter would end if it weren't for the trees of the forest pumping water back up

THE AMAZON RAINFOREST



Strips of former Amazon jungle destroyed by loggers lie abandoned amid virgin rainforest in Brazil's Mato Grosso state, one of the Brazilian states to suffer the most deforestation

from their roots and out through millions upon millions of pores in their leaves. That 'transpiration' puts back at least 50 per cent of the rain that has soaked into the soil. About one quarter of the original rainfall never makes it to soil, but gets evaporated as it trickles down over leaves, branches and tree trunks.

The mature rainforest is therefore critical in recharging the air, so that, as air currents move westwards over the basin, the same water vapour falls as rain as much as seven times before the air mass reaches the high Andes. There, the air rises and, dragged by the spin of the earth, heads in the direction of north and south Africa. By the time the air is over Africa, it is dense, cold and dry. It sinks to replace the air being drawn across the Atlantic in the trade winds, and so the cycle is complete.

Every day, over the 7 million square kilometres of the Amazon basin, the sun sends down the energy equivalent of many million atomic bombs. By transpiring water vapour, the forest not only recycles the rain, but causes clouds to form that cool the entire region. Without the forest the temperature rises by at least 10[0] centigrade, baking soils hard and making them impenetrable to rain, which then runs off in eroding streams to the nearest watercourse.

Neither soya nor cattle pasture is capable of recharging the air with

sufficient water vapour to maintain rainfall. Consequently, as the deforestation continues, there comes a point when the remaining forest no longer gets adequate rainfall. The forest further to the west of the destruction then begins to die and decompose. The forest then releases all the carbon that it has stored during its growth, as much as 200 tonnes burping in the atmosphere as greenhouse gases. All that adds significantly to global warming.

In growing, the forest of the Amazon basin soaks up carbon dioxide to the tune of 8 per cent of the total emitted by the rest of the world. But the sheer pace of destruction is leading to carbon emissions that exceed the absorption by the intact forest. Nine football pitches worth are destroyed every minute in the Brazilian Amazon alone.

The area without forest is expanding. The land is increasingly desertified and the rains, when they do come, are more ferocious, washing away essential nutrients and destroying soil structure. On average, the forest canopy intercepts about 20 per cent of the rainfall; without the canopy as much as 4,000 tonnes of water per hectare per year hits the ground, causing the erosion of finer clay particles and leaving behind increasingly coarse sand. Soil under intact forest absorbs 10 times more

water compared with pasture. With the forest gone, erosion rates are a thousand times greater.

Were all the Amazonian rainforest to go, as much as 77 billion tonnes of carbon, or more than 10 times current annual rates of emissions from all over the world, could find its way into the atmosphere. If the Kyoto Protocol were strictly observed, that quantity is more than the amount that all countries, including the US, would have achieved in curbing their greenhouse gas emissions over the coming century. If we wanted to pump greenhouse gases into the atmosphere, we would be hard-pushed to find a better way than by destroying the Amazonian rainforest.

Countries such as Colombia, Ecuador, Peru, Bolivia, Brazil and Argentina, as well as the nations of Central America, and even the US, depend more than they know on the integrity of the Amazon rainforest. And still they do nothing to prevent president Luiz Inacio 'Lula' da Silva of Brazil from effectively signing the death warrant of the forest by overseeing the production in the region of soya for export to China. Nor do they seek to stop president Alejandro Toledo of Peru from granting timber concessions to the Japanese.

Through their inaction, all those countries are therefore signing up to their own destruction; and, without the Amazon forest to bring rain, agriculture throughout the Americas will be severely compromised. The Brazilian state of São Paulo gets 75 per cent of its rainfall courtesy of the rainforest; Argentina gets half of its rainfall from that source; Colombia at least half; and the rain that falls in the corn-belt of the US just at the beginning of the growing season also depends significantly on the Amazon basin.

Colombia needs the clouds formed by Amazonian rainforest to water its high plateaus, the 'Páramos', which provide the country with vital fresh water. And the country's Nevadas, the snowy, glacial peaks of its 20,000-foot mountains, have been vanishing faster and faster, with a decline from 348 square kilometres a century ago to less than 63 square kilometres today. The glib explanation is that global warming has led to the

loss of glaciers. But, the real reason is deforestation and a decline in regional atmospheric water vapour. The ice simply evaporates, without melting, and there is no longer sufficient snow to make up the shortfall.

Global warming does however pose a further threat to the rainforest, by altering ocean currents and causing the trade winds to falter. With weaker trade winds, the moisture off the Atlantic Ocean is no longer adequate to maintain the rainfall cycle over the Amazon basin, and again there is that domino effect of dieback and death. That will indeed be bad news.

Conservation groups, like the WWF and Conservation International, had hoped that by creating national parks and reserves across the basin, Brazil would somehow get the best of all worlds: the chance to develop Amazonia for agro-industry and timber enterprises, and to have sufficient rainforest left to maintain a high proportion of biodiversity. Neither the Brazilian government, nor those conservation agencies have taken the dynamics of climate into account.

If the forest should go, if we should fail to restrain the likes of Blairo Maggi, if we should fail to stop the plundering of timber, if we should fail to convince the Brazilian government to abandon its scheming with China to open up the Amazon, then we are all, everywhere, in deep trouble. Ironically, on account of more heat remaining in the American tropics and less being carried in the air-mass circulation that results in the trade winds, we in Britain could find ourselves getting colder and drier. Combine that cooling with a faltering Gulf Stream, and it will freeze the pants off us.

Even if we were able to cut back our greenhouse gas emissions to just 20 per cent of what they are today, we would still be in dire trouble if we allow the destruction of the Amazon rainforest to go on. And, with our demands for cheap meat and dairy products, we in Europe are as responsible as anyone for that destruction. We may talk glibly of weathering the storm of climate change. The fact is, that is unlikely to happen.

■ Peter Bunyard is science editor of the ecologist

WHAT YOU CAN DO

1. SUPPORT AN EXISTING CAMPAIGN

Greenpeace UK

Eighty per cent of timber from the Brazilian Amazon is logged illegally. Join Greenpeace's Save or Delete campaign to stop the destruction. Greenpeace funds a permanent base in Manaus, Brazil, from which the links between illegal loggers, timber companies and governments are exposed. In the UK, it takes direct action to prevent ships carrying illegal timber entering ports, and tags timber to trace its journey to the construction site or high street.

Canonbury Villas, London N1 2PN

Tel: 020 7865 8100 Fax: 020 7865 8200

Email: info@uk.greenpeace.org

Web: www.saveordelete.com

To find out more about illegal logging in the Amazon read Greenpeace's report *State of Conflict: an investigation into the landgrabbers, loggers and lawless frontiers in Para State, Amazon*. Download it from **www.greenpeace.org.uk**, or phone 020 7865 8100 for a hard copy.

Rainforest Action Network (RAN)

RAN's 'Don't Buy Old Growth' campaign aims to preserve ancient forests, including the Amazon, by driving old-wood products out of the marketplace and promoting sustainable alternatives. Join the campaign to force Weyerhaeuser, one of the world's largest and most destructive logging companies, to stop sourcing illegal Amazon timber.

221 Pine Street, Suite 500, San Francisco, California 94104, the US

Tel: 415 398 4404

Fax: 415 398 2732

Email: rainforest@ran.org

Web: www.ran.org

Survival International

Protecting the rights of indigenous people whose livelihoods depend on the Amazon is one of the best ways of protecting the region. Areas of forest surviving the mining, logging and roads in the Amazon are those that have been legally demarcated as Indian territories. Survival International is campaigning for the land rights of many more Amazon indigenous tribes to be recognised and for violence and genocide against tribal people to stop.

6 Charterhouse Buildings, London EC1M 7ET

Tel: 020 7687 8700

Fax: 020 7687 8701

Email: info@survival-international.org

Web: www.survival-international.org

International Rivers Network (IRN)

Join the IRN's Latin American campaign to halt destructive river development projects. Funded by the World Bank and other multilateral organisations, dams inundate large tracts of rainforest, kill local wildlife, destroy aquatic habitats and contribute to global warming. Of particular concern is the dam proposed by the Brazilian state dam company Electronorte for the Xingu river. It would affect indigenous reserves containing 14,000 people.

1847 Berkeley Way, Berkeley, California 9470, the US

Tel: 510 848 1155

Fax: 510 848 1008

Email: info@irn.org

Web: www.irn.org

info@irn.org

2. PROTECT AN ACRE

The organisations below protect the Amazon by helping local communities to secure legal rights over their land. You can sponsor an acre

Rainforest Concern

Rainforest Concern purchases, leases and manages threatened native forest in partnership with local communities and NGOs. The campaign focuses on the creation of protected corridors between existing reserves to avoid the creation of isolated fragments of forests with diminishing gene pools and the development of sustainable income generation.

27 Lansdowne Crescent, London W11 2NS

Tel: 020 7229 2093

Fax: 020 7221 4094

Email: info@rainforestconcern.org

Web: www.rainforestconcern.org

The Rainforest Foundation UK

The Rainforest Foundation fights to preserve the rights and land of indigenous people through working with local partnerships and running legal and policy campaigns.

The Rainforest Foundation UK, Suite A5, City Cloisters, 196 Old Street, London EC1V 9FR

Tel: 020 7251 6345

Fax: 020 7251 4969

Email: rebeccah@rainforestuk.com

Web: www.rainforestfoundationuk.org

LOOKING OUR ANCESTORS IN THE EYE

100 years ago there were probably close to 2 million chimpanzees across Africa. Today there are no more than 150,000. Their numbers are declining as a result of ever-growing human populations that are constantly encroaching the continent's remaining forests, fragmenting habitats, setting snares and hunting. If we do not act to save them now, the great apes face extinction in most of the places where they range within the next 10 to 15 years. For mountain gorillas and orang-utans, the situation is even worse.

As wild ape numbers decrease, so the population of orphans in sanctuaries is increasing. Chimpanzees, gorillas and bonobos are being hunted, along with elephants, antelopes and myriad other species, for food – and not to feed starving people, but to satisfy a taste for 'bushmeat' among the urban elite. Subsistence hunting, a way of life for people living in the forests of west and central Africa, became a commercial enterprise when foreign logging companies began opening up previously inaccessible areas with roads, thus providing hunters with passage. There is not much meat on infant apes, so in the market they will often be sold alive, illegally, beside the cut-up bodies of their mothers. Many of the ape sanctuaries are populated by orphans confiscated from illegal traders.

We are too used to seeing apes performing for our entertainment: 'cute' young apes, dressed in human clothes, or apes that have been taught to 'smile' or pull faces. The way James Mollison has chosen to photograph them is typical for describing humans – full-face, passport style – but unusual for apes. Look into the eyes of each one of them and you will sense their unique personality. For many people it will be a humbling experience. We are not as different as we thought.

Jane Goodall PhD, DBE, founder the Jane Goodall Institute and
UN messenger of peace (www.janegoodall.org)



BONNY:
Five-year-old, *Pongo pygmaeus*, male, born in Indonesia. Mother killed so he could be taken for live animal trade. Brought to zoo sanctuary by owner afraid of arrest by police. Transferred to larger reservation. Soon to be released into the wild. Photographed at Ragunan Zoo, Indonesia, August 2002



CHIM:
Five-year-old, *Pan troglodytes*, female, born Cameroon. Parents killed for bushmeat trade. Left at sanctuary by Cameroonian environmental journalist who had kept her like a child, dressed her, bathed her, etc. Bad mouth injury, riddled with worms. Had been made to dance in order to receive food. Still dances when not fed on demand. Photographed at Mvog Betsi Zoo, December 2001



PUMBU:

Eight-year-old, *Gorilla gorilla*, female, born the Democratic Republic of Congo (DR Congo). Parents killed for bushmeat trade. Confiscated from vendor when about nine months old, with scar above right eye, two healed cuts on left hand; was also very thin, coughing a lot and obviously scared. Drank one bowl of milk, one bowl of water, ate one banana. Slept well during night, but did a lot of scratching: possible mites problem. Recovered health with the help of a surrogate mother. Photographed at the Lesio-Louna Reserve, DR Congo, May 2003



TATANGO:
11-year-old, *Pan paniscus*,
female, born DR Congo.
Parents killed for bushmeat
trade. Seized at valuables
market in eastern Kinshasa.
Photographed at the sanctuary
Les Amis des Bonobos du
Congo, DR Congo, May 2003

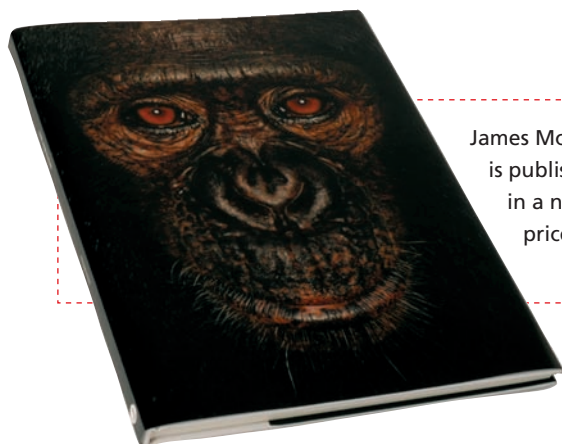
STOP THE TRADE IN PET APES

Baby chimpanzees, orang-utans and small monkeys are popular as pets simply because they resemble human babies. The object of the human owner's affection has suffered the pain of being torn from his or her mother for a life of isolation from its own kind. Whatever the love being lavished on the pet, it will be emotionally damaged, and will grow from cute baby to unruly teenager, and on to become a maladjusted, physically powerful adult. When the human owner realises this, it's time to throw out the baby. These monkeys and apes provide humans with company, but they are utterly alone and, all too often, as disposable as the nappy in which they were once dressed.

Animal Defenders International (ADI) is calling on the government to stop monkeys being kept as pets in the UK and to ensure that the current review of the Dangerous Wild Animals Act 1976 and the government's proposed Animal Welfare Bill, due out in the autumn, are used to halt the trade in pet monkeys and the use of animals in travelling circuses.

Tim Phillips, campaigns director of ADI, says: 'I've seen inside dealers where monkeys are captured and sold as pets, with their rows of desperate young monkeys chained by the neck or huddled in tiny filthy cages. They might try and sell these animals as surrogate children, but this is not a loving industry. Pet primates live a life of isolation and are denied everything that is natural to them.'

■ **A postcard to send to the environment secretary, Margaret Beckett, showing support for ADI's campaign can be obtained from the organisation's website at www.ad-international.org or by telephoning 020 8846 9777. Please sign it and send it in to the minister**



James Mollison's book *James and Other Apes* is published by Chris Boot (www.chrisboot.com) in a new edition available from 1 July, price £10.95

THE DAWN OF THE DOMESTIC SUPERBUG

The huge popularity of antibacterial household cleaners is encouraging superbugs, allergies, immune-system failure and dangerous environmental pollution. It's time to stop cleaning ourselves to death **BY PAT THOMAS**

Superbugs don't just appear out of nowhere. They aren't invaders from Mars or the result of some mysterious process that science can't fathom. They're the consequence of human behaviour, and creating them is fairly easy. Expose bacteria to repeated doses of antibiotics, and they will genetically mutate into more robust and resistant strains. Keep repeating this process, and you will eventually produce a bacterium that no drug will kill. This is how 'superbugs' such as methicillin-resistant *Staphylococcus aureus* (MRSA) and other resistant strains of bacteria are created.

Indiscriminate use of antibiotics has received deserved criticism for provoking the rise of hospital superbugs. Less well publicised is the role that domestic antibacterial cleaners play in producing unique strains of resistant bacteria.

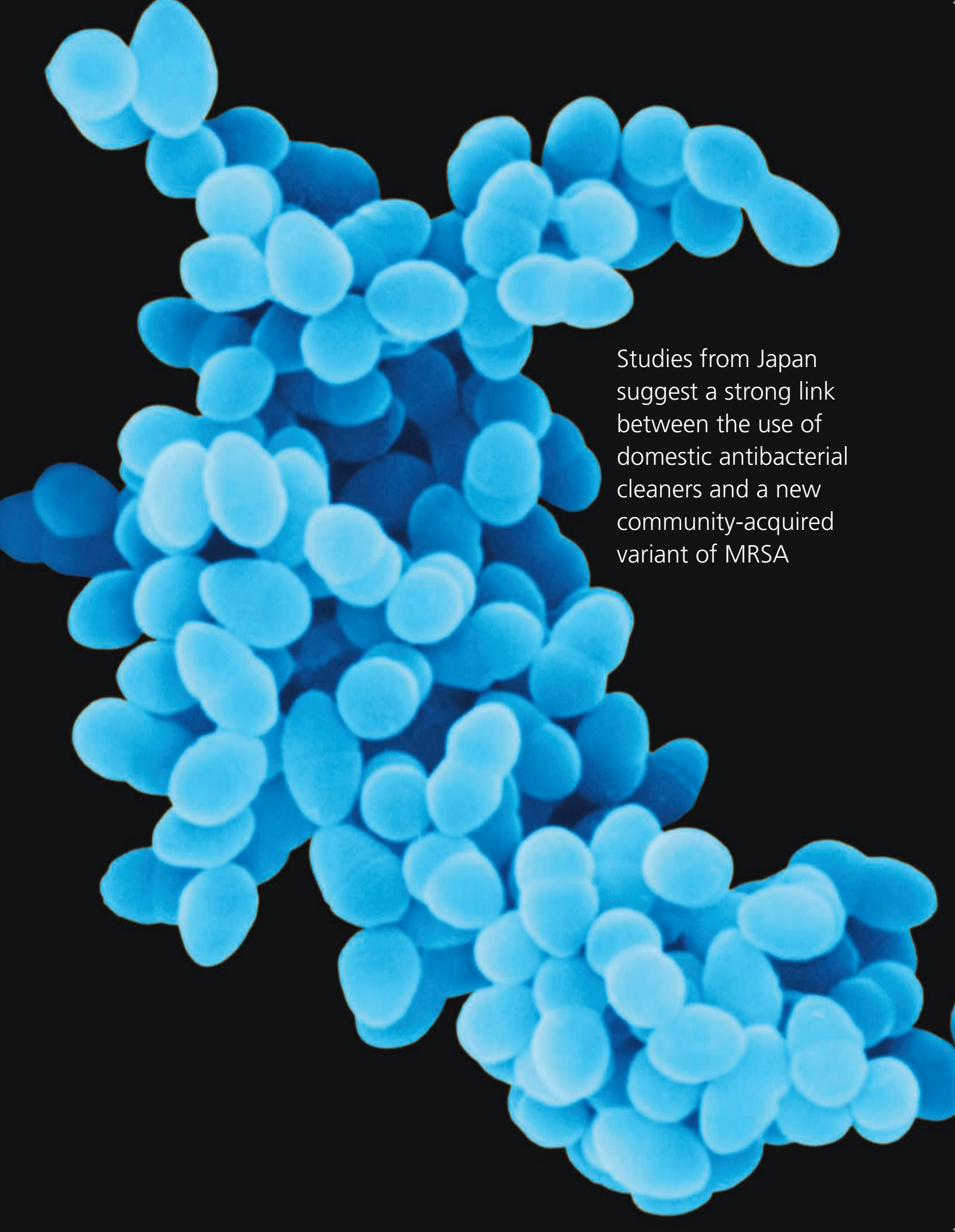
Today we use a variety of synthetic antibacterial chemicals, in particular quaternary ammonium compounds and the chlorophenol Triclosan, to keep the

bugs at bay. Unlike soap and water, which work efficiently by physically loosening dirt and germs from surfaces and bodies and washing them down the drain, antibacterial chemicals are designed to kill. Worse, Dr Stuart Levy, director of the Center for Adaptation Genetics and Drug Resistance at Tufts University School of Medicine, Boston, and chairman of the Alliance for the Prudent Use of Antibiotics, says: 'What is being touted as an antibacterial in household products is really, clinically, an antibiotic.'

Over the past decade our enthusiasm for fighting germs at home has become unstoppable. Today we can buy antibacterial hand soaps, laundry and dish detergents, surface cleaners, toothpastes, mouthwashes and hand wipes. Antibacterial agents, known as biocides, can be impregnated into clothing, furniture, blankets, insoles, the plastic lining of refrigerators, food-storage containers, shower curtains, rubbish bags, bins, chopping boards and even high-chairs and toys.

Even so, five years ago the American Medical Association (AMA) issued a startling statement saying that antibacterial soaps were no more effective against germs than common soap. Manufacturers of toiletries and household cleaners, who had lobbied vociferously against the AMA taking any stand at all on this issue, greeted the statement with purple rage, defending their antibacterial products as both effective and desirable. They were, they claimed, simply giving consumers what they wanted – products to protect themselves and their families from the 'germs' that can cause disease.

Several recent studies suggest they do no such thing. Antibacterial hand soaps, for instance, may initially kill more bacteria and viruses on the skin than regular soaps. But within an hour or so after use, there is generally no difference in the number of microbes on the skin. Hardly surprising, given that the average adult touches approximately 300 different surfaces every 30 minutes. Similarly, while antibacterial surface cleaners may initially



Studies from Japan suggest a strong link between the use of domestic antibacterial cleaners and a new community-acquired variant of MRSA

ANTIBACTERIAL CLEANERS

remove more organisms than soap and water, within 90 minutes or so there is generally no difference in the numbers of bacteria and viruses that have repopulated cleaned areas.

While many antibacterial products do have a broad-spectrum action that encompasses the odd virus or fungus, most are only effective for bacteria, and even then only in a very limited way. Knowing this provides a context for the results of a widely publicised study originating from Columbia University in New York in March 2004, which showed that people who used antibacterial soaps and cleaners developed coughs, runny noses, sore throats, fever, vomiting, diarrhoea and other symptoms just as often as those who don't use antibacterial products. The researchers also pointed out that many of these illnesses are typically caused by viruses, against which antibacterial soaps and cleaners provide no protection.

Tucked away in the AMA statement was another even more telling concern: that antibacterial chemicals used in the home could be contributing to the ongoing threat posed by drug-resistant bacterial strains. This concern is based on rapidly accumulating evidence, much of it originating from Levy and his team at Tufts. 'There will always be people who say they don't care what's in the product,'

Levy says. 'As long as it kills bacteria and other micro-organisms that's better for them and their families and they're going to buy it. But if you said on the label "this product contains an antibiotic", people might not be so quick to buy them.'

Research is now showing that a whole range of antibacterial chemicals used as disinfectants in household cleaners and as preservatives and active ingredients in personal care products are producing resistant strains of bacteria. There is evidence, for example, showing that 7 per cent of *Listeria monocytogenes* strains (which cause severe gastrointestinal symptoms such as diarrhoea), isolated from the environment and from food, are now resistant to quaternary ammonium compounds, commonly used in household cleaners. Strains of *Pseudomonas aeruginosa*, which cause skin and wound infections, have also exhibited resistance to these chemicals.

While the glare of the spotlight has focused on hospital-acquired MRSA, another type of the superbug – community-acquired MRSA (caMRSA) – is widely reported in the medical press in the US, Britain, Australia and Canada. This strain arises in people who have had no contact with the hospital environment and is principally resistant to penicillin-derived antibiotics, cephalosporins, carbapenems and monobactam (known collectively as beta-lactam antibiotics), but not, like the hospital-acquired variety, to multiple other types of antibiotics as well.

Studies from Japan suggest a strong link between caMRSA and the use of antibacterial cleaning solutions. When investigators there looked at the generational effects of exposure to the common antibacterial agent benzalkonium chloride (used in household cleaners and certain toiletries) in caMRSA strains, they found that as each new generation of bacteria evolved its resistance to the antibacterial grew stronger – as did its resistance to common antibiotics like methicillin and other beta-lactam antibiotics.

As resistance grows the minimum amount of antibacterial and antibiotic needed to kill bacteria also grows, in some cases dramatically. In another Japanese study, the concentration of the antibiotic oxacillin necessary to inhibit the growth

The products we buy over the counter and use in our homes have the same potential to create the kind of resistant bacteria that have up until now been confined to hospitals

All these products contain Triclosan



of third-generation benzalkonium chloride-resistant caMRSA organisms was 32 times greater than first-generation resistant varieties.

Similar studies conducted with the bacteria *Pseudomonas stutzeri*, a common cause of wound infections, and the antibacterial chemical chlorhexidine found that as each generation grew resistant to the antibacterial, they also became more resistant to many antibiotics, including erythromycin and ampicillin, nalidixic acid, as well as other antibacterial agents such as Triclosan and quaternary ammonium compounds. When a bacterium exhibits simultaneous resistance to a number of antibiotics, all of which are chemically related and work in a similar way, this is known as cross-resistance. This phenomenon is well known in hospitals. But the possibility that bacteria can also develop a cross-resistance between common household antibacterial agents and antibiotics is particularly frightening because it means that the products we buy over the counter and use in our homes work in similar ways to antibiotics and have the same potential to create the kind of resistant bacteria that have up until now been confined to hospitals.

While a number of antibacterial chemicals used in the home can produce this cross-resistance to antibiotics, one in particular – Triclosan – towers above the rest. Although Triclosan (also known commercially as Microban) has been used in consumer products since 1967, it is only recently that scientists have discovered how it works. Most antibacterial agents have a non-specific action: that is, they kill bacteria in fairly general ways such as depriving them of oxygen or disrupting metabolic processes. This non-specific action was one of the things that differentiated them from antibiotics, which usually attack bacteria in very specific ways, often altering the genetic make-up of the organism to prevent it from reproducing. Until recently, Triclosan was classed as a non-specific antibacterial substance. But newer evidence reveals that, in common with many penicillin-derivative antibiotics, Triclosan produces a genetic change in bacteria such as *Escherichia coli*, *Staphylococcus aureus* (*S. aureus*) and

THE BACTERIAL COMMUNITY

Bacteria police themselves

In each bacterial community – whether it exists on your skin, in your gut, on a hospital floor or in your kitchen sink – there are billions of benign bacteria that pose no threat to humans. By their sheer numbers these benign bacteria keep populations of the minority of more virulent bacteria in check. When we use antibiotics and antibacterial cleaners we kill off large number of these benign bacteria, thus giving more virulent strains room to reproduce and thrive.

Bacteria support each other

Many bacteria, both benign and virulent, possess an innate resistance to a range of common drugs and chemicals. When exposed to an antibiotic, which specifically attacks some part of the organism's DNA, bacteria can also adapt their genetic make-up to become resistant to the toxin. In any bacterial community the organisms can also share their genetic material with each other, passing on innate or acquired resistant genes to their neighbours and relatives.

Bacteria are masters in the art of self-defence

Many bacteria also have what is known as an 'efflux pump' mechanism. This

mechanism forcefully expels substances that the organism recognises as toxic, much like a baby spitting out its medicine. As the bacteria are exposed to more and more toxic substances, the efflux mechanism learns to respond to each of these in turn.

Trying to kill members of the bacterial community in the home has important implications for the human community at large. 'We really need to be thinking ecologically about this issue,' says Dr Stuart Levy of the Center for Adaptation Genetics and Drug Resistance. 'One man's misuse is another man's problem down the line. There are millions and millions of microbes around us and they interact, and they have a very intimate involvement with us. We've evolved, our skin flora has evolved and our environment has evolved to deal with the normal bacteria around us. We think of these micro-organisms as intrinsically harmful, even though the vast majority of "germs" are harmless to all but the most immune-compromised humans. If we continue to be super-clean and remove relatively benign bacteria that we've learned to live with, we are essentially removing the very thing that protects us from harm.'

Mycobacterium smegmatis, inhibiting an enzyme responsible for fatty acid synthesis and so preventing the organism from making a cell wall and replicating. This type of action means that Triclosan has more in common with antibiotics than antibacterials.

Resistance, both innate and acquired, to Triclosan is now well documented among several types of bacteria. Innate resistance among harmful bacteria, such as *Pseudomonas aeruginosa*, *Enterococcus faecalis* and *Streptococcus pneumoniae*, would normally not cause much concern. However, in environments where Triclosan is overused and putting bacterial populations under pressure, this innate resistance can be passed on to other strains of bacteria to make them immune to the effects of Triclosan as well (see box 'The bacterial community').

In 2000, six Finnish public authorities issued a joint statement urging consumers not to use anti-bacterial chemicals

By allowing antibacterial cleaners to remain on sale to the general public we are changing the basic ecology of our homes, turning them from places of safety into reservoirs of bacterial resistance

Levy and his colleagues have discovered three types of *E. coli* that have already evolved to become Triclosan-resistant. Variants of *S. aureus* that are Triclosan-resistant have also been reported in the medical literature.

In some cases Triclosan resistance also produces a cross-resistance to conventional antibiotics. For instance, Triclosan-resistant strains of *E. coli* are also resistant to the experimental antibiotic diazaborine. Triclosan-resistant strains of *Mycobacterium smegmatis* are also resistant to isoniazid – an antibiotic used against tuberculosis.

Triclosan is so much like a drug, in fact, that scientists are already working on ways to use it medicinally. Doctors are currently investigating the possibility of treating malaria with Triclosan. The parasite responsible for the transmission of malaria uses the same enzyme for fatty-acid synthesis as *E. coli*. Such innovations serve to reinforce the idea that Triclosan is simply an over-the-counter antibiotic that has slipped through the regulators' net. Unmonitored and largely unregulated, the overuse of Triclosan in the home is likely to have the same devastating effect as overusing antibiotics in the hospital or clinic, producing increasingly resistant strains of bacteria that can't be killed and have the potential to make people very sick.

Some argue that the number of resistant organisms produced by household antibacterials is small and unlikely to have much of an impact on human health. But this is a specious argument that harkens back to the early days of antibiotic resistance. When the first penicillin resistant strains of *S. aureus* were emerging in the 1950s, doctors dismissed them as mere blips on the medical radar. After four decades of complacency, during which time antibiotic resistance among *S. aureus* and other strains of bacteria multiplied, medical science finally had to admit that not only was the phenomenon of antibiotic resistance real, but that it was the result of doctors' misuse and overuse of antibiotics – often for diseases, like colds and coughs, that were not even caused by bacteria in the first place. It also had to admit that, having come so far down the road without intervention,

there was absolutely no way to reverse the trend. In the 20 years between 1980 and 2000 no truly new antibiotics were produced, and in the last 15 years only a trickle of new antibiotics has reached the market, and bacteria are already showing signs of resistance to these.

For people who are truly ill, and who desperately need the curative potential of an effective antibiotic, it is a bleak picture indeed. And while it can be difficult for the average person to make the mental leap from household cleaner to incurable disease the link inevitably exists. 'Knowing antibiotics as well as we do, it just doesn't make sense to say that exposure to these chemicals won't result in resistant species,' says Levy. 'It's just a matter of time.'

In the home, Triclosan can profoundly disrupt the micro-environment, killing off all but the most resistant strains of bacteria. Washed down the drain, it threatens the wider environment and human health. Triclosan is one of the most frequently detected compounds in rivers, streams and other bodies of water. It is highly toxic to aquatic life, especially algae. High levels of Triclosan have been found in fish, and, via our waterways, the compound has found its way back into the human body. A recent Swedish study found Triclosan in the breast milk of 60 per cent of women surveyed. This is a worrying finding given that no human data exists to show that it is safe to ingest. Similarly, no studies have examined what happens when Triclosan combines with other chemicals in the body, though evidence of what happens when Triclosan combines with chemicals in the wider environment provides some clue.

For years manufacturers have reassured consumers that Triclosan breaks down quickly in the environment. Depending on where it is and what other chemicals it comes into contact with in the environment, some Triclosan does break down. The rest, however, can be converted into even more toxic compounds.

Although vehemently denied by the manufacturers for years, evidence published in 2003 demonstrated that sunlight converts Triclosan into 2,8-dichlorodibenzo-p-dioxin, which has been described as a 'mild'

form of dioxin. Given that 2,3,7,8-tetrachlorodibenzodioxin (TCDD), best known as a highly toxic impurity in the herbicide Agent Orange, has the same toxic profile as most other dioxins, the concept of a 'mild' dioxin would appear to be more of a figment of the industry's collective imagination than a rigorous scientific classification.

Dioxins are hormone-disrupting chemicals that mimic the action of natural oestrogen. In the body, oestrogen levels are generally low and finely balanced. In excess, however, oestrogen is a recognised carcinogen. It accumulates in the environment and in the body and produces the kinds of excesses that, besides leading to cancer, are linked to reproductive and developmental problems and immune-system damage.

What is more, Triclosan in waterways can be altered further by repeated exposure to chlorine. If chlorine-exposed Triclosan is then exposed to sunlight it turns into a much more toxic form of dioxin.

When all this made the headlines in 2003 it was shocking to the public but hardly news to the scientific community. Triclosan is not a natural substance, and so must be synthesised in the lab. This process produces a number of harmful by-chlorinated products, including up to nine different dioxins and dibenzofurans. A similar range of toxins can be released from Triclosan-impregnated products at the end of their lifecycle, during incineration, for instance.

This year, research carried out at Virginia Tech University in the US found that chlorine in tap water and the Triclosan in some soaps and other products such as toothpastes and mouthwashes can react together to create harmful chloroform gas that can be absorbed through the skin or inhaled. If inhaled in large quantities, chloroform gas can cause depression, liver problems and, in some cases, cancer.

Five years ago the AMA called for regulators in the US to expedite their review of products containing Triclosan and other antibacterials and determine the extent to which they might actually be contributing to the health threat created by excessive use of antibiotics. No such reviews have taken place.

In Britain we place our faith in a 2002 review paper by the European Commission's Scientific Steering Committee, which concluded: 'There is no convincing evidence that Triclosan poses a risk to humans or the environment by inducing or transmitting antibacterial resistance under current conditions of use.' This endorsement is still used by Ciba, Triclosan's manufacturer, to defend the continued widespread use of the compound.

Nevertheless, other government agencies throughout Europe have taken the initiative and issued statements discouraging people from using antibacterial household and personal hygiene products. In 2000, six Finnish public authorities issued a joint statement urging consumers not to use antibacterial chemicals, stating that they were unnecessary and that their growing use increased the risk of spreading antibiotic resistance in microbial populations. The statement said: 'Even Finnish hospitals don't use such chemicals for routine cleaning operations... In households we see more disadvantages than advantages.'

That same year, Denmark's Environmental Protection Agency (EPA), National Board of Health, National Central Laboratory and Consumer Information Centre issued a joint statement advising consumers against the

Antibacterial cleaners are nothing more than antibiotics. Selling them on demand over the counter constitutes a clear, increasing and unacceptable threat to human health and the health of our environment

All these products contain Triclosan



THE PERILS OF BEING TOO CLEAN

Manufacturers of antibacterial products prey heavily on parents' fears about the health of their children. Yet by using antibacterial products in otherwise healthy homes, we may be condemning our children to a future of chronic ill health.

Evidence exists to show a link between early childhood infections and a lower risk of developing atopic diseases such as allergies, asthma and eczema. This idea forms one part of what is known as the 'hygiene hypothesis': a theory that developed out of scientists' inability to explain why children in developed countries were experiencing escalating rates of atopic diseases.

The theory goes that in 'protecting' children from exposure to dirt and germs, and by preventing disease from taking its full course in childhood, we are inadvertently destroying the body's ability to respond appropriately to infection and other stimuli which involve the immune system. In formulating this theory, researchers have found a link between too much hygiene and increased incidence of allergies.

The hypothesis came into being in 1989, when David Strachan, an epidemiologist at the London School of Hygiene and Tropical Medicine, noticed that children from big families, among whom infections are likely to circulate freely, were less likely to develop atopy.

Studies that have been published since 1989 suggest Strachan was on the right track. A report in the *British Medical Journal* in 2001 found that repeated viral infections (other than lower respiratory tract infections) in the first three years of life had a striking protective effect against asthma in later life.

Another study, conducted by the Institute of Social and Preventive Medicine in Basel, Switzerland, and published in the prestigious *New England Journal of Medicine* in 2002, looked at more than 800 children aged six to 13. Researchers found that kids who lived in the dustiest environments were less likely to suffer from asthma and hay fever. According to the researchers, farms offer one of the best places for the immune system to be exposed to infection.

That same year, the results of a 10-year study carried out at the Henry Ford Hospital in Detroit were published in the *Journal of the American Medical Association*. They showed that children who were exposed to furry pets during their first year of life were half as likely to develop common allergies by the age of six than those living in petless homes.

And last year a study, published in the *Journal of Allergy and Clinical Immunology* revealed that not only were children who had fevers early in life less allergy-prone, but the more fevers they had the more allergy-resistant they became. There is also a growing body of evidence showing that children who receive antibiotics early in life are also more prone to allergies later on.

routine use of antibacterial household and personal hygiene products, stating that it was unnecessary for domestic use and potentially harmful to the environment as such products were 'extremely persistent and highly toxic in the marine environment'. In 2003, a report by the Danish EPA on Triclosan concluded that the chemical was ineffective in the home and devastating to the environment.

In 2001, German environment minister Jürgen Trittin called on consumers not to use cleaning agents containing antibacterial agents and on industry to stop marketing and advertising the antibacterial qualities

of its products. Trittin called the use of anti-bacterial cleaners in households 'superfluous and risky', and he appealed to industry to stop suggesting to consumers that they were 'surrounded by enemy germs which they had to fight aggressively'.

In the end, it's not the spread of germs we need to fear; it's the sheer volume of products that we use to fight them. We have no new antibiotics with which to fight serious infections, and every attempt we make to rectify this situation chemically, including using antibacterial cleaners in the home, leads us further down what has become a very dark path.

By placing our faith in antibacterial cleaners such as Triclosan we impose an utterly false sense of security on ourselves that leads to lax habits in hygiene. Why bother to wash your hands when you can simply spray and wipe or wash and go with any number of strong disinfectants? Yet our hands are the most important way in which bacteria and other microorganisms are spread. Keeping them clean is the best way to keep 'germs' at bay. But the average hand wash takes a perfunctory three to five seconds (as opposed to the recommended 10 to 15), doesn't always involve soap or warm water, and often ends with a quick wipe on your trousers. It's a sign of the times when an organisation like the US Centers for Disease Control and Prevention feels compelled to post instructions on its website telling people how to wash their hands effectively.

More importantly, by allowing these products to remain on sale to the general public we are changing the basic ecology of our homes, turning them from places of safety into reservoirs of bacterial resistance. As the number of reservoirs of resistance throughout the world increases so does the likelihood that antibacterials of all kinds, including medicines and cleaning fluids, will be ineffective when and where we need them most – in hospitals and clinics.

It's time regulators stopped kowtowing to the chemical/ pharmaceutical industry. Antibacterial cleaners are nothing more than antibiotics. Selling them on demand over the counter and allowing them to be used widely and indiscriminately constitutes a clear, increasing and unacceptable threat to human health and the health of our environment. It is high time we faced this life-threatening growth in drug-resistant bacteria and pulled all products containing synthetic antibacterials off the shelves now.

■ More information about Triclosan and other anti-microbial chemicals and how they contribute to bacterial resistance can be found on the Alliance for Prudent Use of Antibiotics website at www.tufts.edu/med/apua. The campaign Beyond Pesticides www.beyondpesticides.org also produces several informative and in-depth documents on Triclosan

THEY THOUGHT THEY WERE FREE

'What no one seemed to notice... was the ever widening gap... between the government and the people... And it became always wider... The whole process of its coming into being, was, above all, diverting. It provided an excuse not to think for people who did not want to think anyway... [It] gave us some dreadful, fundamental things to think about... and kept us so busy with continuous changes and "crises" and so fascinated... by the machinations of the "national enemies", without and within, that we had no time to think about these dreadful things that were growing, little by little, all around us... Each step was so small, so inconsequential, so well explained or, on occasion, "regretted", that unless one understood what the whole thing was in principle, what all these "little measures"... must some day lead to, one no more saw it developing from day to day than a farmer in his field sees the corn growing... Each act... is worse than the last, but only a little worse. You wait for the next and the next. You wait for one great shocking occasion, thinking that others, when such a shock comes, will join you in resisting somehow. You don't want to act, or even talk, alone... You don't want to "go out of your way to make trouble"... But the one great shocking occasion, when tens or hundreds or thousands will join with you, never comes. That's the difficulty. The forms are all there, all untouched, all reassuring, the houses, the shops, the jobs, the mealtimes, the visits, the concerts, the cinema, the holidays. But the spirit, which you never noticed because you made the lifelong mistake of identifying it with the forms, is changed. Now you live in a world of hate and fear, and the people who hate and fear do not even know it themselves. When everyone is transformed, no one is transformed... You have accepted things you would not have accepted five years ago, a year ago, things your father... could never have imagined.'

From They Thought They Were Free: the Germans, 1938-1945 by Milton Mayer (University of Chicago Press, 1955)

All George W's

Men

If a majority of US citizens support action on climate change, how does their government get away with ignoring them? Largely because of the willingness of the world's most influential newspaper to toe the White House line BY HOWARD FRIEL



The New York Times is the most important newspaper in the US. Does this make it the most important newspaper in the world? If one measures the importance of a news organisation by the scale of its influence, then you could argue that the *Times* is both the world's most important newspaper and its most appalling journalistic failure.

The intellectual establishment in the US views *The New York Times* as the gold standard of American journalism. 'The *Times* remains the most important and, on balance, the best newspaper in the world,' wrote *The New Yorker's* prominent political commentator, Hendrik Hertzberg, in May 2003. Actually, Hertzberg went even further. 'The *Times's* authority... isn't just journalistic,' he said. 'It's downright ontological. It is scarcely an exaggeration to say that the *Times* defines public reality [in the US].' A month later, another commentator in *The New Yorker* described the influence of the *Times* this way: 'It is almost impossible to exaggerate the paper's significance. An event it doesn't cover might... just as well not have happened.' Which, for our purposes, prompts the question: 'If the earth is warming due to man-made greenhouse-gas emissions, and the *Times* doesn't cover the story, will the earth still grow warmer?' Institutionally speaking, the *Times* doesn't care one way or the other.

The acquisition of this much journalistic credibility did not result from a rigorous devotion to facts, a fearless resolve to challenge imperial presidencies or a principled devotion to the US constitution, the UN charter or the rule of law. Rather, the source of this authority is a sophisticated marketing approach to editorial policy, whereby the *Times* pitches its editorial products to high-end government, academic and corporate consumers the way that other big corporations pitch their high-end products to affluent customers. *The New York Times* is basically a Fortune 500 company that 'positions' its news stories and editorials to have broad appeal within the halls of power in government and corporate boardrooms in the US. In doing so, it is endlessly prioritising, protecting, and defending the '*New York Times* corporate brand, rather than unselfconsciously reporting the essential facts, law or science of a given issue. This, in turn, supports its business model, which is to sell as much corporate advertising as its pages can hold, and to deliver that advertising to as many high-end readers as possible. When it comes down to it, the production of news and information at the *Times* is more about the *Times* itself and less about an enlightened democracy and a globally responsible nation.

The editorial policy that perpetuates the business interests of the *Times* has been articulated by an unbroken succession of publishers and top editors, each of whom have described the paper as an 'impartial', 'centrist', 'non-crusading' newspaper. In practice, this means telling its readers a little bit but not too much about the vital issues of the day. Better to under-report an issue than be perceived as having a political or environmental agenda, since this would ruffle core customers and alienate corporate advertisers. This explains why there is some but not much coverage of global warming in the *Times*. It also explains why the most important newspaper in the world's most powerful and polluting country has utterly failed to exercise effective journalistic oversight of US global-warming policy, and why the rest of the world's citizens are merely passive witnesses of warming events and conditions they have little power to stop.

Contrary perhaps to European opinion, the much-maligned US public is less culpable with respect to global warming than the highly acclaimed *New York Times* is. In two public opinion polls in recent years, Americans were asked the following question: 'An international treaty calls on the US and other industrialised nations to cut back on their emissions from power plants and cars in order to reduce global warming, also known as the greenhouse effect. Some people say this would hurt the US economy and is based on uncertain science. Others say that this is needed to protect the environment and could create new business opportunities. What's your view? Do you think the US should or should not join this treaty requiring less emissions from US power plants or cars?' In its poll asking this question, ABC News reported in April 2001 that 61 per cent of those surveyed were in favour of such a treaty and only 26 per cent opposed. When the independent think-tank the Chicago Council on Foreign Relations asked the same question in a June 2002 poll, 70 per cent supported a treaty and 25 per cent were opposed. Other polls have consistently showed similar results.

In addition, at least 132 US cities, including New York, Boston, Los Angeles, San Francisco, Oakland, New Orleans, Seattle, Portland, Minneapolis, Denver and Salt Lake City, as well as the conservative Texas towns of Denton, Hurst, and Laredo and other small US towns, have endorsed the US Mayors' Climate Protection Agreement. By doing so, these cities have agreed: to meet or beat the Kyoto Protocol emission targets through actions ranging from anti-sprawl land-use policies to urban forest-restoration projects and public-information campaigns;

to urge state and federal governments to enact policies to meet or beat the protocol's suggested greenhouse-gas emission reduction target for the US (which is a 7 per cent reduction from 1990 levels by 2012); and to urge the US Congress to pass the bipartisan Climate Stewardship Act, which would establish a national emission-trading system in the US. Other cities are expected to join this effort. Overall, a majority of the US public opposes the Bush administration's rejection of the scientific and political consensus on warming.

Persuading the US to join the international consensus on global warming would mean identifying the segments of American society that have kept it from joining it to date. Obviously, president George W Bush, his administration and Congress are directly responsible for the US refusal

The New York Times sporadically and inadequately reports global-warming news, does little to enlighten its readers about the extent of global warming, and makes few demands on the Bush administration to join the international consensus and agree to mandatory emissions reductions

to accept the scientific evidence and ratify the political accords on global warming. But if a majority of the American people are opposed to current US policy, how can elected US government officials continue to disregard them without political consequences? The answer to this question lies to a great extent with the power of *The New York Times*, the paper's indifference about the seriousness of global warming, and its unwillingness to cover the story and motivate

the US electorate to pressure its government to change its policies.

Without any journalistic leadership from the *Times*, the inattention to global warming among major US news organisations will continue. And the American people, though unimpressed with the administration's policies on the issue, have not prioritised climate change in their hierarchy of political and economic concerns. This permits Bush and co to continue coddling their big-energy supporters without sustaining political damage, which virtually guarantees no effective international action.

When climate scientists from around the world gathered in Exeter earlier this year for the Met Office's Avoiding Dangerous Climate Change conference, it was one of the most important scientific events with respect to

global warming since the 2001 report by the UN's Intergovernmental Panel on Climate Change. Papers given at the conference indicated that the earth's climate was changing more rapidly with more dramatic effects than had been previously predicted.

One such paper, according to *The Independent*, reported that 'researchers from the Cambridge-based British Antarctic Survey have discovered that a massive Antarctic ice sheet previously assumed to be stable may be starting to disintegrate'; and that the ice sheet's 'collapse would raise sea levels around the earth by more than 16 feet', which would put 'enormous chunks of low-lying, desperately poor countries such as Bangladesh under water – not to mention much of southern England'. *The Independent* reported that the conference 'heard several alarming new warnings of possible climate-related catastrophic events, including the failure of the Gulf Stream, which keeps the British Isles warm, and the melting of the ice sheet covering Greenland.'

Two days later, *The Independent* reported a claim from the Exeter conference that 'gigantic changes to the oceans, leading to the extinction of marine life from cod to coral reefs, are likely because of' carbon dioxide emissions; that high levels of atmospheric carbon dioxide are 'rapidly turning the world's oceans [into] acid as [the carbon] is dissolved in seawater, putting an enormous array of marine life at risk'; and that 'ocean acidification may wipe out much of the microscopic plankton at the base of the marine food web' and is already endangering the future of coral reefs. Despite the highest professional standing of the climate scientists present, *The New York Times* ignored the conference and the dramatic research findings that were announced there.

Two weeks later, reporting from the annual meeting of the American Association for the Advancement of Science, *The Independent* said that scientists from the US Department of Energy, the US government's Lawrence Livermore National Laboratory in California, the US National Oceanic and Atmospheric Administration and the Met Office's Hadley Centre for Climate Prediction and Research 'have found the first unequivocal link between man-made greenhouse gases and a dramatic heating of the earth's oceans'. The scientists had discovered 'a "stunning" correlation between a rise in ocean temperature over the past 40 years and pollution of the atmosphere'. *The Independent* said they had 'destroy[ed] a central argument of global warming sceptics within the Bush administration that climate change could be a natural phenomenon', and thus 'should

convince Bush to drop his objections to the Kyoto treaty'. But Bush wasn't likely to be persuaded by such evidence, in part because *The New York Times* and most other major US news organisations ignored it.

One exception was the Knight Ridder news organisation, which reported 'new measurements from the world's oceans... [giving] the most compelling evidence yet that man-made global warming is under way, and [which] hint at a more dramatic and sudden climate change in the future'. The organisation reported that Ruth Curry, a scientist at the Woods Hole Oceanographic Institution in Massachusetts, found that 'between 1965 and 1995 about 4,800 cubic miles of fresh water... melted from the Arctic region and poured into the normally salty northern Atlantic'. Curry claimed that if the melting continued, 'the increased influx of fresh water could shut down the great ocean conveyor belt, which helps regulate air and water temperatures, abruptly changing the climate around the Atlantic and elsewhere'. Curry also estimated that 'if the thaw continues at current rates, the shutdown scenario would occur in about two decades'. Also highly worrisome, Curry said, is the fact that the ice of Greenland has also started to thaw.

But *The New York Times* has imposed an almost complete blackout on the steady flow of worrisome scientific reports this year that have predicted worst-case global-warming scenarios. In January, a joint international effort that included scientists from the US, the UK, China, Germany, France, Australia, Switzerland, India, and Malaysia issued a report that summarised the scientific consensus on global warming as follows: 'The vast majority of international scientists and peer-reviewed reports affirm that climate change is a serious and growing threat, leaving no country, however wealthy, immune from the extreme weather events and rising sea levels that scientists predict will occur unless action is taken.' Though the Bush administration still holds that global-warming science is uncertain, and still refuses to participate in international efforts to reduce greenhouse-gas emissions, the *Times* ignored this report. *The Times* also paid no attention in May, when the UN Environment Programme convened 'an unprecedented grouping of pension funds, foundations, European investors and US state treasurers... to back a new call for urgent action by the global investment community to tackle the threat of climate change'.

Even when the paper covers an important global-warming story, it often treats it as a business or science story, not as a policy issue for which political leaders are responsible. For

example, when the Kyoto Protocol finally went into effect – without US ratification – in February, the *Times* reported the story in its business pages, and the paper's editorial page, reluctant to criticise the White House, had no comment. Likewise, on 30 March, the UN's Millennium Ecosystem Assessment (MEA) issued its synthesis report of four earlier studies on the state of the earth's ecosystems. As the synthesis report noted, this huge effort 'was carried out between 2001 and 2005 to assess the consequences of ecosystem change for human wellbeing and to establish the scientific basis for actions needed to enhance the conservation and sustainable use of ecosystems and their contributions to human wellbeing'.

The MEA, which represents the most authoritative and comprehensive assessment ever of the earth's ecosystems, issued a number of dramatic findings. 'Sixty per cent of the ecosystem services examined are being degraded or used unsustainably... There is established but incomplete evidence that changes being made in ecosystems are increasing the likelihood of non-linear changes in ecosystems... [including] disease emergence, abrupt alterations in water quality, the creation of "dead zones" in coastal waters, the collapse of fisheries and shifts in regional climate... Over the past 50 years, humans have changed ecosystems more rapidly and extensively than in any comparable period of time in human history, largely to meet rapidly growing demands for food, fresh water, timber, fibre and fuel. This has resulted in a substantial and largely irreversible loss in the diversity of life on earth.' Despite the clear relevance of these findings for everyone on earth, and their enormous political implications, the *Times* covered the MEA's report on page two of its science section, while its editorial page once again had nothing to say.

In short, *The New York Times* sporadically and inadequately reports global-warming news, does little to enlighten its readers about the extent of global warming, and makes few demands on the Bush administration to join the international consensus and agree to mandatory emissions reductions.



The 1990s may have been the last best chance to do what was necessary to check global warming. In 1990, the first report issued by the Intergovernmental Panel on Climate Change concluded that unless emissions of carbon dioxide and other greenhouse gases were reduced immediately by 60 per cent, global temperatures would rise sharply in the 21st century. This report should have convinced the political

When Bill Clinton announced in 1993 that he would not pursue mandatory emissions reductions, *The New York Times* observed that his alternative plan 'relies heavily on voluntary actions [and] goes light on regulatory actions' and is thus 'a reasonable response to a distant crisis whose dimensions are uncertain'

leadership in the US, which emits more greenhouse gases than any other country, to integrate mandatory emissions reductions into its economic and environmental future. The fact that the political leadership, with the support of *The New York Times*, did the opposite, was a fateful if not fatal turning point in US global-warming policy.

Two major attempts were made in the 1990s to codify

mandatory emissions reductions within the context of the UN framework convention on global warming: at the UN Earth Summit in Rio de Janeiro in June 1992, and at its Kyoto conference in Japan in December 1997. In each instance, the US government almost single-handedly weakened these efforts in advance of an agreement, essentially guaranteeing that they would have little capability to forestall the global environmental disaster now foreseen in study after study. And *The New York Times* played an important supporting role in Washington's neglect of global warming throughout the decade.

Just before the 1992 Rio summit convened, the *Times*' editorial page supported George Bush senior's rejection of mandatory emissions reductions. In a 24 May editorial, the *Times* commented: 'The Bush administration has drawn sharp criticism for weakening the global-warming treaty that will be signed at the UN environmental conference next month in Brazil... The administration's opposition to mandatory limits was on solid ground – the need is not yet proved and the cost could be high.' The editorial noted that major climate change, though conceivable, was "unlikely'.

One month later, on 12 June, the day the climate treaty at the Rio Earth Summit was signed, the *Times* editorial page commented: 'Is president Bush an environmental pariah doing his best to scuttle important treaties at the Earth Summit? Or is he the only world leader with the courage to stand firm against a flood of environmental extremism? The answer is, a little of both. On specific issues, like global warming, biodiversity and forest preservation, the Bush administration has taken reasonable, even principled positions.' The Bush administration's 'principled position' on global warming included the fact that 'almost single-handedly the US forced other industrial nations to abandon a firm commitment to stabilise the emissions of greenhouse gases at 1990 levels by the year 2000'.

And finally, when George Bush senior's successor, Bill Clinton, announced in late 1993 that he would not pursue mandatory emissions reductions, the *Times* backed him, observing that Clinton's alternative plan 'relies heavily on voluntary actions [and] goes light on regulatory actions' and is thus 'a reasonable response to a distant crisis whose dimensions are uncertain'. The paper said that global warming 'is not an issue on which the president should spend much political or economic capital just yet'. When Clinton, with reluctance, agreed in late 1997 to sign the Kyoto Protocol that he had helped weaken, the *Times* applauded the president for imposing his 'political will' on the treaty process and outcome. (Clinton's about-turn was fairly irrelevant, anyway, because in July 1997 the US Senate had voted 95-0 that 'the US should not be a signatory to any protocol or other agreement regarding the UN Framework Convention on Climate Change of 1992.' This vote virtually guaranteed that the senate would not ratify the Kyoto Protocol, and that the US would never lead the world in a timely or effective way in its response to global warming.)

Surely, there can be no more important role for the US news media than preventing the most powerful country in history from leading the world to ruination. With global warming, however, *The New York Times* has miserably shirked this responsibility. By doing so, the newspaper may have served its bottom line well, but it has also implicated itself in imminent environmental disasters. This is an epic failure of US journalism.

■ Howard Friel is co-author with Richard Falk of *The Record of the Paper: how the New York Times misreports US foreign policy* (Verso, 2004)

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BETTER THAN

REAL

Who needs nature when you can manufacture a superior, ersatz substitute?

BY MARK WHITE

Visitors to the British Museum this May would have found an unusual exhibit beneath a limestone statue and a first-century tombstone.

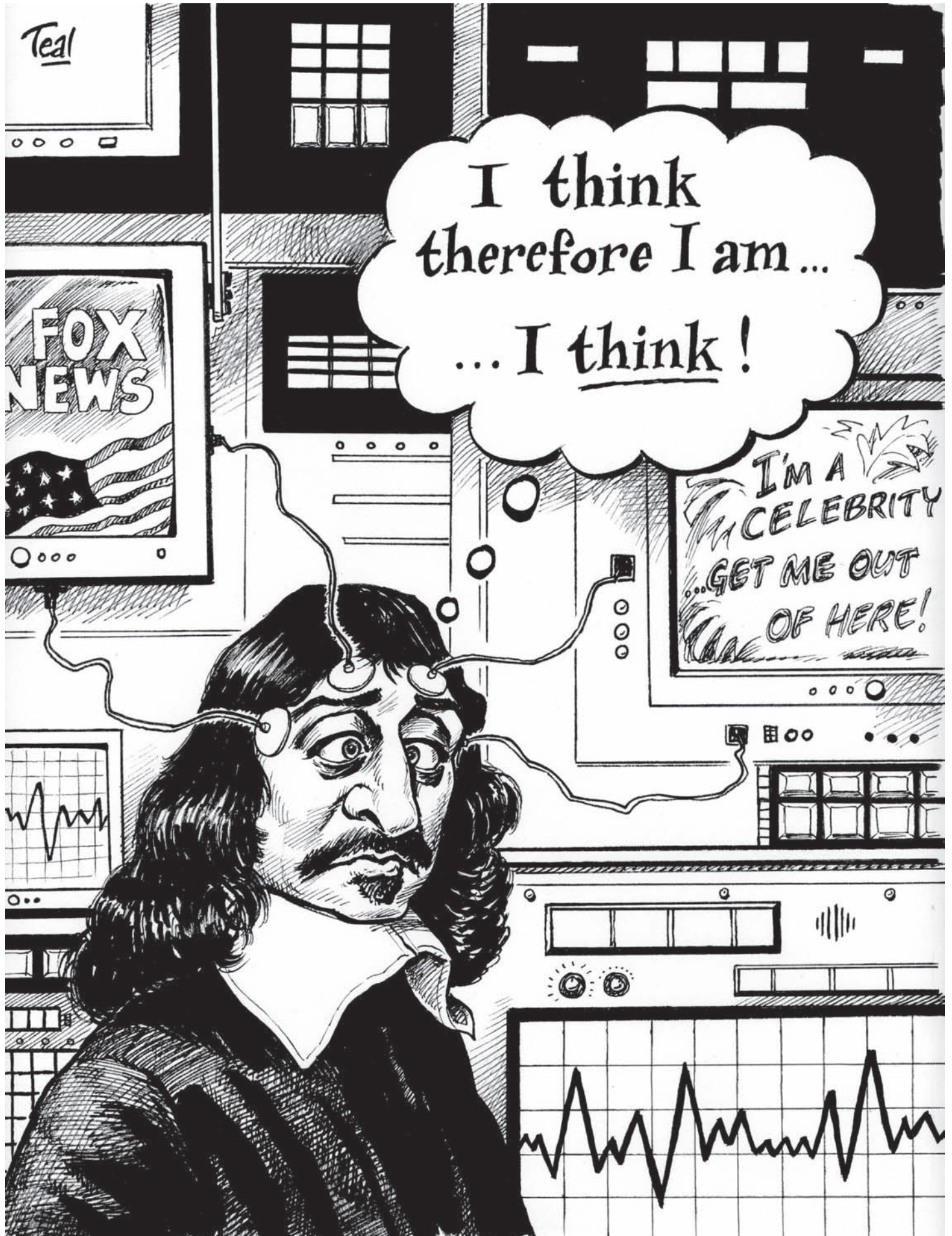
A cave painting of a spear-carrying caveman pushing a supermarket trolley. It wasn't discovered until a few days after it had been hung by art prankster Banksy.

Banksy was making a succinct point about fooling people. The picture's unreality is only given up on study: we see a finely executed picture, a satirical commentary on consumerism, and an aside on how easy it is to hide the inauthentic among the authentic.

He's right. Fake culture is everywhere. Don't be fooled by talk of 'reality TV' or of 'keeping it real'. There's a fake for everything. Our museums are full of fake pieces. Politicians in the US are debating

whether they should label 'news' put out by the PR industry and government departments as fake; as it stands, broadcast news is able to transmit these video press releases, fronted by actors and looking like real news, but with a positive, spun edge, straight to air alongside their real reports. You can't tell the difference, apart from the fact that fake news is a lot happier and follows a script. But as the rising viewing figures in the US for Fox News show, news that tells you what you want to hear always trumps inconvenient or unexpected stories.

The majority of us in the rich world no longer struggle to feed ourselves. We have become bored. We demand new experiences. In his 1975 essay 'Travels in Hyperreality', Umberto Eco wrote of an America where prosperity meant there was always a surplus to throw away ('that's prosperity'), and coined the term



I think
therefore I am ...
... I think!

I'M A
CELEBRITY
...GET ME OUT
OF HERE!

'hyperreality' to explain 'those instances [in which] the American imagination demands the real thing, and to attain it must fabricate the absolute fake'. It's a land where the demands and imagination of the consumer are always satisfied. It's a land where the fake can be better than the real thing. 'A real crocodile can be found in the zoo,' Eco wrote, 'and as a rule it is dozing or hiding, but Disneyland tells us that faked nature corresponds much more to our daydream demands... Disneyland tells us that technology can give us more reality than nature can.'

Our daydream demands are more urgent than ever. We don't have time to wait for the crocodile to show itself. That's

inconvenient. We've got shopping to do, and the traffic's terrible, and... call that a crocodile? It doesn't move, and we saw that movie with thingummy in it, in which the crocodile jumped on them and they fought in the

river and now that was a proper crocodile. We've been fed so many tall tales by the culture industry and advertising that reality keeps falling short of our expectations. Our egos, the primal 'I want', have been seduced by a society organising around consumption and self-gratification and the values of the entertainment industry. The hyperreality that Eco wrote of in 1975, which he saw mainly transmitted through the re-creation of art and history, has spread through the rest of our society until we are hemmed in by fakes on every side.

Nurseries sell artificial plants and trees. Mobile phone masts are disguised to look like pine trees, or boulders, or cacti.

Want to give your four-by-four killing machine that genuine off-road flavour? You can buy spray-on fake mud. Japanese GM researchers have

inserted a gene from the human liver into rice to enable it to digest pesticides and industrial chemicals, and if that's

not fake food then I don't know what is. Researchers are close to perfecting an odour that smells of fresh air. We buy and we believe.

Our society is comfortable with the artificial: it's much less troublesome than the real, and a lot more obedient. But the dislocation from

nature poses growing problems, not the least the fact that our physical survival is hanging in the balance. By living in this hyper-artificial reality we're ignoring deeper problems or dismissing them out of hand. Rates of mental illness continue to rise as our societies grow richer, and this epidemic is dismissed as an interior problem: he couldn't cope; she's not up to it; they're sick. The solution? Swallow a pill, and get back into your box. But a psychological viewpoint would help here. Take a rock star in a spiral of drink and drugs and sex that's great to begin with at least (and no one ever says no). After a while, he detaches from reality and floats into a world that's based around gratification and believing the lies he's told (and still no one ever says no). The rock star needs to control his new reality, and any threat to what he thinks is real must be destroyed, because if that threat makes it through then the house of sand comes tumbling down. That's schizophrenia, baby, and you don't know what to believe because everything is true and false at the same time and nothing is normal any more.

Slovene philosopher Slavoj Žižek has touched on the phenomenon of self-harmers, mostly women, who cut themselves. The act is usually dismissed as suicidal or a desire for self-obliteration, but Žižek argues differently: 'This is strictly parallel to the virtualisation of our environment: it represents a desperate strategy to return to the Real of the body... Cutting is a radical attempt to (re)gain a hold on reality, or... to ground the ego firmly in bodily

Fake plants and trees do have many advantages over the real thing. They will survive virtually anything. They are like cockroaches

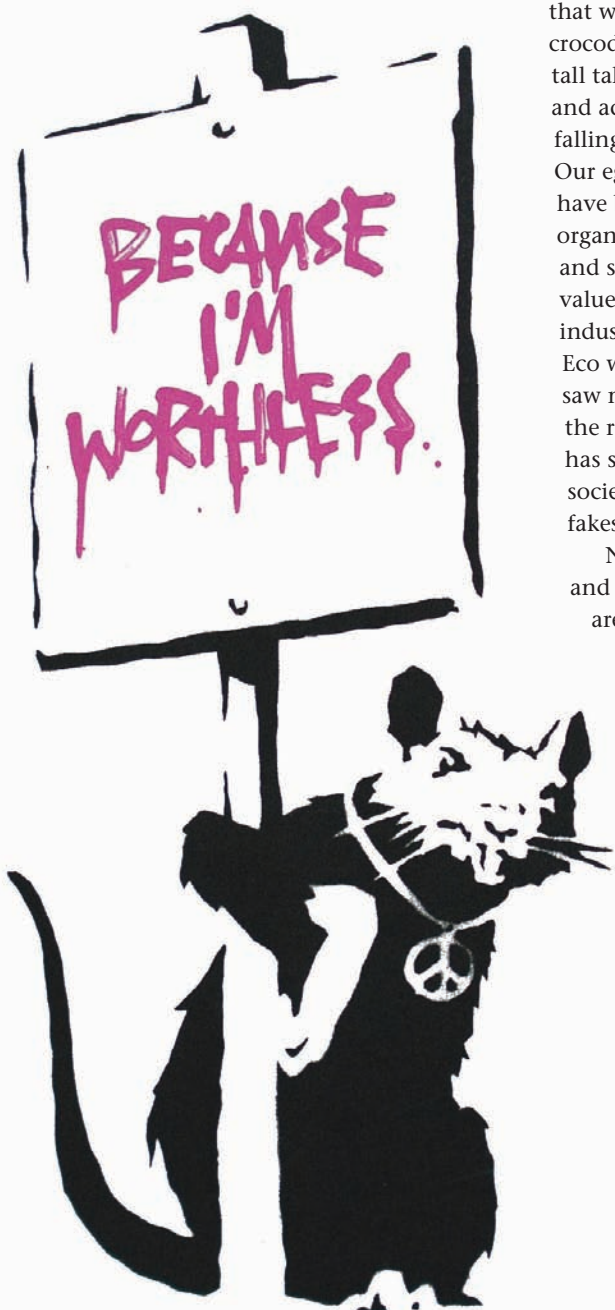


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reality, against the unbearable anxiety of perceiving oneself as non-existent.' The only way to break through the fog is for self-harmers to hold a razor against their arm and slice through the flesh and see the blood run red. Welcome to the desert of the real.

Technology has given us the opportunity to realise power over the world, and therefore freedom from it. This drive for control over our environment started in Western societies with *Genesis*: 'And God said: "Let us make man in our image, after our likeness; and let them have dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the earth, and over every creeping thing that creepeth upon the earth.'" *Genesis* also said that we should tend to the earth, but the philosophers René Descartes and Francis Bacon cemented the view that man was above nature.

Scientific progress, which is always seen as good, is enabling us to achieve our goals, one by one, while any unintended blow-back can, we are assured, be secured through scientific advance, or what got us into the mess to begin with. But the blow-back is increasingly severe. Eco-psychologist Chellis Glendinning explains that the Neolithic era was the first time man walled himself off from nature. What was inside the fence was good and could be consumed, but what was outside the fence was a threat and must be destroyed. The threats from outside the fence are growing. There's climate change, new technologies, Aids, Islamist terrorism and unrest caused by globalisation. Zizek argues that 'it is the awareness that we live in an insulated artificial universe which generates the notion that some ominous agent is threatening us all the time with total destruction', but you can turn his argument on its head. The bigger the threat, the greater the need for control. We are trying to extend that fence outwards, because what we control can't hurt us. Hence the urge for a garden space which acts as another room of the house. The modern urge for cleanliness is about controlling the area inside the fence. The real has become dirty in our culture and needs to be tidied up.

Life is like a three-act movie, in which motivations are simple and everything

always ends neatly. Nothing needs to be real, because the fake is so much better. The more optimistic social commentators welcome reality TV for its unscripted nature. But unscripted doesn't mean real (if it's unscripted at all). A friend of mine appeared on the Australian version of *Playing It Straight*, in which a woman had to guess which of the male contestants were gay and which were straight. The men taking part were told what to say about each other.

Similarly, the premise of the ITV show *I'm A Celebrity, Get Me Out Of Here!* was simple enough: here the celebs were in Australia, home to sharks and spiders and snakes and lions and tigers and bears, oh my! Stuck in the jungle! Savage creatures! Icky food that savages eat! No M&S sandwiches! These people were going to suffer. Not even any tea bags. The horror! the horror! They were living outside the fence, and anything could happen. I was living in Sydney when the first series was being filmed, and the rumour I heard from members of the production team was that the entire site had been carpet-bombed with bug spray. The camp site was covered and cleared of all spiders and snakes. Instead of

risking losing control of the storyline, the TV company made sure it stuck to a script. This wholly reprehensible show had failed pop star Peter Andre heroically sticking his head into a box full of orb-weavers and huntsman spiders and making lots of noise, scaring them half to death. The first time you see an adult huntsman will take 10 years off your life. They are huge and hairy and move like greased lightning, but they are utterly harmless – unless

you're a cockroach, in which case you're dinner. They can't harm you, which is more than you can say for Andre's music.

The values of hyperreality mean that there is a place for everything, not that

everything has its place: anything can exist anywhere now. We live on a movie set. Sheldon Adelson is the Las Vegas businessman whose outrageously glitzy re-creation of Venice, complete with its own canal, is situated in the middle of the Nevada desert. In 1997, when he announced his Venetian resort, he said of a rival's neo-city: 'We believe New York-New York is a "faux" New York. We are not going to build a "faux" Venice. We're going to build what is essentially the real Venice.'

Nature itself isn't coming up to scratch, so we've started to replace it. It's worth looking at how the manufacturers of fake trees and plants describe their products, as their language offers useful clues into why and how the culture of fake has spread so far and so fast. They're not fake, for one thing, but maybe artificial. The company Just Artificial promises: 'No watering, no dead-heading, no insects or bugs... All-year, lifelike flowering, colour and fruit.'

Fake plants and trees do have many advantages over the real thing on a material level. They are resistant to

drought, beetles and other pests. They never grow, never need pruning, and their roots will never buckle a pavement or a house's foundations. They are immune to root rot and mould, and will keep their shape for ever. If they are UV-treated they will keep their looks for ever. They do well in all types of soil and in solid concrete. And they will never provoke hay fever. They will survive virtually anything. They are like cockroaches.

The first fake tree in the US was made in the 1930s with machinery used to manufacture toilet brushes. One of the biggest US firms selling fake trees is Nevada's FauxEco. The profile of

We are hemmed in by fakes on every side. Want to give your four-by-four killing machine that genuine off-road flavour? You can buy spray-on fake mud. Researchers are close to perfecting an odour that smells of fresh air

the firm's customers has changed, says FauxEco president Jessica Woodrow; previously, they were Disney, water parks, resorts or shopping malls. But Woodrow says: 'Increasingly, residential clients across the globe are wanting maintenance-free landscapes or ones that can create an atmosphere not native to their environment. The more popular [fake trees are], of course, the palms. Whether interior or exterior, the addition of palm trees with all the wonderful romantic memories or dreams of escape they invite is clearly a human urge that artificial solutions can fulfil. Homes in Canada, northern USA and Sweden are "planting" FauxEco palms in their back yards to complete their "backyard resort", which includes a pool, hot-tub... and barbecue.'

You used to have to travel to palm trees to gain those romantic memories or 'dreams of escape'. Indeed, that was the point of those dreams. But now you can bring that world to you, sort of. This signals an enormous redefinition of our relationship with nature: if we can re-create a 'look' outside of its native environment, it does away with the need for that native environment absolutely; we are moving towards a world that values visual experience above all else.

This prioritisation of the visual is also demonstrated in our relationship with mobile phones. There is a 300 per cent higher cancer risk associated with using mobile phones in rural areas than in the urban environment. Our mobiles may be making us sick, but we don't want to do without them. But nor do we want to look at mobile phone technology. Arizona company Larson offers the most ingenious ways of hiding mobile phone masts from public view, a move akin to how Disney disguises the real workings of its theme parks – by draping them in 'nature'. Mobile phone towers can be made to look like a pine or palm tree, a petrol station sign, a

saguaro cactus or even a church steeple. The website *Fraud Frond.com* is devoted to pictures of such fake trees, including one stirring specimen that carries a warning sign saying 'Danger! keep off!'.

With their belief that if you say something often enough people will believe it, irrespective of whether it's true, Blair and Bush are ideally suited to today's culture of hyperreality

There isn't as much demand for disguising mobile masts as fake trees in Britain, as planning authorities aren't as strict here as in the US; though the Campaign for the Protection of Rural Wales did give an award to the FLI Cypress Tree model used in Snowdonia. Peter Brannan, technical director for tree-mast manufacturer Levacom, says: 'There always has to be a trade-off between looking perfect and [the] price that the mobile operators are prepared to pay. If you look from 100 metres away then [the mast] looks like a tree, but if you look closer you can see it's not a tree.' You can pay £20,000 for a pine tree with a steel trunk, fibreglass branches, high-density polyethylene foliage and water-based paint to get that realistic hard bark finish.

Our sense of smell is a lot easier to fool than our visual sense, and easier to manipulate. We might like to think that we could easily pick out a natural odour versus an artificial one. But Dr Alan Hirsch, managing director of the Smell and Taste Treatment and Research Foundation in Chicago, says: 'It's hard to show a difference.' People's olfactory ability is set in childhood. A cross-cultural study Hirsch conducted found that people born before 1930 described a natural smell as evoking their childhood, but people born in the following 50 years were more likely to describe something artificial, like Play-Doh or jet fuel.

Artificial odours were first produced because they were much easier to make in bulk and consistently. That has now fed into what we expect from our environment, so people prefer the smell of artificial leather to real leather. 'Many

of the luxury cars made today with natural leather have been impregnated with the smell of artificial leather,' says Hirsch. 'Virtually everything is scented, even scent-free soap.' The perfume industry has developed an aroma that makes men think that women who use it are six years younger than their actual age: a botox in a bottle. And when one scent was introduced to the Las Vegas Hilton, the amount of money put into the slot machines increased by 45 per cent.

Natural smells are becoming redundant. Now industry is working on a new smell, one that's hard to get a good lungful in the real world: fresh air. 'We have different odours already for the outdoor smell,' says Hirsch. 'We're in the process of mixing them together. [Fake fresh air] gives people the perception of being outdoors. You could use it for people who are claustrophobic, people stuck in a psychiatric ward, on a long-haul flight... There are lots of potential uses.'

The food of choice for hyperreality is genetically modified, of course. Look at the claims for GM, like increased levels of vitamins to cure blindness in the Third World. The supermarkets that would like to sell such food are also fake, offering the illusion of choice, value and endless bounty. As behemoths like Wal-Mart and Tesco dominate the market, they end up dictating what's made. Value is often restricted to a number of leading items, and doesn't exist at all with processed foods and packaged vegetables. And the endless bounty (who could fail to be impressed by overflowing vegetable and fruit baskets 365 days a year?) is also a myth, based on flying in produce from all over the world and ruthless control over the price of what's sold and what it looks like.

The need for control grows ever stronger. Eco-psychologists like Glendinning see that need as arising from a psychology of fear leading back to the fragmentation of our world into a Good Inside and Bad Outside dichotomy. After 1945 we suddenly had the ability to destroy the planet, and the fear was jacked up. 'Politically there are people who are grabbing control, who are running on this kind of fear,' she says. But

politicians like Bush and Blair are ideally suited to hyperreality, with their belief that if you say something enough times people will believe it; whether it's true or not doesn't matter, as something fake can still be a real fake.

Psychologically, Glendinning sees deep trauma in our societies. 'I look around and everyone is being traumatised, whether it's by war or leaving their homeland or living in a mechanical-technological society and all the trauma that goes along with that,' she says. The rise of fake culture is, for her, the next step of the dissociation caused by such trauma. 'It's mentally ill. That people would fall for it or go for it is a testimony to the level of dissociation.'

It's no wonder our physical and mental environments are in so much anguish: our psychic environments are in disarray. And the implications of our continuing to surround ourselves with the fake are severe indeed. On an immediate level, if we carry on our journey into the

fake then the real can carry on failing, and we won't know it's too late until it really is too late. We will wait for the technological knight on a white horse to save us, but he will never arrive. Part of the reason people involve themselves with environmentalism is cognitive, but the more powerful motivation is emotional attachment; one of the ways that is developed is through our senses. 'What's going to happen in 20 or 30 years time when the people in charge aren't nostalgic for the environment but for artificial chemicals?' asks Hirsch. 'Will they be so involved in ecological actions? Cognitively they might want to, but there will be no emotional link.'

The longer we surround ourselves in a culture of fake, the harder it will be to



WORLD OF FAKE

go back. The mind adapts, and adapts naturally towards the fake. The plasticity of the human brain is all too well-suited to our current, virtual realities. Where can you get the stimulation of a video game in nature? Or the hyper-flavour of monosodium glutamate? So our problems mount. Technology lets us realise our desires, but the natural world will forever be beyond our control. And so we continue to substitute the real, and it is overtaking us.

As humans, we spend our lives searching for meaning and truth. Some find it in work or families; some in helping others; some in sex, drink and drugs; others still in science. But when we can no longer tell what is real and what isn't, whether our meaning is valid or not, then our mental breakdown will be complete. If we don't know or care what's real and what isn't, then it won't matter any more, and we will be living in a giant show staged for no one's benefit, the cameras never rolling, the trees never dying, the people never really coming to life...

■ Mark White is a freelance journalist and ex-editor of *adbusters*

A study conducted by olfactory scientist Alan Hirsch showed that people born before 1930 described a natural smell as evoking their childhood, but those born in the following 50 years were more likely to describe Play-Doh or jet fuel



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Walk Your Talk

Entrepreneurs creating a sustainable society

Thursday 15 September - Sunday 18 September 2005
at the Findhorn Foundation, Scotland
www.walkyourtalk.info



reviews

BOOKS

Good Growing: why organic farming works

Leslie A Duram

Bison Books, 2005, \$21.95

The phenomenal growth in popularity of organic agriculture in recent years is a sure sign of consumers' increasing concern for their health and the environment. People are undoubtedly uneasy about eating food sprayed over and over again with pesticides, but is the organic alternative actually any better? Starting with a detailed indictment of the problems of industrial agriculture, Duram lays out the reasons why organic food really does make sense. The book is littered with engaging portraits of organic farmers discussing the realities of their way of life, and backed up with an extensive directory of organisations across the world for people interested in learning more or lending support.

Reviewed by Sarah McCarthy

The Final Energy Crisis

Edited by Andrew McKillop and Sheila Newman

Pluto Press, 2005, £15.99

Expect to hear the words 'peak oil' a lot in the coming months and years. We are

reaching the point at which daily oil production will reach the top of its curve, and from then on the amount produced will start to decline. Yet our appetite for the stuff shows no sign of diminishing. All the while, the climate is getting hotter, the wars keep happening, and no one has any idea what to do. An excellent place to start looking for clues would be this book: a series of essays by some of the leading thinkers on the subject. Not necessarily an easy read, but an essential one.

Reviewed by Rufus Weston

What I heard about Iraq

Eliot Weinberger

Verso, 2005, £7.99

This is a truly remarkable book, its unique style lifting it above the mass of writing about the Iraq war. Sure, it has the facts, the anecdotes, the quotations that all the others do. What sets it apart is the way they are presented – via a series of reminiscences, mostly starting with the words 'I heard...', as in: 'I heard that the US military has purchased 1.5 billion bullets for use in the coming year. That is 58 bullets for every Iraqi adult and child.' The 'I heard' humbly acknowledges that we can never know the truth, but also helps articulate a higher truth: the plain fact that the war was wrong. A profoundly poetic, hallucinatory work.

Reviewed by Jeremy Smith

Stories that Crafted the Earth

Adrian Beckingham

Gothic Image Publications, 2005 £12.99

Beckingham's gorgeous book tells a series of indigenous alternatives to the Old Testament creation myth. Many of the peoples whose stories are told are now seeing their cultures threatened by Western development. Reading these tales – be they Hopi, Yanomami, Balinese or Aborigine – is a reminder of the richness of the world, and of all the beginnings we stand to lose if we continue on our current path: a path to just one ending. Read them to your children; read them to yourselves.

Reviewed by Jeremy Smith

Last Child in the Woods: saving our children from nature-deficit disorder

Richard Louv

Algonquin Books, 2005, \$24.95

A single sentence explains why Louv's book is so important: 'Our children,' he writes, 'are the first generation to be raised without meaningful contact with the natural world.' This matters, and *Last Child in the Woods* makes it patently clear why *and* lays out a path back. Dulling their senses, disturbing their health and encouraging in them a fear of the unknown, life without nature is changing our children for the worse. The government offers children computer games to get them walking, and piles millions and millions of pounds into a creaking health service to cure them of obesity and ADHD. But, as Louv shows, the answers to these problems may be so much simpler: get outdoors and explore.

Reviewed by Douglas Bebb



DVD OF THE MONTH

Little Voices

Eduardo Carrillo

www.locombia.net/voices

According to Unicef, between 1985 and 1999 1.1 million children under the age of 18 were forcibly displaced from their homes. Yet in the West we hear next to nothing of this. Carrillo's profoundly moving film gives the children back their voices. He uses their own drawings (of paramilitaries, cocaine production, violence and displacement) to animate their stories. The jarring mix of the innocent style of the drawings and the bitter experiences narrated brings these distant events painfully close to home. Thus, when an 11-year-old boy describes how he used to mix coca to make cocaine, and how the men fought and shot each other each weekend in his town, and we see his scratchy drawings of images no child should have to see, let alone participate in, it is impossible to deny who really suffers when someone in the West snorts cocaine.



MY FIVE BOOKS

Ray Anderson

Ray Anderson is the chairman of Interface, probably the world's greenest multinational. Here, Ray selects his five most influential books



Which book first woke you up to the crisis we are in?

The Ecology of Commerce by Paul Hawken. I read it at a propitious moment. I had been asked to make a speech to launch a new environmental task force at Interface. I didn't want to make that speech because I was supposed to offer an environmental vision for Interface, and I didn't have a vision; I could not get beyond, 'comply'. Reading Hawken's book was epiphanal, a 'spear in the chest' experience, and it gave me all the vision I could handle: Interface, sustainable and just, taking nothing from earth not naturally and rapidly renewable, and doing no harm to the biosphere; and, in time, restorative through the power of our influence.

Which book would you give to every CEO?

My book, *Mid-Course Correction*. When we set out to climb 'Mount Sustainability', there was no how-to book. We devised our own plan, and set about changing our corporate culture. The heart of *Mid-Course Correction* is that plan, and much of the impetus for culture shift that underpins it makes up the balance of the book. To my knowledge, it is the first how-to book for the aspiring CEO written by one who has been there.

And to every politician?

For the Common Good by Herman Daly and John Cobb. It dissects the present, widely accepted economic and educational systems, and exposes the profound flaws in each. Every politician could benefit from its new, fresh thinking on these systems that are leading society over the edge of a cliff.

And to every child?

The Lorax by Dr Seuss. It is metaphorical, but to a child's eyes, quite literal. It tells the resource-depletion story in an unforgettable way.

It's 2050. The ice caps are melting. Sea levels are rising. You are only allowed one book on the arc. What is it?

An English language translation of *The Zohar*, the ancient book of spiritual wisdom that underlies kabbala (Jewish mysticism). I would be looking for an explanation of the nature of things that transcended human folly.

WEBSITE OF THE MONTH

Mandy and the Temple of Trade

www.foe.co.uk/campaigns/global_trade/press_for_change_email_mandy/mandy_game.html

Ever fancied throwing a green tomato at Peter Mandelson? Well now you can, with Friends of the Earth's online game 'Mandy and the Temple of Trade'. When Mandy became EU trade commissioner last year, he inherited a European trade temple balanced on three pillars: the economic, social and environmental. Trouble is, he's neglected the last two, and thinks economic means big business. 'Mandy and the Temple of Trade' lets you 'green' the commissioner and send him an email letting him know what you think about him.

BADVERTISEMENT

Kath Dalmeny, campaigns and research officer at the Food Commission (www.foodcomm.org.uk), writes:

The Guardian has been vociferous about the government's poor performance on reducing carbon emissions. What a shame its advertising policy does not share this priority. On 25 May, its report on the launch of the campaign for a climate-change bill was reproduced on its website. Emblazoned across the story was an animated advertisement for British Airways. Aviation is the most carbon-intensive form of transport, as *The Guardian* (via George Monbiot) frequently points out. And the airlines have been some of the most vociferous opponents of fuel tax and emissions trading.

■ Have you seen a badvertisement you'd like to share with us? Email jeremy@theecologist.org

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green pages

NATURAL SWIMMING POOLS

Imagine chemical-free swimming, surrounded by water lilies and accompanied by a chorus of frogs and birds

SEASONAL FOOD FOR FREE

Why not make yourself a cup of lime flower tea... Red and Black currant jellies and jams... or possibly a giant puffball omlette?

SEA BREAM

Mitch Tonks tucks into a summer tourist

BIODYNAMIC LOIRE VALLEY WINE

Horse-powered, moon-sensitive and delicious

FASHIONABLE FUNGHI? PUFFBALLS ARE BACK

ESSENTIAL DIRECTORY

More than 200 ethical organisations

With 7,000 nerve endings, 26 bones and 33 different joints – it's time to bare your feet



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Food



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**Biodynamic
wines,
page 76**



Contents

70 July/ August in season

This is the time of year to take full advantage of the many grains, seeds, herbs and fruits that can be pickled, dried and preserved for the hard winter months ahead. And what better way to banish the winter blues by spreading your own home-made jam on a piece of hot buttered toast as the snow falls outside?

72 Summer recipes

As happy as a vegetarian in July and August... From sugar snaps with sesame seeds, to baby courgette salad, summer living is easy. And if you find the choice overwhelming, then why not keep it simple with 'half-the-garden soup' followed by a surfeit of blackcurrant double-ripple ice cream?

76 La Gloire de la Loire

Monty Waldin avoids being trampled under the hooves of Guy Bossard's horse-powered plough, and relishes the pure fruit and mineral flavours of the Loire Valley wine-maker's exceptional biodynamic muscadet

78 Sea bream: summer tourists

When are food miles acceptable? When the main ingredient of a recipe makes its way to our shores under its own steam. Mitch Tonks describes the glorious and seasonal sea bream, and provides a fantastic recipe from a gastronomic Egyptian taxi driver

81 Baring your soles

There are more than 7,000 nerve endings in the feet and these have interconnections, through the spinal cord and brain, with all areas of the body. Isn't it time you gave them a proper workout?

84 Natural swimming pools

Imagine a garden pond filled with white and pink water lilies and purple irises and humming with a chorus of frogs and birds. Now imagine swimming in it. Alice Klein and Hannah Hislop take a dip in the world of natural pools

90 Essential directory

From green funerals to reusable nappies, this directory is full of small, ethical businesses supplying goods and services that won't damage you or the planet's health. So before you tread the well-worn path to your 'local' multinational retailer, why not see if these 'local heroes' have what you are looking for?

Blackcurrant double ripple ice-cream, page 72



JULY/AUGUST IN SEASON

Make the most of summer's generous bounty with jams, summer puddings and salads

DANCING AT LUGHNASADH

The end of July and beginning of August is marked by the festival Lughnasadh (pronounced 'loo'nass'ah'), one of the Pagan festivals of Celtic origin that splits the year into four. It is named after the Celtic god, Lugh, a name that means 'light' or 'shining one'. The main purpose of this festival was to honour the first harvest, when the fields would be glowing with corn, reaping would begin and grains would be gathered in for the making of bread. This is reflected in the Christianised name for the feast, Lammas or 'loaf mass'.

Corn dollies are still made in many rural

communities around the UK to ensure a good harvest for the following year. A doll is made by braiding together corn from the last harvested sheaf and then saved until the following spring. The doll, believed to hold the spirit of corn, would then be ploughed into the fields along with the new seeds.

Another ancient ritual is the gathering of bilberries: if the berries were bountiful so would the crops be. Many grains, seeds, herbs and fruits were also harvested and dried at this time so they would last throughout the hard winter months.



July/August FRUIT & VEGETABLES



VEGETABLES:

- Aubergines**
- Beans:** Broad, French, runner
- Beetroot**
- Broccoli**
- Carrots**
- Cauliflower**
- Celery**
- Courgettes**
- Cucumbers**
- Fennel**
- Garlic**
- Perennial herbs:** Such as sage, thyme and rosemary; produce leaves all year round
- Kohlrabi**
- Leeks**
- Lettuce**
- Mushrooms**
- Onions**
- Parsnips**
- Peas:** Shell, mangetout, sugarsnap
- Peppers**
- Radishes**
- Shallots**
- Spinach**

- Spring onions**
- Summer squash**
- Swede**
- Sweetcorn**
- Swiss Chard**
- Turnips**
- Watercress**

FRUIT:

- Blackberries**
- Blueberries**
- Cherries**
- Currants**
- Gooseberries**
- Loganberries**
- Plums**
- Raspberries**
- Strawberries**
- Tomatoes**



SUMMER FOOD FOR FREE

Blackcurrants: Can be readily distinguished from the redcurrant by their larger, heavily aromatic leaves. Blackcurrants make excellent jam: they are high in pectin and the jam sets easily.

Gooseberries: The gooseberry's transformation from lowly hedgerow berry to luscious dessert fruit has been due to plant breeding, often by amateur growers in the Midlands, where annual breeding competitions are still held. Use in gooseberry pie or fool, or, if less ripe, in gooseberry jelly.

Limes: The leaves make a useful salad vegetable, and the flowers make sumptuous tea. Gather the blossoms in full bloom, lay out to dry on paper in a warm room. After two weeks, make tea in the usual way (without milk), experimenting with the strength.

Raspberries: To distinguish between young raspberries and unripe blackberries, look at the stems: the raspberry has woody, smooth stems with a few weak prickles; the blackberry stem is much coarser and pricklier. Pick for jams, stuffing, summer pudding or raspberry vinegar.

Redcurrants: Strain the pips out for excellent jelly. But, given that you will probably only find a few, they may be best eaten as a bracing field-snack in what the fruit gourmet Edward Bunyard described as 'ambulant consumption'.

FUNGI

Ceps: Delicious eaten raw or cooked. Try slicing and frying in oil with a little garlic or parsley and potatoes, or grilled with fish. Avoid the indigestible species with red or purple on the pores or stem.

Giant puffballs: Some have been found over one metre in diameter, and most are the size of a small football. Pick while the flesh is still pure ripe, and fry, grill or bake in butter, oil or bacon fat.

Chanterelles: Egg-yolk yellow in colour, smelling slightly of apricots, and long regarded as among the most desirable fungi. Stew slowly with milk for at least 10 minutes, and serve with omelettes or scrambled eggs.

SOME PICKING RULES

- Never strip a plant completely.
- Never take the flowers and seeds of annual plants: they rely on them for survival.
- Never pull up whole plants.
- It is unwise to gather any sorts of produce from areas that may have been sprayed with insecticide or weed killer.
- Avoid, too, the verges of heavily used roads, where the plant may have been contaminated by exhaust fumes.

Source: Food For Free by Richard Mabey (Collins)

WILDFLOWERS TO LOOK OUT FOR IN SUMMER:

Traveller's Joy: The flowers have greenish-cream petals, gathered in clusters. The fruits are nutlets with long, feathery hairs. Also known as Old Man's Beard.

Lady's Bedstraw: Scented, tiny yellow flowers and narrow leaves. Found on sand dunes, coastal heaths and grasslands and hedge banks. Commonly used in the past for stuffing mattresses.

Wind Eyebright: The tiny, white, two-lipped flowers have purple streaks and a yellow patch on a lower three-lobed lid. An annual herb of short grasslands, heaths and open woodland which has been used in herbal remedies for eye complaints.

Harebell: Blue, nodding, bell-shaped flowers. A delicate-looking, hairless perennial of fixed sand dunes, dry grasslands, hedgerows and heaths throughout Britain.

Wild Angelica: Minute, pink or white flowers gathered in stalked clusters. Found by streams, rivers, ditches, wet meadows and marshes. Has been used to produce a yellow dye as well as a flavouring.

Source: Wild Flowers: an easy guide by habitat and colour (Green Earth Books) by Tracy Dickinson



SEASONAL RECIPES FOR SUMMER

Summer's here and the cooking is easy, by **Hugh Fearnley-Whittingstall** and River Cottage HQ chef **Gill Meller**

In July and August there is no need for ingenuity and effort, no seasonal despondency to cook your way out of. This is the moment you've been waiting for: a glorious harvest of sun-ripened vegetables and fruits to be enjoyed in all their unadorned nakedness.

If you're not lucky enough to have your own vegetable garden, then this is the month to do business with those who have. This is as good as fresh fruit and vegetables get, and you'd be a fool not to claim your fair share: so get to your local farmers' market, a farm shop or a pick-your-own premises without delay.

H F-W'S HALF-THE-GARDEN SOUP

(serves four to six)

For me, this is sheer delight: a celebration of all those fantastic things coming ready in the garden at the same time. The great thing about it is that no stock is necessary, as the vegetables give plenty of flavour to the liquor, and no single ingredient is truly essential. Although I might feel a little compromised without the tomatoes and onions. Basically, as long as you can put together at least half a dozen of the ingredients suggested below, you'll make a sensational soup.

Slice a good 500 grams of onions and sweat them in a little olive oil or butter in a large pan until softened. Pour boiling water over 500 grams to one kilogram of ripe tomatoes, leave for a minute, then drain and peel off the skins. Chop roughly and add to the onions. Cook gently until thick and pulpy, then add about 500 millilitres of cold water (or light stock) and a good pinch of salt. Now add some or all of the following: three to four medium carrots, diced, three to four medium beetroot, diced,

three to four medium courgettes, diced, a few handfuls of peas and a fistful of French or runner beans, roughly chopped. Bring to the boil and simmer for 10 minutes. Then add either or (preferably) both of the following: a fistful of chard or spinach leaves, finely shredded, and a fistful of kale or cabbage leaves, finely shredded. Top up with a little more boiling water if you like. Simmer for another five minutes, stirring regularly, until all the vegetables are tender, but only just. Check and adjust the seasoning, then serve immediately, with a trickle of olive oil over each bowl.

■ **Seasonal variations:** From late August onwards you can add freshly podded haricot beans, borlotti beans or the beans from overgrown runners to the soup. They should go in with the water and have a good five-minute simmer before the carrots et al go in.

H F-W'S SUGAR SNAPS WITH SESAME SEEDS

(serves two as a starter, four as a side dish)

The sugar snap pea is, I feel, a great improvement on the rather miserly mangetout. You get the best of both worlds: a pod you can eat, with a litter of beautiful baby peas suckling inside it. The sesame seed treatment is only one of several variations on the theme. Lightly toasted and crushed cashew nuts or peanuts and other seeds such as sunflower or pumpkin can all be used.

Strip off the tough vein on the inside curve of about 500 grams of sugar

snap peas. Boil or steam them for just three to four minutes, then drain.

Toast one tablespoon of sesame seeds in a dry pan over a medium heat, till they colour lightly and smell nutty. Throw the sugar snaps into the pan, add one tablespoon of toasted sesame seeds and a few shakes of soy sauce, then shake the pan to coat the pods thoroughly. Serve at once, as a course on its own or as a side dish, particularly alongside fish.

H F-W'S BABY COURGETTE SALAD

(serves two as a starter)

Courgettes must be young and firm if they are to be eaten raw – ideally just picked. This very simple salad shows them to their best advantage.

Wash and dry about 200 grams of baby courgettes and cut them into rounds half a centimetre or one centimetre wide. Finely chop a few mint leaves and a couple of sprigs of marjoram or oregano if handy. Put everything in a salad bowl and add three tablespoons of olive oil, one tablespoon of lemon juice, a few twists of black pepper and a sprinkling of flaky salt. Toss well together. Sprinkle a handful of lightly toasted pine nuts on top and serve.

GILL'S BAKED FISH WITH FENNEL AND POTATOES

The combination of fennel and fish is nothing new. It's a marriage that works, and I don't hesitate to throw another version in the pot. My version is an all-in-one supper dish. It works with bass, pollock, most of the



H F-W's sugar snaps with sesame seeds

smaller whole flat fish, skate wing and mackerel. But bream is way up there on my 'most wanted' list.

Ingredients (serves two): Two fresh fish (any of the above), two large, firm, fennel bulbs, 400 grams of new potatoes, four cloves of garlic, olive oil, Maldon sea salt, black pepper, 100 grams of butter, a glass of white wine, the juice of half a lemon

How to make: Pre-heat the oven to 190° centigrade. Gut and scale the fish if you caught them yourself; otherwise your fishmonger will have done this for you. Cut back the

greener sticks from the tops of the fennel bulbs and remove the coarser, outer layers. Then, using a sharp knife, finely slice the fennel from top to bottom and remove and discard the dense core from the centre of the bulb. Scrub and slice the potatoes: they should be a similar thickness to the fennel (aim for two to three millimetres). Peel and finely slice the garlic into slivers. Combine the fennel, potato and garlic in a bowl with a slug of olive oil, the salt and the pepper. Then take two sheets of tin foil (large enough to envelope the

fish and the vegetables) and divide the seasoned potato and fennel – making a pile in the centre of each piece of foil. Place the fish on top and split the butter, wine and lemon juice between each parcel before seasoning with salt and pepper. Bring the four corners of each foil sheet together and twist to seal the parcels. Then bake on a tray in the pre-heated oven for 30 to 35 minutes. Bring the parcels straight to the table and open. The fish should be moist, the fennel soft and the sauce rich.

GILL'S MARSH SAMPHIRE WITH LEMON JUICE AND OLIVE OIL

Samphire is a unique and quite delicious wild plant. Rock samphire grows on and around coastal cliffs, and the more commonly eaten marsh samphire is found growing on tidal flats and salt marshes all along the UK's coast line. With a little notice, your local fishmonger should be able to get you some – and when he does, it is worth serving on its own with a little olive oil and lemon juice, salt and pepper.

Ingredients (serves four): One and a half to two kilograms of marsh samphire, extra virgin olive oil, salt, pepper, two lemons

How to make: Trim any hard or woody stems from the samphire, fill a clean sink with fresh cold water and wash the samphire to remove any traces of grit or mud that might still remain on the plant. Drain in a colander. Bring a large pan of fresh salted water to the boil, drop in the samphire and cook for six to eight minutes. Drain, season with salt, pepper and the olive oil and serve on warmed plates with lemon wedges.

H F-W'S BLACKCURRANT DOUBLE-RIPPLE ICE CREAM

(to serve six to eight)

Blackcurrants are so intensely flavoured that you don't need much of their purée to make an ice cream. This recipe keeps the purée very tart and sharp. Half of it is used to flavour



Hugh's
blackcurrant
double-ripple
ice cream

a classic, custard-based ice cream, while the other half makes ripples of very intense, concentrated fruit purée. It's a tantalising, sherbety, sweet and sour effect.

How to make: Place 600 grams of blackcurrants in a saucepan with a dribble of water to get them started and 50 grams of caster sugar. Stir over a low heat until the sugar has dissolved. Bring to a gentle simmer and cook for 10 to 15 minutes, until the blackcurrants are completely soft and the juices have run. Rub the mixture through a sieve into a bowl

and chill.

Measure 500 millilitres of double cream and combine half of it with 250 millilitres of whole milk. Scald this mixture in a pan until almost boiling. Mix four egg yolks with 125 grams of caster sugar, then pour the hot milk and cream on to them, whisking all the time. Return this custard to the pan and stir constantly over a very gentle heat until it starts to thicken. Take off the heat and keep stirring as it cools and thickens further. Combine the custard with half the blackcurrant purée, mixing

thoroughly. Lightly whip the remaining 250 millilitres of double cream and fold it into the mix. Taste and add more sugar if you think it's necessary. An ice cream mixture before freezing should always taste a little too sweet, as sweetness is muted in the freezing process.

Now either pour the mixture into an ice cream machine and churn until nearly frozen, or freeze-churn the old-fashioned way by putting the mixing bowl in the freezer and removing every hour or so to whisk up and emulsify. Whichever route you choose, when the ice cream is thick enough to hold its shape but soft enough to work a little, spread it in a large mixing basin and make several channels, grooves and holes in it. Into these, trickle little pools of the remaining blackcurrant purée. Cut and turn the mixture a few times to spread these ripples around, but don't overdo it, or they'll get too mixed up with the ice cream. The aim is to create a contrast of both colour and taste.

Pack into tubs and freeze. Leave at room temperature for a good half-hour before serving. Serve with shortbread or other sweet biscuits.

GILL'S REDCURRANT AND ROSEMARY JELLY

If, like me, a small part of your garden is dedicated to growing soft fruit, it's well worth turning some of your crop into jam, jellies or preserves. I don't grow redcurrants but a friend of mine does, and last year he gave me all his surplus fruit – enough to make a big batch of jelly, which will last me right through to this year's harvest.

Ingredients: Two and a half kilos of redcurrants, one and a half litres of water, preserving or granulated sugar, six fresh sprigs of rosemary

How to make: To prepare the fruit for cooking you must make sure it's clean and excess stalks have been removed. But you needn't be as thorough as if you were making jam, as the cooked fruit will be passed through a jelly bag.

Place the fruit, rosemary and water

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in a pan and bring to a simmer. (A proper preserving pan is best, but any large heavy-based stainless steel pan will do.) Simmer gently for one hour and then transfer to a large container and leave the rosemary to infuse as the fruit cools.

When cool, strain the fruit through a jelly bag into a clean pan. Just leave to drip: it will take at least an hour; if you want the jelly to be bright and clear, don't squeeze the bag to try and speed up the process.

Allowing one kilogram of sugar to each litre of juice, combine the sugar and juice together and bring to boiling point, then boil rapidly for around 10 minutes, using a sugar thermometer to test that the setting point has been reached (110° centigrade).

Remove the pan from the heat and pour the jelly into warm, sterilised jars. Cover with a disk of waxed paper and a lid. I like to set a single sprig of rosemary into each jar. The jelly is perfect with roast mutton or lamb and for sweetening your sauces.

H F-W ON CORDIALS AND SYRUPS

Be honest, who doesn't love a glass of Ribena now and then? Ever thought of making your own? It's easier than you think. And if you doubt it is worth the trouble, then perhaps I can tempt you with the thought that there are more interesting ways of diluting your finished syrup than with water. Chilled white wine added to a little trickle of syrup made from wild fruits gives deeply satisfying variations on the kir theme.

The basic procedure outlined below is for redcurrants, which are now in season, but it can be used to make syrup from elderberries, blackberries, raspberries, gooseberries and even blaeberrys, if you can get enough of them, for a superb *crème de mures*. With the more acidic fruits, such as blackberries and gooseberries, there is no need to add the lemon juice.

Ingredients: About two and a half kilograms/ five pounds of ripe redcurrants, the juice of one lemon, 600 millilitres/ one pint of water, one

egg white, caster or preserving sugar, a little brandy

How to make: Rinse the redcurrants well in cold water, and add to a large pan with the lemon juice and water. Cook gently over a very low heat – without allowing to simmer more than a tremor, until the fruit is soft and pulpy.

Strain the juice through a cotton cloth or jelly bag. Measure it, and then measure out (but do not yet add) 650 grams of sugar to every litre of juice (12 ounces per pint).

Put the sugar in a warm place, and put the juice into a pan with the lightly whisked egg white. Bring the juice to the boil, whisking occasionally. A frothy scum will arise as it comes to the boil. Skim this off. Add the sugar and stir to dissolve. Bring to the boil, skimming off any further froth that rises to the top. Simmer the syrup for just five minutes. Test the thickness of the syrup by cooling a small quantity in the bowl of a large metal spoon. If you think it should be more 'syrupy' simmer for a little longer.

Remove from the heat, and pour into clean, warm bottles, through a plastic funnel, to within about half an inch of the top. Pour a teaspoon of brandy into each bottle and seal with a screw top or cork.

The syrup can be kept in corked bottles or jars for a few weeks, in a cool cellar or fridge. But if you want to keep it for any longer, you will need to sterilise the bottles. For this process, bottles are required that will not throw their corks under pressure from the high heat of the sterilisation process. They can be bought from home-brew shops, or you can recycle beer bottles with Grolsch-style self-sealing rubber stoppers.

The filled bottles should be stood upright, not touching each other, in a baking tray filled with at least an inch of hot water. Place in a pre-heated oven at 120° centigrade/ gas mark one, and leave for two hours. Remove from the oven and leave to cool down at room temperature. Sterilised bottles of syrup will keep indefinitely.



Guy Bossard using traditional methods to farm his Loire Valley vines

LA GLOIRE DE LA LOIRE

Monty Waldin relishes the pure fruit and mineral flavours of Guy Bossard's delightful biodynamic muscadet wines



Top wine-maker Guy Bossard of Domaine de l'Écu in the Loire Valley's Muscadet region made an unlikely journey into organic wine-making. 'I grew up on my father Robert's vineyard,' he says, 'and although he never used weedkillers and kept the use of artificial fertilisers to a minimum we were never officially organic. That changed when I met some organic farmers during my military service in 1975, when I was in my early 20s. They gave me some books on organics to read, and when I returned and took over the family domain we converted all our 20 hectares to certified organic production.'

Bossard and his wife Annie then converted to biodynamics from 1996. 'I had known about biodynamics for a number of years,' says Bossard, 'and

believed it could add some extra intensity to our wines. But as I was on my own, farming all the time on what is a fairly isolated domain, it was hard to adapt to biodynamics just using books.

'Exchanging ideas with local wine-makers like Nicolas Joly of Clos de la Coulée de Serrant in Savennières and Marc Angeli of Domaine de la Sansonnière in Anjou really helped. They gave me the confidence to try biodynamics, to feel comfortable with it. I owe those guys a lot.

'I thought biodynamics was really complicated and loads of extra work. But they showed me that using biodynamic field sprays like horn manure, which helps the vines root more deeply, and horn silica, which helps the vines stay disease-free and increases ripeness in

the grapes, is just like using normal sprays. The only difference is you spray according to lunar and solar cycles to get the maximum effect, which may mean getting up at 4am to get the horn silica ready for sunrise – its effect of magnifying solar energy being best if applied over the vines when the sun is rising. If you can maximise the effect of the sun, your vines stay healthy, which means you are not chasing your tail later in the season worrying if rot will strike.'

This is an important consideration, for the main threat for wine-makers in the moist Atlantic climate that the Muscadet region endures is from fungal diseases, which can affect the taste of the grapes by rotting them.

'We keep fungals at bay using a biodynamic spray made from common horsetail, which works in tandem with the horn silica,' says Bossard. 'Horsetail is rich in silica, and silica is very light- and heat-sensitive. Think of sand. When the sun is out the beach is hot, but after sundown sandy beaches feel cold underfoot.'

'The silica in the horsetail concentrates the heat and light of the sun, sending a message to the spores of shade-loving fungals like mildew to stay in the ground where they belong, and not to jump up onto the vine where they cause damage. Using horsetail when fungal diseases are at their most active, like when the moon is close to the earth on its elliptical orbit, at perigee, when there is more dew on the soil, pre-empts the fungal attacks and means we don't have to spray chemical fungicides.'

The fruit and mineral flavours of Bossard's white wines are very pure. You only get this kind of clarity if you can harvest absolutely healthy (rot-free) grapes. Bossard picks by hand so he can eliminate any sub-standard bunches – those pecked by birds, for example. Most muscadet is picked by machine, so good and bad grapes go into the presses with no chance of weeding out anything substandard. Perhaps this is one reason why so much supermarket muscadet takes rather grabby and out of focus.

Bossard's vines lie in four main blocks on three main soil types. Wines from the best three plots are bottled apart to

show the difference the soil brings. Wines from gneiss soils are fruitiest, those from granite are very mineraly, while those from orthogneiss are initially austere, needing several years for their bitter almond fruit to appear. These wines are Bossard's *cuvée speciale* muscadets.

'We can see a real difference in how wines from these different soils taste because biodynamic methods give our vines stronger, thicker, deeper roots,' says Bossard. 'They connect with the sub-soil, and drag up the different mineral tastes found there. So each wine will really taste different, according to what soil it is being grown on. Vine roots fed chemical fertilisers stay in the topsoil, and so never connect with the earth's mother rock and make banal-tasting wines.'

Deep rooting is encouraged by healthy soil full of worms and organic matter thanks to the use of compost rather than chemical fertiliser. Vines cannot root in too compact a soil, so to stop the soil compacting too much a shire horse rather than a tractor is used in some parcels to plough weeds out.

Bossard is currently working on regenerating his muscadet vines, taking cuttings for replanting only from those vines which give the smallest, most concentrated grapes with the maximum flavour. Muscadet had a good reputation a generation ago. Since then over-production and some weak wines mean it has had its share of bad press; but with growers like Bossard gaining renown you could say that muscadet just got interesting again.

■ Domaine de l'Ecu is certified to the Demeter Biodynamic standard.



CONTACT DETAILS

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4091; email:**

bossard.guy.muscadet@wanadoo.fr
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RECOMMENDED BOSSARD WINES



Muscadet de Sevre et Maine Sur Lie, 2004, 75cl

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Price per bottle: £6.29, or £3.49 for a half bottle (37.5cl)

Bone-dry white. 'Sur lie' means the muscadet is kept on the yeast lees to add an extra prickle to the taste and a more mealy texture.



Gros Plant

Stockist: Vinceremos

Price per bottle: £5.69

Bone-dry white that needs food with a creamy sauce to bring out its best.



Cabernet Vin De Pays

Stockist: Vinceremos

Price per bottle: £5.69

Good-value, crisp red, tasting of leafy blackcurrants, which benefits from decanting to give it some air, softening the fruit.



Muscadet Hermine D'Or

Stockist: Vinceremos

Price per bottle: £7.99

A blend of some of Bossard's best muscadet vats. Weighty for a Loire white, so good for a main course.

■ Guy and Annie Bossard's other wines (mousseux and *cuvée speciale* muscadets) are available on special order. You can also buy delicious grape juice direct from the domain.

SEA BREAM THE SUMMER TOURISTS

More common in warm waters, sea bream is a summer migrant to Britain's south and west coasts BY REBECCA HUXSTEP

Predominantly warm-water fish, sea bream are summer visitors off the south and west coasts of the British Isles. These waters are at the outermost fringe of the sea breams' range: the fish are found much more abundantly towards the Mediterranean. Six species are found in our coastal waters, the most common being the black bream and red sea bream. They live at depths that range from five to 300 metres.

Their life cycle begins with spawning in April and May, when the laying of sticky, spherical, yellow eggs takes place. The male guards the eggs until they hatch after about two weeks. They are fertilised externally. The young fish live close to the surface, drifting on the current, and can travel many hundreds of miles from the area inhabited by their parents.

Bream are hermaphroditic. All juveniles grow as females until maturity, at which point they are roughly 20 centimetres in length. Then, when they reach roughly 30 centimetres in length, they may change into males. All bream more than 40 centimetres long are males.

Commonly found over seagrass beds and rocky or sandy bottoms, they sometimes travel in large schools. The bigger bream tend to position themselves at the back of the main shoal with the juveniles up front.

Bream are omnivorous and not fussy eaters: they generally feed on seaweed and small invertebrates, such as shrimps, zooplankton and sea worms. They have a needle-sharp set of spines running through the dorsal fin. So, when handling a bream, be careful to hold it lightly around the belly.

When buying bream, choose mature (at least 20 centimetres in length) line-caught fish, or fish taken in fixed nets and with measures to deter marine mammals. Avoid eating immature fish caught prior to and during their spawning season; this allows them a chance to spawn or reproduce. If you want to catch bream yourself, try fishing from the shore at Brighton, Shoreham and Littlehampton in Sussex or on the Isle of Wight.



Baked sea bream, Balearics-style

MITCH TONKS' SEA BREAM RECIPES

Food is a language: a dish can communicate so many things about an area, a people, a family or a chef. A home that serves its meals in one bowl in the middle of the table is a sharing one and one that eats together.

In my experience, people everywhere are always keen to share knowledge when it comes to food, and there is as much pleasure in enthusiastically sharing your favourite recipe as there is in discussing it. I even get text messages from friends telling me, for example, to stuff quails with mint and cumin, for no apparent reason except for the fact that they've done it, and it's delicious, and they want me to have the same experience.

CRISP FRIED BREAM WITH CUMIN, LEMON AND SEA SALT

I got this next recipe from an Egyptian taxi driver called Mohammed. My whole journey with him was a delight. It was more than just a taxi ride home. He was a kindred

spirit, and I listened to him describe the recipe and flavours in such a passionate way that I wanted to drive past FishWorks and pick up the ingredients or get one of the guys to cook it for us.

I saved it for a few days, but I could almost taste it in my mind and it haunted me. I just had to do it. It was delicious and a new experience. The fish is marinated and the lemon slightly cooks the thinner edges of the fish, which, when fried, gives the fish a drier texture. You know that crispy bit of skin on chicken that we all love – it was like that: absolutely delicious.

Since then, I have tried the same approach as a rub on tuna steaks, on quails and on chicken, and it is a fabulous combination. It's not new, just fabulously good, and it is always great to rediscover things. I cook it regularly, and a great accompaniment is a salad of chopped fresh tomatoes, some red onion, chilli, coriander and lime juice all mixed together, and, if it's your fancy, some finely chopped mango in there as well.

Ingredients (serves two)

Two bream fillets, one tablespoon of cumin, a one-inch stick of cinnamon, one teaspoon of salt, the juice of one lemon, a tablespoon of olive oil, flour for dusting, one inch of fresh, peeled ginger, one clove of garlic

To make

Toast the cumin seeds and put all the ingredients (except the flour and fish) into a spice or coffee grinder and grind until really fine. Rub well into the fish and marinate for 30 minutes in the fridge. Dust with flour, and deep- or shallow-fry in hot oil for two to three minutes per side. Serve with a wedge of lemon.

BAKED SEA BREAM, BALEARICS-STYLE

Ingredients (serves two)

Two potatoes, peeled and sliced into rounds about one centimetre thick, one sea bream weighing about 450 grams, scaled and gutted, two tomatoes, quartered, two cloves of garlic, one teaspoon of sugar, a pinch of salt, a few glugs of good olive oil, a small handful of fresh breadcrumbs, a small handful of fresh parsley, finely chopped, lemons for serving

To make

Pre-heat the oven to its maximum temperature. Cook the potatoes in boiling water for three to four minutes. Lay the fish on a roasting tray and sprinkle with salt. Place the potatoes, tomatoes and garlic cloves around the fish, and sprinkle with a pinch of sugar and salt. Pour a few glugs of olive oil into the roasting dish, and scatter the breadcrumbs lightly over the top. Cover tightly with foil and bake in the pre-heated oven for 20 minutes. Then remove the foil, sprinkle with parsley and bake for a further five minutes.

■ You can get an amazing choice of fresh fish and shellfish at each of Mitch Tonks' FishWorks restaurants and fishmongers in Bath, Bristol and London or from the FishWorks home-delivery service. See www.fishworks.co.uk or call 01225 329342 for further details and for information on FishWorks' cookery schools



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BARING YOUR SOLES

Why pay £60 for an almost barefoot experience, when you can kick off your shoes and get it for free? BY PAT THOMAS

The human foot was described by Leonardo da Vinci as 'a masterpiece of engineering and a work of art'. Containing 26 bones and 33 different joints, feet are a miracle of biomechanical engineering. Today, because far too many people think that feet exist for the sole purpose of displaying footwear, these remarkable appendages often languish for hours on end in hot, dark, constrictive shoes.

Like the body itself, feet need exercise and the opportunity to experience a full range of motion. Feet are also specialised instruments of touch. The nerve endings in feet, when stimulated by sharp or rough objects, cause reflex muscle contraction to counter irritation. This cycle of sensory stimulation and reflex muscle contraction is thought to improve the strength of the foot and leg muscles. Wearing shoes all the time diminishes these contractions, weakening muscles over time. There are other problems with shoes as well. For example:

- tight, poorly fitting shoes can raise the risk of fallen arches, bunions and corns and ingrown toenails;
- trainers can make feet sweaty, smelly and prone to fungal infections;
- evidence suggests that high heels can encourage poor posture and low backache and raise the risk of osteoarthritic knees in women; and
- research shows that among children who wear trainers the rate of flat-footedness is three times higher than among those who regularly go barefoot.

In ancient disciplines such as Chinese and Indian medicine it is held that the feet contain a 'map' of the body. There are more than 7,000 nerve endings in the feet and these have interconnections through the spinal cord and brain with all areas of the body. This is the basis of the practice of reflexology, which uses specific pressure points on the feet to relieve problems

elsewhere, including backache and abdominal pain. In ancient times we would have stimulated these reflexes naturally by walking barefoot over rocks, stones and rough ground.

Today, anybody interested in the benefits of walking barefoot might turn to reflexology shoes with dimpled insoles or reflexology mats that mimic the undulating uneven surface of cobblestones. Last year, a study on the health benefits of 'cobblestone-mat walking' published in the *Journal of Aging and Physical Activity* linked the practice to significant improvements in mental and physical wellbeing with older adults, including reductions in blood pressure and significantly reduced daytime sleepiness and pain.

The fashion industry has paid attention to such studies. In one of its largest marketing campaigns ever, Nike has

introduced the Nike Free: a trainer that promotes a more natural physiological use of the feet during sport. The trainer helps strengthen leg muscles, and the wider range of motion in your feet will translate into better gait and stronger, more flexible feet and ankles – all for around £60.

In the past, well-known international athletes have successfully competed barefoot, most notably Zola Budd-Pieterse, the South African long-distance runner who represented the UK in the 1980s, and the late Abebe Bikila of Ethiopia. While few professional runners compete shoeless these days, many train barefoot, and good evidence exists to show that toned, flexible muscles are less vulnerable to problems like Achilles tendonitis or heel pain.

Laboratory studies also show that running barefoot requires about 4 per cent less energy than running with shoes, and that it is associated with substantially fewer injuries of the ankle and lower leg.

Nike TV ads feature the athletes Dathan Ritzenhein, Alan Webb and Adam Goucher running in a variety of environments and feature the tag line 'run barefoot'. But if the experience of running barefoot that Nike Frees replicate is so good for you, why not find a grassy surface and just do it? Chances are your feet won't fail you.





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Imagine a garden pond filled with white and pink water lilies and purple irises and humming with a chorus of frogs and birds. Now imagine swimming in it. **Alice Klein** and **Hannah Hislop** take a dip in the world of natural swimming pools



NATURAL SWIMMING POOLS

Superficially, a natural swimming pool looks like a normal garden pond, but it actually consists of two zones: a deep, central swimming area, and a shallower 'regeneration' area where plants, specially chosen to purify the water and harbour wildlife, grow.

Ask most swimming-pool contractors to build a backyard pool and chances are they'll roll out a long list of materials, including reinforcing steel, cement, fibreglass, an energy-intensive filtration system and an arsenal of chemicals. In contrast, a natural swimming pool cleanses the water by organic means, using the purifying properties of plants. A small filter extracts surface debris such as leaves, and a pump keeps the water circulating sufficiently through the planted area. Building materials, including gravel, stone and clay, are chosen to enhance and blend the pool into the natural landscape.

Because about half of the pool's space is devoted to aquatic plants, it is as much a garden feature as a pool and can be admired year round without any need to cover it in tarpaulin at the end of summer. It changes constantly with the seasons and matures over the years, allowing the plants to grow into their habitat.

HOW DO THEY WORK?

Natural swimming pools use the organic purifying properties of plants and micro-

organisms to emulate the clean, clear water of ponds and lakes. The water is kept circulating slowly by differences in temperature in the shallower and deeper zones, and also by a small pump. The regeneration area contains a number of aquatic and semi-aquatic plants such as bulrushes, irises and water lilies, which are planted in shingle or gravel with no topsoil, forcing the plants to extract their nutrients from the water instead. The water is cleaned biologically by the roots of aquatic plants that absorb decomposing materials, bacteria and pollutants and convert them into plant tissue. The leaves of aquatic plants absorb nutrients from the water, restricting the growth of algae.

THE ADVANTAGES OF NATURAL SWIMMING POOLS

■ They do not use chemicals

The chemical-free water avoids the many health concerns associated with conventional pools, such as eye and skin irritations, cancer and respiratory problems.

■ They use less water

Natural pools don't need constant emptying and refilling. Occasional top-up aside, they only need to be filled once. Filling and refilling conventional pools uses roughly 80 million litres of water in the UK every year.

■ They use less energy

A simple mechanical pump and filter passes warmer water from the regeneration area

into the swimming area, while the black material lining the swimming area heats up quickly and retains warmth.

■ They provide a habitat for wildlife

The regeneration area attracts frogs, toads, dragonflies, damselflies, water boatmen and pond-skaters, which subsequently attract woodland and garden birds, which also drink and bathe in the water.

■ They are cheaper than conventional pools over their lifetime

Prices depend on the size of the pool and start from £300 per square metre. Although construction costs may be higher than those of conventional pools, natural pool owners save significant amounts on maintenance costs as their pools do not require expensive filtration equipment and chemicals.

PUBLIC NATURAL SWIMMING POOLS

Natural swimming pools are just beginning to take off in the UK, but they have been popular on the Continent for a number of years. The concept was first developed in Austria, where people have long been conscious of the health benefits of bathing in natural waters at spas and hydros. More than 2,500 natural pools have now been built in Germany, Austria and Italy for hotels, local authorities and private clients. One of the biggest public natural pools, measuring 5,000 square metres, was completed in Lindenthal near Leipzig in Germany in 1998. The water is cleaned in the

regeneration area and returned to the main swimming section via a stream in which children can play. During high summer, more than a thousand people use the pool in a day, but the water stays clean; testing has shown it to be of drinking quality. Planning, constructing and maintaining a public natural swimming pool often become community projects. A number of Austrian communities have become involved in their local natural pools' construction and now carry out much of the maintenance and supervision, cutting back plants in autumn and cleaning the filters. The natural pool provides a healthy environment not only for swimming but also to learn about local wildlife. The first similar project in the UK is now underway in Bath. The local community is campaigning to keep open the city's Cleveland Pleasure Baths, the only surviving Georgian lido in the country, by converting them to natural water-purification methods. Volunteers will be involved with all aspects of the restoration of the baths, including relaying paths and repairing stonework, and the baths will provide facilities for local environmental, youth and sports groups.

WHAT'S IN YOUR POOL?

- Chlorine in pool water reacts with organic compounds in the water such as sweat and urine to produce a host of hazardous chemical compounds that include nitrogen trichloride, aldehydes, halogenated hydrocarbons, chloroform, trihalomethanes and chloramines.
- Trihalomethanes can cause genetic mutations by altering DNA, suppressing immune function and interfering with the natural controls of cell growth. Several studies link chlorinated by-products such as trihalomethanes to a greater incidence of bladder, breast and bowel cancers as well as malignant melanoma.
- Trichloramine has previously been identified as a trigger for three proteins that destroy the cellular barrier protecting the lungs, making individuals more prone to asthma. Belgian researchers writing in the *British Journal of Occupational and Environmental Medicine* took blood samples from 226 primary school pupils who had swum regularly at indoor pools since early childhood. The samples showed that the children who swam most frequently had protein levels of the kind found in regular smokers.
- Chlorine compounds have also been linked to malformations in unborn babies and stillbirths, which is especially worrying as women are encouraged to swim throughout pregnancy.

DESIGN AND INSTALLATION

A handful of UK firms have begun to provide natural swimming pools here, too. The pools provide the health benefits of swimming in a beautiful, bio-diverse setting.

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The Ecologist's guide to ethical businesses and organisations

BABY

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ACCESSORIES

| | |
|-----------------------------|---------------|
| Beaming Baby..... | 0800 0345 672 |
| Born..... | 0845 130 2676 |
| Eco Babes..... | 01366 387 851 |
| Ecobaby Basics..... | 01223 811 633 |
| Ecotopia..... | 01453 752 345 |
| Green Baby..... | 0870 240 6894 |
| Golden Lamb Rugs..... | 01600 740 252 |
| Little Earthlings..... | 02829 541 214 |
| Little Green Earthlets..... | 08701 624 462 |
| Lollipop..... | 01736 799 512 |
| Muladula..... | 01453 768 549 |
| Natural Collection..... | 0870 331 3333 |
| Natural Nursery, The..... | 0845 890 1665 |
| SoOrganic.com..... | 0800 1692579 |
| Spirit of Nature..... | 0870 725 9885 |

CLOTHING

| | |
|-------------------------------|---------------|
| Baby Organics..... | 020 8255 4040 |
| Baby-O..... | 0870 760 7552 |
| Born..... | 01179 245080 |
| Clothworks..... | 01225 309 218 |
| Cut4Cloth..... | 01326 340 956 |
| Global Kids..... | 01530 457 146 |
| Gossypium..... | 01273 488 721 |
| Greenfibres..... | 0845 330 3440 |
| Greenscene..... | 07813 282 566 |
| Greensleeves Clothing..... | 020 8458 1559 |
| Healthy House, The..... | 01453 752 216 |
| Huggababy..... | 0870 046 4844 |
| Natural Nursery..... | 0845 890 1665 |
| Nature's Fibres..... | 01622 853 517 |
| Organics for Kids..... | 01865 311 410 |
| People Tree..... | 020 7739 0660 |
| Schmidt Natural Clothing..... | 0845 345 0498 |
| Su Su Ma Ma World Wear..... | 01273 300 606 |
| Texture..... | 020 7241 0990 |
| Tiny Sprout..... | 01892 863 646 |
| Tatty Bumpkin..... | 01732 812 212 |

FOOD

| | |
|--------------------------------------|---------------|
| Baby Organix..... | 0800 39 3511 |
| Babynat Organico..... | 01189 510 518 |
| Hipp..... | 0871 871 6611 |
| Holle Baby Foods..... | 01386 792 622 |
| Mums 4..... | 01926 771 285 |
| Organico (see ad back cover ad)..... | 0118 951 0518 |
| Truuluu Scrumptious..... | 01761 239 300 |

NAPPIES

ECO DISPOSABLE.....

| | |
|--------------------------------|---------------|
| Natural Baby Company, The..... | 01983 810 925 |
| Naturebotts..... | 0845 226 2186 |
| See Saw..... | 0131 2281939 |
| The Bottom Line..... | 01543 250 810 |

RE-USABLE.....

| | |
|---------------------------|---------------|
| Born..... | 0845 130 2676 |
| www.borndirect.com | |
| The Nappy Lady..... | 0845 456 2441 |
| Natural Nursery..... | 0845 890 1665 |
| Nature Botts..... | 0845 226 2186 |
| Sam I Am..... | 01522 778 926 |
| Smile Child..... | 0800 1956 982 |
| Snazypants..... | 01522 778 440 |
| Twinkle Twinkle..... | 0118 934 2120 |

NAPPY LAUNDRY SERVICES.....

| | |
|---------------------------------|---------------|
| Dinky Diapers..... | 0117 986 6167 |
| Nappy Ever After..... | 020 7383 5115 |
| Nappy Tales..... | 01235 812 747 |
| Natural Nappies..... | 01376 563 787 |
| Nifty Nappies..... | 01420 549 659 |
| Number1 for Nappies..... | 01992 713 665 |
| The Nappy Box..... | 01423 358 571 |
| The Scottish Nappy Company..... | 0800 015 5570 |
| Tops for Bottoms..... | 0151 343 1356 |

TOILETRIES

| | |
|--------------------------|---------------|
| Earth Friendly Baby..... | 020 8424 8844 |
| Green People..... | 08702 401 444 |

TOYS

| | |
|-------------------------------|---------------|
| Arujo..... | 01295 271 218 |
| British Toymakers Guild..... | 01225 442 440 |
| Escor Toys..... | 01202 591 081 |
| Gaia Distribution..... | 01225 484 472 |
| Green Board Game Company..... | 01494 538 999 |
| Holz Toys..... | 0845 130 8697 |
| in2play..... | 0845 890 1392 |
| Myriad..... | 01725 517 085 |
| Tatty Bumpkin..... | 01732 812 212 |
| Toys for Children..... | 01594 824 007 |
| Tulip Toys..... | 01709 546 778 |

ORGANISATIONS

| | |
|------------------------------------|---------------|
| Baby Milk Action..... | 01223 464420 |
| Real Nappy Association..... | 01983 401959 |
| The Nappy Lady..... | 0845 4562441 |
| Women's Environmental Network..... | 020 7481 9004 |

CAREERS & RECRUITMENT

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| | |
|-------------------------------------|---------------|
| The British Ecological Society..... | 020 8871 9797 |
| Charity Action Recruitment..... | 020 7928 2843 |
| Charity Connections..... | 020 7202 9000 |
| Charity Job..... | 020 8390 1177 |
| Countryside Jobs Service..... | 01947 896 007 |
| Eden Recruitment..... | 0870 787 7630 |
| Ends Environmental Job Search..... | 020 7814 5309 |
| Environment Job..... | 0161 282 0920 |
| Environment Jobs..... | 01977 690 698 |

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| The Ethical Careers Service..... | 01865 245 678 |
| Evergreen Resources..... | 01256 314 620 |
| Execucare..... | 020 7761 0700 |
| Getalife..... | 0161 277 5200 |
| The Green Group..... | 01268 468 000 |
| Index Environmental Recruitment..... | 01252 811 333 |
| One World..... | 020 7239 1400 |

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|--|---------------|
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| Black Isle Organic Beers..... | 01463 811 871 |
| Dunkerton's Traditional Cider and Perry..... | 01544 388 653 |
| Freedom Organic Beer..... | 020 8748 0903 |
| Fuller's Vintage Ale..... | 020 8996 2085 |
| Hambleton Ales..... | 01845 567 460 |
| Houston Brewery..... | 01505 614 528 |
| O'Hanlons..... | 01404 822 412 |
| Only Fine Beer..... | 01245 255 579 |
| Organic Brewhouse..... | 01326 241 555 |
| Pennard Organic Wines & Cider..... | 01749 860 393 |
| Smiles Brewing Company..... | 01275 375 878 |
| Skinner's Brewery..... | 01872 271 885 |
| St. Peter's Brewery..... | 01986 782 322 |
| Valhalla Brewery..... | 01957 711 658 |
| Weston's Cider..... | 01531 660 233 |

COFFEE

| | |
|-----------------------------------|---------------|
| The Bean Shop..... | 01738 449 955 |
| Burgil Coffee..... | 020 8560 0263 |
| Café Direct..... | 020 7490 9520 |
| Equal Exchange..... | 0131 220 3484 |
| Hampstead Tea and Coffee Co..... | 020 8731 9833 |
| More Organics..... | 0173 636 6008 |
| Organico (see ad back cover)..... | 0118 951 0518 |
| Origin..... | 01326 340 320 |
| The Tea and Coffee Plant..... | 020 7655 4574 |

SPIRITS

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|----------------------------------|---------------|
| Juniper Green Organic Gin..... | 01483 894 650 |
| The Organic Spirits Company..... | 01483 894 650 |

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| Eleven O' Clock Tea..... | 01635 278 648 |
| E-Teas..... | 0800 849 4039 |
| Hampstead Tea and Coffee Co..... | 020 8731 9833 |
| Nothing But Tea..... | 0123 485 3855 |
| The Tea and Coffee Plant..... | 020 7655 4574 |

WINE

| | |
|------------------------------------|---------------|
| Pennard Organic Wines & Cider..... | 0174 986 0393 |
| Sedlescombe Organic Vineyard..... | 0800 980 2884 |
| The Organic Wine Company..... | 01494 446 557 |
| Vinceremos..... | 08001 0073086 |
| Vintage Roots..... | 0800 980 4992 |

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|-----------------------------|---------------|
| Yeo Valley..... | 01278 652 243 |
| Rachel's Organic Dairy..... | 01970 625805 |

CHEESE MAIL ORDER

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|--------------------------------------|---------------|
| Bath Soft Cheese..... | 01225 331 601 |
| Birdwood Farmhouse Cheesemakers..... | 01452 750248 |
| Caws Cenarth Cheese..... | 0123 971 0432 |
| Daylesford Organic..... | 01608 731 700 |
| Godminster Vintage Cheese..... | 0174 981 3733 |
| H.S. Bourne..... | 01948 770214 |
| Llanboidy Cheesemakers..... | 01994 448303 |
| Llanglofan Farmhouse Cheese..... | 01348 891241 |
| Loch Arthur Creamery..... | 01387 760296 |
| Staffordshire Organic Cheese..... | 01782 680366 |

CHEESE PRODUCERS

| | |
|------------------------|---------------|
| Alhamwood Cheeses..... | 01749 880 221 |
| Caerfai Cheeses..... | 01437 720 548 |

ICE CREAM MAIL ORDER

| | |
|------------------------------|---------------|
| September Organic Dairy..... | 01544 312 910 |
|------------------------------|---------------|

MILK PRODUCER

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|---------------------------------------|---------------|
| Classic Organic – flavoured milk..... | 01691 650450 |
| Daylesford Organic..... | 01608 731 700 |
| Manor Farm Organic Milk Ltd..... | 01300 341 415 |
| Rachel's Organic Dairy..... | 01970 625805 |
| Yeo Valley..... | 01278 652 243 |

YOGHURT

| | |
|-----------------------------|---------------|
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| Yeo Valley..... | 01278 652 243 |

FISH

ORGANICO
0118 951 0518
www.organico.co.uk

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| | |
|------------------|--------------|
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Right 2 Know01280 822 050

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Guilden Gate Smallholding01763 243 960
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Organic Pumpkin01332 370 254
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Acorn Dairy01325 466 999

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Ongar
Ashlyns Organic Farm01277 890 788
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Thornbury
Thornbury Organic Co-op.....01454 415 345
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Whitfield Farm Organics.....0845 283 0232

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Chorlton Wholefoods0161 881 6399
Mossley
Mossley Organic And Fine Foods01457 837 743
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Limited Resources0161 477 2040
Whalley Range
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Growing With Grace01524 251 723
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Sapcote
Watts, DA01455 272 840
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Corner Plot Vegetables.....0116 2697 920

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Woodlands Farm.....01205 722 491
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N4
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Abel & Cole020 7737 3648
SE6
Capricorn Organics020 8306 2786
SW3
Here.....020 7351 4321
SW8
Food Ferry Company, the020 7498 0827
W12
The Fresh Food Co020 8749 8778

DIRECTORY GREEN PAGES

MERSEYSIDE

Thurstaston
Church Farm Organics.....0151 648 7838

Liverpool
Organic Direct.....0151 7076 949
Windmill Wholefood Co-op.....0151 7341 919

MIDLANDS, WEST

Birmingham
Organic Roots.....01564 822 294

Coventry
Down to Earth.....02476 677 500

Solihull
Hopwood Organic Farm.....0121 711 1187

NORFOLK

Attleborough
Arthur's Organic Deliveries.....01953 887 582

King's Lynn
Abbey Farm Organics.....01485 609 094

Norwich
Stable Organics.....01263 577 468
Barker Organics.....01263 768 966
Paradise Organics.....01508 494 260
The Greenhouse.....01603 631 007
The Green Grocers.....01603 250 000
Salle Moor Hall Farm.....01603 879 046
Eostre.....01953 789 000

NORTHAMPTONSHIRE

Daventry
Goodness Direct.....08718 716 611

Kettering
Arcadia Organics.....01536 525 298

Milton Keynes
Organic Trail.....01908 568 952

Northampton
Leafcycles.....01604 628 956

NORTHERN IRELAND

County Down
Burrenwood Produce.....02843 771 844

NORTHUMBERLAND

Alnwick
Rock Midstead Organic Farm.....01665 579 225

Bedlington
North East Organic Growers.....01670 821 070

Berwick Upon Tweed
The Green Shop.....01289 305566

Corbridge
Cropped Up.....07947 856 641

NOTTINGHAMSHIRE

Bingham

Farmshop Home Delivery.....0800 169 7009

Cossall
Trinity Farm.....0115 944 2545
Nottingham.....0115 960 9014
Roots Natural Foods.....0115 960 9014

OXFORDSHIRE

North Aston
North Aston Organics.....01869 347 702

Chipping Norton
Chipping Norton Organics.....01608 642 973
Sarsden Organics.....01608 659 670

SHROPSHIRE

Craven Arms
Organic By Order.....01588 660 747

Dawley
Food For Thought.....01952 630 145

Oswestry
Doggart, A.....01691 652 166

Shrewsbury
Boxfresh Organics Direct.....01952 770 006

SOMERSET

Bath
Norwood Farm.....01373 834 856
Truuuly Scumtious Organic
Baby Food Ltd.....01761 239 300

Bridgwater
IYB Partnership.....01278 733 080

Bristol
Barleywood Walled Garden.....01179 351 725
Leigh Court Farm.....01275 375 756

Langport
Park Lane.....01458 252 901

Lower Claverham
Arcadia Organics.....01934 838 634

Milverton
Spring Grove Market Garden.....07956 429 531

South Petherton
Flaxdrayton Farm.....01460 241 427
Somerset Organic Link.....01460 241 427

Taunton
Prockters Farm Shop.....01823 413 427

STAFFORDSHIRE

Stafford
Bella Herbs.....01785 663 868
Grove Farm Organics.....01785 780 252

Stoke-On-Trent
The Real Food Company.....01270 873 322

SUFFOLK

Beccles
Jim Cooper Vegetables.....07866 960 706

Bury St Edmunds

Longwood Farm.....01638 717 120

Eye
Daganya Farm.....01379 668 060

Ipswich
Hillside Nurseries.....01473 652 682

Newmarket
DJ Produce Ltd.....01638 552 709

Saxmundham
Swallow Organics.....01728 668 201

SURREY

Cranleigh
Sunshine Organics.....01483 268 014

Redhill
Greener Greens.....01737 766 792

Worplesdon
Horti. Halcyon.....01483 232 095

SUSSEX

Barnham
Willow Nursery.....01243 552 852

Brighton
Real Food Direct.....01273 621 222

Chichester
Wayside Organics.....01243 779 716
The Whole Food Shop.....01243 790 901

Hartfield
Beans and Things.....01273 477 774
Harvest Supplies.....01342 823 392

Lewes
Barcombe Nurseries.....01273 400 011
Landsdown Health Foods.....01273 474 681

Mayfield
Herons Folly Garden.....01435 873 608

Midhurst
Down to Earth.....01730 815 133

Plumpton
Ashurst Organics.....01273 891 219

WARWICKSHIRE

Atherstone
Mythe Farm Organic Produce.....01827 712 367

Leamington Spa
Gaia.....01926 338 805

Long Itchington
Reality Bites Organic
Market Gardens.....07780 688 271

Rugby
The Wholefood Shop.....01788 567 757
Wild & Free.....01788 570 400

Warwick
Warwick Health Foods.....01926 494 311

WILTSHIRE

Charlton
Green Cuisine.....01666 824 584

Chippenham
The Organic Experience.....01249 720 274
Tallywacker Farm.....01249 750 035

Swindon
Barker, DI & AM.....01793 770 219
Coleshill Organics.....01793 861 070

Warminster
Pertwood Partners.....01747 820499

Yatesbury
Yatesbury Organics.....01672 539 191

WORCESTERSHIRE

Pershore
Oxton Organics.....01386 860 477

YORKSHIRE, EAST

Driffield
Green Growers.....01377 255 362

Hull
Arthur Street Trading Co.....01482 576 374
Slater Organics.....01964 527 519

North Cave
HNP Direct.com.....01430 425 531

YORKSHIRE, NORTH

Cowthorpe
Goosemoorganics.....01423 358 887

Kirkbymoorside
Farndale Free Range Ltd.....01751 430 323

Northallerton
Low Leases Organic Farm.....01609 748 177
Robinson, DS.....01609 772 032

Richmond
Hazelbrow Organic Farm.....01748 886 224
Farm-A-Round.....020 7627 8066
Bluebell Organics.....07759 832 234

Tadcaster
The Organic Pantry.....01937 531 693

Whitby
First Season.....01947 601608

Pasture Cottage Organics.....01947 840 075

York
Yo Aspin Organics.....01439 771 848

YORKSHIRE, SOUTH

Sheffield
Beanies.....0114 2681 662
Down To Earth.....0114 2685 220

YORKSHIRE, WEST

Hebden Bridge
Valley Garden Organics.....01422 846 651

Huddersfield
Half Moon Healthfoods.....01484 456 392
Natural Choice.....01484 513 162

Leeds
Love Organic!.....01132 663 030

Pontefract
Brickyard Organics.....01977 617 327

Shipley
Bradford Wholefoods.....01422 202 648

Wetherby
Goosemoor Organic Produce.....01423 358 887

SCOTLAND

Aberdeen
Lembas.....01569 731746

Ardrossan
Wildly Organic.....01294 472075

Armadaile Pier
Rubha Phoil Forest Garden.....01471 844700

Birkhill
Bee-Organic.....01382 581186

Cupar
Bellfield Organic Nursery.....01337 860764

Dumbarton
Epo Growers.....01389 875337

Edinburgh
Grow Wild.....0131 443 7661
Damhead Organic Foods.....0131 448 2091

Glasgow
Roots & Fruits Wholefoods
& Organics.....0141 3393097

Glendale
Glendale Salads.....01470 511349

Inverness
Tio Ltd.....01667 462189
Macleod Organics.....01668 462555

Inverurie
Croft Organics.....01467 981717

Kirriemuir
Angus Organics Ltd.....01575 540294

Kyle of Lochalsh
Raasay Walled Garden.....01378 660345

Newmacher
Ward, Colin, J.....01651 862041

Pencaitland
East Coast Organic Boxes.....01875 340227

Stonehaven
Fraser, J & M.....01569 730195

Tarbolton
Stair Organic Growers.....01292 541369

Tarskavaig
Achnaclaich.....01471 855315

Turriff
Greeness Organics.....01888 544877

WALES

Anglesey
Foreman, Helen.....01407 742 293

Bangor
Dimensions Health Store.....01248 351 562

Brecon
Beacons Vegi Boxes.....01874 636 785
The Ciliau.....01874 711 224

Builth Wells
The Ciliau.....07887 656 887

Caerphilly
Source, the.....029 2088 3236

Cardiff
Pulse Wholefoods.....02920 225 873
Spice of Life.....02920 487 146
Green Cuisine.....02920 498 721

Clunderwen
Ffynnon Farm.....01437 532 570

Deeside
Organic Stores.....01244 881 209

Haverford West
Sarra, Mr & T.....01437 762 323

Monmouth
Irmma Fingal-Rock.....01600 712 372
Carrob Growers.....01600 714 529

Pwllheli
Ty'n Lon Uchaf.....01766 810 915
Llangybi Organics.....01766 819 109

Swansea
Jade Gate Organic Produce.....01792 232 643



MEAT

Where do you get your meat?

Might there be a different way of buying meat that works well for you, that could guarantee better quality and give you a cleaner conscience? Could you buy locally, buying direct from the people who actually farm the animals that produce the meat? Or could you use a butcher who can tell you where all his or her meat comes from, and get special things for you when you want them?

BOX DELIVERY

BERKSHIRE

Lambourn
Sheepdrove Organic Farm01488 71659

CAMBRIDGESHIRE

Ely
Naturally Yours.....01353 778 723

CORNWALL

Cusgarne
Cusgarne Organics.....01872 865 922
Penzance
Vivian Olds Ltd.....01736 788 520
Truro
Carleys of Cornwall.....01872 277 686
Mewton PG.....01872 540 343
Nuncarrow Organic Farm.....01872 540 343
Tywardreath
Stoneybridge Organics.....01726 813 858

CUMBRIA

Carlisle
Whiteholme Farm01697 748 058
Grange-Over-Sands
Howbarrow Organic Farm01539 536 330

DERBYSHIRE

Ashbourne
Nix Organic.....01335 360 996

DEVON

Exeter
The Organic Farmers Market.....01392 875 678
Holsworthy
Providence Farm Meats.....01409 254 421
Kingswear
Fountain Violet Farm.....01803 752 363
Okehampton
Fishleigh Estate.....01837 810 124
Umberleigh
Higher Hacknell Meat.....01769 560 909

DORSET

Beaminster
Childhay Manor Organics01308 868 709

GLOUCESTERSHIRE

Berkeley
Adeys Farm Meats01453 511 218

LONDON

Ealing
Thorogoods of Ealing.....020 8567 0339
Notting Hill
Lidgate.....020 7727 8243

MIDLANDS, WEST

Birmingham
Rossiter, S & A.....0121 4581 598

NORFOLK

Norwich
Harveys Puremeat.....01603 621 930

NORTHUMBERLAND

Hexham
Northumbrian Quality Meats01434 270 184

OXFORDSHIRE

Wantage
Real Farm Foods Ltd.01235 762 461

SOMERSET

Exmoor
Brown Cow Organics.....01749 890 298
Shepton Mallet
Hindon Organic Farm.....01643 705 244
Bath
Radford Mill Farm.....01761 479 572
Taunton
Stoneage Organics.....01823 432 488

SUFFOLK

Woodbridge
Red Poll Meats.....01728 748 444

SURREY

Shere
Drydown Farm07941 277 545
Wintney
Organically Speaking01483 531 319
Bramley
Wintershall Partnership.....01483 892167

SUSSEX, WEST

Billingshurst
Steepwood Farm.....01403 785 434

WARWICKSHIRE

Rugby
Browning, GNF & GA.....01926 632 246

WILTSHIRE

Swindon
Purton House.....01793 770 219

YORKSHIRE, EAST

Driffield
Barmston Organics01262 468 128

SCOTLAND

Perth
Hugh Grierson.....01738 730201

WALES

Clyro
Clyro Hill Farm01497 820520

MAIL ORDER

Daylesford Organic.....01608 731 700
Graig Farm Organics.....0159 785 1655
Higher Hacknell Farm.....0176 956 0909
Meatshop0122 857 7329
Natural Good Food01455 556878
Save the Bacon0160 469 6859
Sheepdrove Organic Farm0148 871 659
Swaddles.....0845 456 1768
The May Highland Beef.....0157 042 3080
The Organic Beef Company0148 866 8429
The Real Meat Company.....0198 584 0562
Traditional Norfolk Poultry0195 349 8434
Well Hung Meat0845 230 3131



FASHION

GENERAL

And Albert01482 863 068
Bishopston Trading Company.....01453 766 355
Chandni Chowk.....01179 300 059
Cloths Works01225 309 218
Daily Bread Co-Operative01604 621 531
Epona01914 151 201
Ethical Wares01570 471 155
Ford Barton.....01398 351 139
Ganesha London.....020 7928 3444
Garthenor01570 493 347
Gossypium01273 488 721
Green Fibres0845 330 3440
SEE ADVERT ON PAGE 85
Grounded020 7503 0279
Hemp Union01482 225328
Hug.....0845 130 1525
Isle of Mull Weavers.....01681 700 265
Mario Clothing.....01736 753 254
Myriad Organics.....01584 872 665
Natural Collection.....0870 331 3333
Natural Dye Company.....01258 840 549
One World Shop01312 294 541
Organic Attire Co020 7924 3345
Patagonia0033 450 88 44 44
People Tree020 7739 0660

Schmidt Natural Clothing.....0845 345 0498
Shared Earth01904 632 896
Siesta01227 464 614
Spirit of Nature0870 725 9885
Spurriergate Centre.....01904 629 393
Texture.....020 7241 0990
Terramar Organics.....07929 371684
Treehouse TLC.....01970 625 116
Traidcraft.....01914 911 001
World of Difference.....01788 579 191

SHOES

Birkenstock020 7240 2783
Ethical Wares01570 471 155
Fairdeal Trading.....0870 766 5796
Green Shoes01803 864 997
Vegetarian Shoes.....01273 691 913

T-SHIRTS

Equop.....0117 953 9991
FunkyGandhi.com.....07979 993 533
Howies.....01239 614 122
Terramar Organics.....07929 371684
THTC020 8630 9001
Tonic T-shirts07838 250 749

FUNERALS

COFFINS

Eco Coffins.....01303 850 856
Greenfield Coffins01440 788 886

FUNERALS

Arka.....01273 746 011
Celtic Casket.....01283 521 104

The Funeral Company Ltd.....01908 225 222
Green Endings020 7424 0345
The Natural Death Centre.....0871 288 2098
S. Stibbards & Sons.....01702 558 717
Sawd Partnership.....01795 472 262
Somerset Willow Co.....01278 424 003
Willow Weave.....01953 887 107

GARDENS



ALL PURPOSE

British Eco.....0191 209 4161
Natural Collection0870 331 3333
Organic Gardening
The Catalogue0845 130 1304
Tamar Organics.....01822 834 887
The Green Shop.....01452 770 629

COMPOSTING

Blackwall01132 018 000
Dorset Hills Organics.....02392 691 913
EnviroMulch01215 254 326
Fertile Fibre01584 781 575
Globe Organic Services Ltd0800 018 4120
Humus Wyse.....01803 834 687
KPS Composting Services.....01444 831 010
Original Organics Ltd01884 841 515
The Bin Company0845 6023 630
The Composting Association.....0870 160 3270
The Recycle Works01254 820 088
The Worm Hotel.....01606 592 145
Wiggly Wigglers.....01981 500 391
Wonder Worms.....01422 831 112

GARDEN FURNITURE

Duchy Originals.....020 8831 6800
English Hurdle.....01823 698 418
Pendlewood.....01617 894 441
Re-Form Furniture.....01209 711 581
Wayfarer Products.....01924 492 300

NURSERIES AND GARDENS

Butterworths' Organic
Fruit Nursery01290 551 088
Ryton Organic Gardens.....02476 303 517
Walcot Organic Nursery.....01386 553 697

PEST CONTROL

Agralan.....01285 860 015
Defenders Ltd.....01233 813 121
Scarletts Plant Care.....01206 240 466

POTS AND SUPPORTS

Panda Stix.....01623 648 200
Stakepots.....01246 261 798

SEEDS

Association Kokopelli Organic
Seeds.....01227 731 815

WATER TREATMENT

Green Ways01962 761 600
Raindrain Lt01924 468 564

FENCING

Evalast Fencing Systems Ltd.....01772 687 779

FERTILISERS

Glenside Organics Ltd.....01786 816 655
Greenvale Farms Ltd.....01677 422 953
Growganic Ltd01380 871 050

HEALTH & BEAUTY



You can absorb up to two kilos of chemicals through toiletries and cosmetics each year. So throw away all your toxic beauty products and choose these ones that are kind to your body as well as the environment

COSMETICS & BEAUTY TREATMENTS

| | |
|---|---------------|
| Avea | 870 1999 219 |
| Aveda | 8000 747712 |
| Barefoot Botanicals..... | 0870 220 2273 |
| Beauty Without Cruelty | 01229 775185 |
| Beauty Naturals | 0800 980 6662 |
| Dr. Hauschka Natural Skin Care..... | 01386 792 622 |
| Earthbound Organics | 01597 851157 |
| John Masters Organics..... | 01874 730 979 |
| Lavera..... | 01557 870 203 |
| Mybeingwell.com..... | 01326 377555 |
| Organica J..... | 01330 850257 |
| Primavera Aromatherapy..... | 01373 812640 |
| Suvarna Pure and Natural Cosmetics..... | 01695 728286 |

DEODORANT

| | |
|-------------------------------------|---------------|
| Anne Elise Natural Skincare..... | 01304 374 594 |
| Body Organics..... | 0870 870 8586 |
| Dr. Hauschka Natural Skin Care..... | 01386 792 622 |
| PitRok Ltd..... | 0208 5631120 |
| Weleda | 0115 9448200 |

MENSTRUAL PRODUCTS

| | |
|------------------|---------------|
| Natracare..... | 01275 371 764 |
| Menses..... | 0117 9851646 |
| The Mooncup..... | 01273 673845 |

SOAPS

| | |
|------------------------|---------------|
| Caurnie Soaperie | 0141 776 1218 |
| Simply Soaps..... | 01603 720 869 |
| The Soap Kitchen..... | 01805 622944 |
| Woodspirits..... | 0208 2934949 |

SUN PROTECTION

| | |
|-------------------------------------|----------------|
| Aubrey Organics..... | 1-800-282-7394 |
| Dr. Hauschka Natural Skin Care..... | 01386 792 622 |
| Ecolani | 1-800-625-5240 |
| Neal's Yard..... | 020 7498 1686 |
| Yaoh | 0117 9239053 |

TOILETRIES

| | |
|------------------------|---------------|
| Akamuti | 0845 4589242 |
| Ascent..... | 01497 847788 |
| Beauty Naturals | 0800 980 6662 |
| Body Organics..... | 0870 870 8586 |
| Bio-D Company Ltd..... | 01482 229950 |
| Caurnie Soaperie | 0141 776 1218 |
| Cioccolatina..... | 01189473178 |
| Comfort and Joy..... | 01367 850278 |

| | |
|-------------------------------------|---------------|
| Creightons Naturally Plc..... | 01903 745611 |
| Dolma | 0115 9634237 |
| Dr. Hauschka Natural Skin Care..... | 01386 792 622 |
| Essentially Yours..... | 01372 465 414 |
| Earthbound Organics | 01597 851157 |
| Faith in Nature | 0161 7642555 |
| Farrow and Humphreys Ltd..... | 01780 482400 |
| Greenfibres | 0845 330 3440 |
| Green People | 01444 4011444 |
| Hemp Garden..... | 01288 355572 |
| Honesty Cosmetics..... | 01629 814 888 |
| John Masters Organics..... | 01874 730 979 |
| Lavera..... | 01557 870 203 |
| Mariposa Alternative Bodycare..... | 01273 242925 |
| Mother Earth | 01229 885266 |
| Mybeingwell.com..... | 01326 377555 |
| Naturisimo.com..... | 020 75847815 |
| Neal's Yard..... | 020 7498 1686 |
| Nirvana Natural..... | 01494 880885 |
| Organic Blue | 020 84248844 |
| Organic Botanicals..... | 01273 773182 |
| The Organic Health Shop | 01892 538155 |
| Potions and Possibilities..... | 01394 386161 |
| Primavera Aromatherapy..... | 01373 812640 |
| Pure Nuff Stuff | 01736 366008 |
| Pure Potions..... | 01273 555 123 |
| Right 2 Know..... | 01280 822 050 |
| Simply Nature..... | 01580 201687 |
| SoOrganic.com..... | 0800 1692579 |
| Spiezia Organics Ltd..... | 0870 8508851 |
| There Must be a Better Way..... | 0118 9479352 |
| The Organic Pharmacy | 020 73512232 |
| Think Natural | 0845 6011948 |
| Twinkle Twinkle..... | 0118 934 2120 |

TOOTHPASTE

| | |
|----------------------------|---------------|
| Green People..... | 01444 4011444 |
| Kingfisher Toothpaste..... | 01603 630484 |

For professional help with your advertising phone our advertising manager on 0207 3513578

HOLIDAYS

The following holidays have all been recommended to us by friends and family. We hope you enjoy them as much as they did, and if you know of any other places that Ecologist readers might enjoy please email editorial@theecologist.org

SHARPHAM FAMILY CAMP

Saturday 30 July to Sunday 7 August 2005. A family holiday in beautiful Devon countryside. Price: adults £130, Children and teens £60, under-3s free
Tel: 01803 732 324
www.sharphamfamilycamp.co.uk

MID WALES STREAMSIDE CARAVAN

Sleeps 4+. Conservation smallholding; wildlife pond, swimming, beautiful walks. Near Machynlleth and Centre for Alternative Technology. £120 - £140pw. No smoking. Also CAMPING.
lizatam@fish.co.uk
Tel: 01654 702718

HOUSEBOAT IN DEVON

Traditional wide-beam barge sleeping five in two en-suite cabins. Moored on private lake and wetland. Exclusive trout fishing. Local walking, sailing, off-road cycling.
£330 - £695pw.
www.blagdonwater.com
Tel: 01566 - 779830

DISCOVER UNSPOILT SLOVAKIA

Timber cottage deep in a forest village. Over 40 per cent of Slovakia is forest (more than Switzerland or Norway). Rich ecology of wild flowers, butterflies, birds, etc, sustains several hundred wolves, bears and eagles. Sleeps four to six, two bedrooms with en-suite bathrooms, from £250 to £390 for cottage per week.
www.SlovakCottages.com



DEVON, THE MAGIC COTTAGE

Enjoy quality time in cliff-top hamlet, where time stands still. Scrumptious breakfast, home-made bread and garden-grown herb teas. Delightful rooms. B&B from £25 each.
Brochure 01395 512238

THE ECOLOGE

A simpler way to relax! A wonderful break from the real world. Freedom for children. Magic moments. Great Hospitality. Somewhere precious.
www.internationalbusinessschool.net/eco-lodge
gclarke@internationalbusinessschool.net Tel:01205 870062/870396

YURT & CAMPING HOLIDAYS ON CORNISH ORGANIC FARM

Holidays on our farm on Bodmin Moor will leave you feeling relaxed, refreshed, and at peace with nature
01208 850491
www.southpenquite.co.uk

HOME

From ingenious, easy-to-fit water-saving devices, to reclaimed building materials: everything you'll need to renovate and clean your home without harming the environment is in these listings

ENERGY

ELECTRICITY: suppliers

- Ecotricity08000 326 100
- Good Energy.....0845 456 1640
- Green Energy.....0845 456 9550

Generation

- Dulas Ltd01654 705 000
- Green Dragon Energy.....01654 761 731
- Rainbow Solar Trading.....01983 533 129
- Sustainable Energy Installations.....01256 392 729
- Wind and Sun Ltd.....01568 760 671

EFFICIENCY: Energy saving

- Eco-Exmoor Ltd.....01598 763 595
- Energy and Environment.....0161 881 1383
- ESI.....01481 722 299
- Lumin8.....01233 666 000
- The Organic Energy Company...0845 458 4076

Light bulbs

- Lampholder 200001536 520 101
- Lumin801233 666 000

Insulation

- Construction Resources.....020 7450 2211
- Ecomerchant.....01795 530 130
- SEE AD ON PAGE 86
- Products Ltd.....01484 854 898
- Green Building Store.....01484 854 898
- The Green Shop.....01452 770 629
- Green systems.....01763 260 719
- Heraklith UK Ltd.....01628 784 330
- Klober Ltd.....01934 853 224
- Polarwall Ltd.....01392 841 777
- Second Nature.....01768 486 285
- Thermafleece.....01768 486 285

HEATING

Ground Source

- Dando Geothermal01903 731 312
- Earthwise Scotland Ltd.....01330 833 915
- Eco Heat Pumps01142 962 227
- Geoscience Ltd.....01326 211 070

- Geothermal Heating International.....02476 673 131
- Green Systems.....01763 260719
- Groenholland UK Ltd.....07905 508 726
- Ground Source Solutions Ltd.....01246 822 808
- Ice Energy.....01865 882 202
- Kensa Engineering Ltd.....01326 377 627

Solar Thermal

- Future Heating Ltd.....020 8351 9360
- Green Shop Solar.....01452 770 629
- Green Systems.....01763 260719
- HiTech Energy Ltd.....0845 601 3540
- The Organic Energy Company...0845 458 4076
- Power Tech Solar.....08707 300 111
- Radiant Energy.....01522 525 300
- The Solar Design Company.....0151 606 0207
- Solarsense UK Ltd.....01275 394 139
- Solar Twin.....0845 130 0137
- Sun Harvester.....01786 822 827
- West Wales Solar Heating.....01994 419 439

Wood Fuel & Stoves

- 3G energi.....01573 229 198
- Able Fuels Ltd.....01484 515 578
- Beacon Stoves.....01559 371 058
- Bio Energy Devices.....01446 781 415
- Bioenergy Technology Ltd.....01825 890 140
- Chilli Penguin Stoves.....02920 865 536
- Construction Resources.....020 7450 2211
- ebc wood fuels.....01953 455 854
- Green Systems.....01763 260719
- Rural Energy Ltd.....01664 454 989
- Wood Energy Ltd.....01398 351 349

PROFESSIONAL SERVICES

Architects

- Chris Morton, Herefordshire.....01684 541 480
- Finch Macintosh Architects, Winchester.....01962 855 240
- Goddard Wybor practice, West Yorkshire.....01132 666 044
- Jon Allen, London.....020 8961 3279
- Neill Lewis, Worcestershire.....01684 563 356

- Nicholas Hare0207 607 4433
- Quattro Design, Bristol.....01179 299 672
- Quentin Alder, Bristol01179 683 111

Building consultants

- Cob in Cornwall.....01326 231 773
- Concept Timber.....01225 792 949
- Mike Wye and Associates.....01409 281 644

Building contractors

- Ecorenovations0161 442 0666

Carpenters

- J.G.Horning, Devon.....01803 732 135
- Richard Arnold, Devon.....01884 350 51
- Tom Straker, Herefordshire.....01432 853 113

Energy consultant

- Encraft08456 022 874

Roofing specialist

- Rawnsley Woodland Projects.....01208 813 490

WATER

Conservation

- Celtic Water Management.....01239 811 465
- Conservation Engineering Ltd.....01359 269 360
- Construction Resources.....020 7450 2211
- Eco Logic.....01217 663 016
- Flow Control Water Conservation Ltd.....08707 558 811
- Flowco Mariflo Ltd.....020 8330 2487
- Green Building Store.....01484 854 898
- SEE ADVERT ON PAGE 85
- Hippo the Water Saver.....01989 766 667

Filters

- Aqua Vitae.....01404 841 841
- Aquasaver Ltd.....01288 354 425
- Capital Water Treatment.....020 8649 9503
- Earthly Goods.....01480 812 004
- Eden.....0800 917 0977
- Green-way services.....01202 874 413
- Simply Water.....00353 149 20414
- Tap Magic.....01473 252 043
- The Healthy House.....01453 752216

Rainwater harvesting

- Construction Resources.....020 7450 2211
- Envireau Rainwater Management.....01296 633 000
- Free Rain.....01636 894905
- Rainharvesting Systems.....01452 772 000

HOME RENOVATIONS

Flooring

- Ashcroft Reclaimed Timber Flooring.....01243 554 769
- Construction Resources.....020 7450 2211
- Drummonds Architectural Antiques.....01428 609 444
- Forbo-Nairn Ltd.....01592 643 777
- Rawnsley Woodland Products...01208 813 490
- Reclaimed.....020 8558 2811
- Treesave Reclamation Ltd.....01787 227 272
- Treework Flooring.....01275 464 466
- Yorkshire Reclaimed Flooring.....01937 843 532

Paints & paint remover

- Auro Organic Paints.....01452 772 020
- Construction Resources.....020 7450 2211
- Earth & Reed Ltd.....01449 722 255
- Earth Born Paints.....01928 734 171
- Eco Solutions Ltd.....01934 844 484
- Green Building Store.....01484 854 898
- SEE ADVERT ON PAGE 22
- LILL.....01296 714 184
- Little Green Paint Company.....0161 230 0880
- Lizzy Induni Traditional Paints.....01929 423 776
- Nutshell Natural Paints.....0136 473 801
- The Green Shop.....01452 770 629

Recycled materials (incl. salvage)

- Smile Plastics.....01743 850 267
- Source4U.....01926 498 444
- Toby's Reclamation.....01392 833 499
- Viking Reclamations.....01302 835 449

Self-build homes

- Association for Environment Conscious Building.....01559 370 908
- Association of Self Builders.....07041 544 126
- Ecological Design Association.....01453 765 575
- Insideout Buildings.....01524 737 999

Tiles

- Natural Tile.....01285 642 300
- Siesta Cork Tile Co.....020 8683 4055

Timber

- Altham Hardwood Centre.....01282 771 618
- Ecomerchant.....01795 530 130
- SEE AD ON PAGE 86

- Rawnsley Woodland Products...01208 813 490
- Reclaimed Pine Online.....01202 789 868
- Reclaimed Timber Specialists.....020 8558 2811
- Victorian Wood Works.....020 8534 1000

Windows and doors

- Ecomerchant.....01795 530 130
- SEE AD ON PAGE 86
- Environmental Construction Products Ltd.....01484 854 898
- Merewood Joinery.....01614 800 363
- Preston Door & Pine Stripping...01772 725 943

BEDDING AND LINENS

- Green Fibres.....0845 330 3440
- Schmidt Natural Clothing.....0845 3450 498
- Texture.....020 7241 0990
- Willey Winkle.....01432 268 018

CLEANING

- 21st Century Health.....0800 0260 220
- Aqua Ball.....0800 026 0220
- Bio-D Company Ltd.....01482 229 950
- Down to Earth.....01793 732 000
- Ecotopia.....01453 752 345
- Ecover.....01635 574 553
- Green Fibres.....01803 868001
- Greenlands.....01892 871 285
- The Healthy House.....01453 752 216
- Natural Eco Trading Ltd.....01892 616 871
- Vertue.....020 8806 7294
- Wonderwash Laundry Ball.....0161 832 7788

FURNITURE & FURNISHINGS

New

- Arbor Vetum.....01386 840 438
- Golden Lamb Rugs.....01600 740 252
- Grand Illusions.....01747 854 092
- Lombok.....020 7736 0001
- Rawnsley Woodland Products...01208 813 490
- Senior & Carmichael.....01737 844 316
- thingbuilder.....07779 623 964
- Treske Ltd.....01845 522 770

Recycled & Salvage

- African Trackwoods.....01488 686 850
- Architectural Salvage Centre.....020 8459 2947
- Art-eco.....07792 702 735
- D & A Binders.....020 7609 6300
- Living Concepts.....020 8378 1009
- Reclaimed Pine Online.....01202 789 868
- Reel Furniture.....01603 629 396
- thingbuilder.....07779 623 964



MAIL ORDER

Too busy to make it to the shops? Then let them come to you. As well as the fruit and vegetable box schemes listed on page 91, there is a wealth of companies who deliver all your weekly needs right to your door.

NATIONWIDE

- Barleywood Walled Garden.....0117 935 1725
- Duchy Originals.....020 8831 6800
- Eostre Organics Ltd.....0195 378 9639
- Equal Exchange.....0131 220 3484
- Essential Trading Cooperative.....0117 958 3550
- Everybody Organic.....0170 765 1243
- Goodness Direct.....0871 871 6611
- Graig Farm Organics.....0159 785 1655
- Infinity Foods Cooperative Food...0127 342 4060
- Mother Hemp.....0126 242 1100

- Natural Good Foods.....01455 556878
- Oil in the Raw.....0157 935 1178
- Organico (see back cover ad).....0118 951 0158
- Suma.....0845 458 2290
- The Organic Delivery Company...020 7739 8181
- Traidcraft.....0870 443 1018
- Westcountry Organics.....0164 724 724
- Wild Oats.....0117 973 1967

OFFICE RESOURCES



ELECTRICITY

Ecotricity0800 0326 100
 Good Energy01249 766 090
 Green Energy08454 569 550

GRAPHIC DESIGN

Ecographic01273 201 361
 Sussed Design01273 275 302
 Zodshop01239 711 638

INK CARTRIDGES

Action Aid Recycling08453 100 200
 The Green Stationary Company .01225 480 556
 Office Green020 8592 9998

JANITORIAL

Environment Saving Supplies024 7638 6544
 Greenlands Environmental Care 01892 871 285
 Vertue020 8806 7294

PR

Substance PR0238 023 5050

PROMOTIONAL MATERIALS

Remarkable!020 8741 1234
 Save a Cup01494 510 167
 Yo-Yo Promotions01252 620 593

RECYCLED OFFICE SUPPLIES

Dartex Office Supplies01322 521 545
 The Green Stationary Company 01225 480 556
 Paperback020 8980 2233
 Recycle It08707 743 762

STATIONERY

Ecotopia01453 752 345
 The Green Stationary Company 01225 480 556
 Remarkable!020 8741 1234

TELEPHONE & INTERNET

Green ISP0845 058 0659
 GreenNet08450 554 011
 The Phone Co-op08454 589 000

WATER COOLERS

Aquaid01223 830 400
 Simply Water01514 755 589

PERSONAL TRANSPORT



71 per cent of road trips by car are less than five miles long, and 46 per cent are less than two miles long. So why not leave the car keys on the kitchen table and make better use of your local transport network?

BICYCLE

ORGANISATIONS

London Cycling Campaign020 7928 7220
 Sustrans0117 929 0888
 UK National Cyclists Organisation 0870 873 006

BUS

Travel Line08706 082 608

CAR

Bio-diesel fuel

Ebony Solutions01606 301 222

Breakdown

Environmental Transport Association0800 212 810

Electric cars

Electric Car Association01823 480 196

Electric scooters

Powabyke01225 443 737
 Electric Scooters01206 233 180

Fuel-saving devices

Eco Tek01844 212 939
 Power Plus01323 417 700

Recycling used motor oil

Oil Bank0800 663 366

Recycled tyres

Environmental Tyre Disposal020 8345 6115
 Tyre Collection Services0121 544 1408
 REG Tyre and Automotive Recycling01895 444 714

Sharing

Lift Share0870 11 11 99
 Car Clubs01132 349 299

TRAIN

TIMETABLE INFORMATION

National Rail Enquiries0845 748 49 50

PERSONALS

Want to meet people, or just a special person with a passion for global issues? Visit <http://www.ethicalcentral.com/personals/> today, and make a difference to your tomorrow!

PERSONAL FINANCE

Do you want your hard-earned cash to finance wars, vivisection, or child labour? Or do you want it to support environmentally sound products and businesses? If the latter, call the organisations listed below

BANKING

Co-Operative Bank08457 212 212
 Ecology Building Society0845 674 5566
 Triodos Bank01117 973 9339

FINANCIAL SERVICES

Ethical Investment Co-operative 0845 458 3127
 Gaia0161 434 4681
 Naturesave01803 864 390
 Social Venture Network07958 772 864

INSURANCE

Absolute Mortgages01865 865 342
 C I S Insurance0161 829 4084
 Ecology Building Society01535 650 777

MORTGAGES

Absolute Mortgages01865 865 342
 CD Project0795 877 2864
 Ethical Investment Co-operative 0845 458 3127

PROPERTY

PROPERTY FOR SALE

CHARMING OLD HOUSE (1720) in good repair but not tarted up, old apple trees, deep new well, glorious setting near Walsingham and North Norfolk coast, neighbours not visible, 6 rooms – guide price £350,000 **TEL 01328 820753**

PROPERTY FOR SALE

Abingdon, Oxford 20 mins. For cyclists, walkers, wine buffs. Fantastic 5 bed, 2 recep house. Excellent bike access, close Thames Path, huge cellar. 100 ft SW garden. Grade II listed.
£395,000 ono. 07811 494656.

RECYCLING SERVICES

More than 60 per cent of your rubbish can be recycled. Most of it currently ends up in landfill sites or disappearing up incinerator chimneys. Don't bin it, recycle it

ALL PURPOSE

Forest Recycling Project Ltd.....020 8539 3856
 Loop0800 542 1400
 Paper Round.....020 7620 3131
 RECOUP.....01733 390 021
 Waste Watch.....0870 243 0136

ALUMINIUM

Alcan Aluminum Can Recycling...0800 262 465
 Alufoil020 8583 5060
 Aluminium Packaging
 Recycling Organisation.....01216 334 656
 Alupro.....01506 444 644
 Cash for Cans0845 722 722

BATTERIES

Centre for Alternative Technology 01654 705 950

BICYCLES

Re-cycle0845 458 0854
 Salvo.....020 8400 6222

CARPETS

Carpet Burns.....0133 259 4044

CARTONS

Cutouts.....01484 645 281
 Tetrapak.....0870 442 6000

CDS

Beacon Press01825 768 611

CLOTHING

Quilter Guild01422 347 669
 Oxfam01865 312 610
 Red Cross020 7235 5454

CURTAINS

The Curtain Exchange020 7731 8316

COINS

Oxfam0870 333 2700
 RNIB0845 766 9999

COMPUTERS

DonatePC.....info@donatepc.org.uk
 Recycle It0870 774 3762
 Free Computers for Education...01932 874 066

ELECTRONIC AND HAZARDOUS WASTE

Strategic Waste
 Management Services.....0113 243 8777

FURNITURE

Furniture Recycling Network.....01924 375 252

INK AND TONER CARTRIDGES

Office Green020 8592 9998
 UK Cartridge Recycling
 Association.....01706 525 050

MOBILE PHONES

Fonebak.....01708 683 400

OIL

Actionsmart01656 648 899
 Oil Recycling Association.....01279 814 035

PAINT

Community repaint.....020 8362 0752

PAPER

British Recovered Paper
 Association.....01793 889 600

PLASTIC CUPS

Remarkable.....020 8741 1234
 Save-a-cup.....01494 510 167

REFRIDGERATORS

Fridge Recycling.....01925 715 400
 Ozone Friends.....020 8591 6333

SPECS AND SUNGLASSES

Vision Aid Overseas01293 535 016

TELEPHONE DIRECTORIES

Yellgroup.....0800 555 444

TV MONITORS/ MERCURY LIGHT BULBS

Lamp recycling.....01752 662 050
 Mercury Recycling.....0161 877 0977
 Wiser.....01480 462 232



VOLUNTEERING



Increasingly, volunteers are holding the fabric of the world together. Whether it's social cement that's needed or physical labouring, many of today's communities couldn't survive without thousands of hours of donated time. Are you doing your bit?

RESOURCES

Action Without Borders001 212 843 3973
 Environmentjob.co.uk.....0161 2820 920
 Volunteering England.....0845 305 6979

UK

BTCV01302 572 244
 Environ0116 2220 222
 Ethical Consumer.....0161 226 2929
 Groundwork0121 236 8565
 Time Bank.....020 7401 5420

INTERNATIONAL

MAY ALSO OFFER UK PROJECTS

Africa and Asia Venture.....01380 729 009
 African Conservation Experience 0870 2415 816
 Bio Sphere Expeditions01502 583 085
 Coral Cay0870 750 0668
 Cross-Cultural Solutions.....001 914 632 0022
 Earthwatch Institute.....01865 318 838
 Friends of the Earth.....020 7490 0881
 Outreach International.....01458 274 957
 Project Trust.....01879 230 444
 Quest Overseas.....020 8673 3313
 Student Partnership Worldwide..020 7222 0138
 Trekforce.....020 7828 2275
 VSO (Volunteering Advice Line)..020 8780 7500
 WWOOF.....01273 476 286

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Email ruthwest@gn.apc.org



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THE TIME HAS COME... ARE YOU READY TO DIE?

We interrupt our regular programming for a moral advisory...



Children, the Downing Street memo comes in waves. Again and again I get this aghast junk mail featuring the Bearing of False Witness; this moral junk mail which demands that outraged citizens fling cyber-frisbees across the White House lawn, letting naughty George feel the full force of their...

Of their what?

The discovery of the Downing Street memo, the smoking gun that Bush lied while Blair prayed, and the hope that we will have the peaceful millions in the streets like 15 February 2003, but this time with each of us brandishing the memo in the air, is...

Is what?

Do we hope George will emerge from behind the guns and oil wells and ask forgiveness like faucet-faced Jimmy Swaggart? How naive is that? It is so deeply naive that we search for a new vision of naiveté, a cleansing sado-masochistic blitheringness. Nigh-Eve! It's like Neville Chamberlain wanting to chat with Adolf during the Battle of the Bulge.

Here we have a classic phenomenon. And here in our divinity studies perhaps we need to broach the question: Whither goes inconsequence? Do we see Evil in the self-defeating act by progressive people who itch their wound but then cry out, 'now I really must go shopping'?

And so, here is the crux. The Consumer Liberal wants to pontificate, to illustrate immorality in the air and be happy with the Act of Illustration itself. 'Oh, we all must mutually forgive one another, because we're only doing the best we can for our fellows.'

However, you are dangerous idiots! Yes, we have a difference as to what we

believe is of any consequence. I say going to the White House and Downing Street with that memo soaked in the blood of Iraqi children is like Fed-Exing the Beatitudes to Al Capone. You same hand-wringing Lefties would say that staging heightened conversations in Starbucks, where the Earth's destruction by industrial agricultural methods is exclaimed so neatly that a putrifaction besets the \$4 lattes arrayed before the overwhelmed customers, is a Goof – the minor turn of clowns in desperation, the province of wankers. Well, bless you. Better wipe that genetically-altered milk moustache off your Left-leaning face.

And you would say that singing radical hymns deep in the fluorescent aisles of Wal-Mart products that leave local residents shouting Change-a-lujah! for days... You'd say that is raucous, student-like, anarchy-tinged. Well, bless you. Let's go dirty dancing.

And you would say, no wait a minute, you do say, all the time, that The People can still rise up in a replay of an old newsreel. All we need is to adjust the colour balance. You say that you can slip into the clothing of the ghosts of the popular Left's past. You say you can slip your fist up into the fist of the street-pounding workers' movements! (Or at least slip your carpal-syndromed wrists up into a withered but cyber-savvy semblance of fist.) Oh, now you will sue the bastards, blog them to some ultimate embarrassment, vote them out by moral

junk mail, hound George and Tony to their graves with their sin-laden memo. And then what?

The old heroes, the lessons of history – they teach us, but they are not plots asking for actors. The fact is we don't have a plan of action, even as permanent warfare is good for the markets and the oceans rise through the windows. Anything we do is shadow-dancing if two thirds of Western economies are based on consumption – a spinning loop of

Anything we do is shadow-dancing if two thirds of Western economies are based on consumption

products and poison that no politician could stop even if they wanted to.

And so all our attempts take on the quality of Starbucks decor, the imitation of a day when real change began in real conversations over coffee. But in those days they didn't leave cafés with a buzz: they left radicalised. How would a radical look today?

While we debate the consequence of this or that activity, whether marching, emailing, voting or performing in the aisles of products, we have to ask the question which has been illegal since 9/11. Would we die for it? The crazy apocalypticists in the White House are saying that they will. They want death and will kill us all so they can have their unhappy ending. We want life and will have to risk our lives for it.

No one really believed it would come to this. But it has. You won't save life with a letter campaign, not now. The only question is this: 'Is the reverend too depressed to finish this sermon?'

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What is ecotricity?

See encarta.msn.com.

e-co-tric-i-ty

noun

ecofriendly electricity: electric energy produced by ecologically friendly means, for example, by solar power or wind power (informal)

[Late 20th century. A blend of ecological and electricity.]

ecotricity

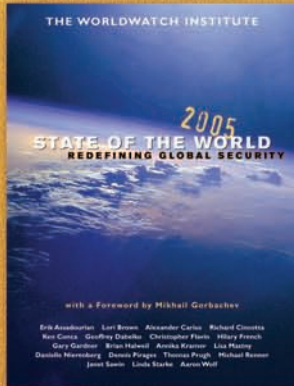
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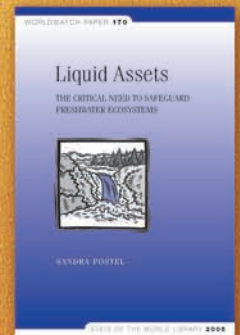
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