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Dr Tatiana consoles a three-spined stickleback

BEHIND THE LABEL

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BREAKFAST WITH

TEFLON

ARE YOU DYING TO AVOID WASHING UP?



GREEN ENERGY

Are we being conned?

DEBATE: 4X4'S

SAFE, SEXY AND STYLISH OR UGLY ARROGANT AND ANTISOCIAL?

PHOTOSTORY

China's monstrous Three Gorges Dam

Your 32-page guide to ethical living
green pages

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Best for your baby, and for the planet too

SAVING FACE
28 Sops on the skin

ESSENTIAL SKINCARE
More than 200 ethical organisations

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Celebrate summer with Wild strawberries in a natural setting. And a surprise!

BORDEAUX BIO-DYNAMITE
Sally Wainwright on the way wine of Chateau

YANGE IT'S
Green flowers, honey and a delicious health beer

RECLAIMED WOOD...
200-year-old Wharfedale floor

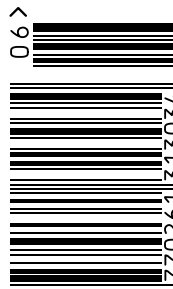
BEAUTIFUL BONES HERRINGS FOR TEA

GREEN PAGES

OUR 32-PAGE GUIDE TO ETHICAL LIVING

Hugh Fearnley-Whittingstall celebrates June
Monty Waldin drinks Bordeaux bio-dynamite
Mitch Tonks falls in love with herring
Pat Thomas gets under your skin

Plus: Seasonal food for free • Reclaimed wood
Box scheme babyfood • 200+ Ethical organisations



a song and dance—to save the earth.



Photo: Chris Ayers 2004

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Salvador Ruvacalba is a Mexican conservationist who teaches school children about the importance of keeping waterways clean. With the help of a larger-than-life Kingfisher mascot, he motivates them to care for their environment—turning would-be polluters into environmental champions. Rare, an innovative conservation organization, provides Ruvacalba and others with the tools and support they need to inspire conservation. Rare believes conservation is one person, in one place, changing the way people live—all over the world. **Find out how you can make a difference—call Rare at 703.522.5070 or visit rareconservation.org.**

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inspiring conservation

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Your 32-page guide to ethical living green pages



GREEN PAGES

Our indispensable 32-page guide to ethical living

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THIS MONTH IN HISTORY: JUNE 1770

235 years ago this month, on 11 June 1770, Captain James Cook, commander of the British ship Endeavour, discovered what many consider the world's largest living organism. In less glamorous terms, his ship ran into a small corner of Australia's 135,000 square mile Great Barrier Reef.

Within 45 years such an accident may no longer be possible. According to a 2004 report by WWF and the Queensland government, the reef could have lost 95 per cent of its living coral by 2050. And that, claims the reports, is assuming the best-case scenario for global warming.

ecologist

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The Ecologist's International Serial Number is ISSN 0261-3131. The Ecologist is a member of the Independent News Collective (INK). Periodicals Postage Paid at Rahway, NJ. Postmaster: Send address corrections to: The Ecologist, c/o Mercury Airfreight International Ltd, 365 Blair Road, Avenel NJ 07001.

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EDITORIAL



One of the things that characterised Britain's recent general election was an almost complete lack of focus on the environment. On the few occasions the issue was raised, it was invariably by media commentators asking why that was the case.

The answer apparently, is that the electorate lacks sufficient interest in these issues. Politics, it was repeatedly said, is a game of supply and demand, and the demand just wasn't there. But says who? Given that the environment was never on the menu, it's not surprising there weren't many orders for it. If you visit an Italian restaurant, you're not likely to order a chicken korma.

But why weren't these issues on the menu? Is it really the case that the kind of initiatives we need to adopt to maximise our chances of survival are simply not saleable? Is that why the green party still exists in that grey electoral folder called 'Other'? I don't believe so. If the electorate were presented with, common sense 'green' steps, I believe those steps would win popular approval.

Who, for instance, is against putting the precautionary principal at the heart of our regulatory system? Not many people. Who would oppose measures to boost the viability of our small producers – farmers who improve our countryside and provide us with the food we all want? The demand is there. Organic sales are going through the roof. But none of the main parties seriously challenged a system that favours, at every level, intensive agribusiness for export over healthy production for local consumption. Who would oppose shifting the investment of billions of pounds of taxpayers' money away from new airports and roads towards improving our trains?

These measures are 'solution multipliers'. They are simple, effective and they address more than one problem. Adopting the precautionary principal would improve our health and lessen the burden on our NHS. Enabling schools, hospitals and public institutions to source their food as locally as possible provides consumers with good food, producers with an income uncompromised by middlemen, and it frees the environment from the costs of needless transport. Putting a tax on aviation fuel would provide more revenue for improving the public transport infrastructure, and it would limit the influx of artificially 'cheap' food that undercuts our own producers.

What's more, these kinds of initiatives require no bravery to introduce and, despite what politicians imply, no sacrifice on our behalf. They are inherently acceptable. And that's got to be good news. So why no action?

It's tempting to imagine that there's a big conspiracy. But the truth is probably less exciting. Politicians just aren't good at joining the dots. By and large, they still see the environment as something separate... a special interest. And their response to it is to devise the odd bit of green regulation with a view to pinching a few green votes.

The reality is that the environment affects and is affected by everything. A policy on health that doesn't involve cutting down environmental toxins is doomed to failure. But that's exactly the basis on which the main parties embarked on the health debate. None of them identified the irony that our health is deteriorating (asthma, diabetes, cancer, degenerative brain disease, autism, and so on are all on the rise) even while the NHS has grown to become the world's third largest employer and costs a correspondingly vast sum to maintain.

The good news is that an environmental perspective provides answers to all kinds of otherwise insoluble problems. Practical solutions exist. But we need to recognise that in real terms, we are the majority, not the minority. It is the establishment that believes our finite earth has an infinite capacity to absorb pollution; that we can continue converting natural capital into consumer goods forever; that we can continue shaping our world around the assumption of infinite oil.

We are the realists. In fact, we're the only realists in town.

Letters

Send letters for publication to: **Letters, The Ecologist, Unit 18, Chelsea Wharf, 15 Lots Road, London SW10 0QJ. Email: editorial@theecologist.org. The Ecologist reserves the right to edit letters as necessary.**



WATER UNDER THE ECOLOGIST'S BRIDGE

The BBC recently reported on how there is a large amount of water in a variety of foods. It appears the corporation may be catching up on the reporting already done by your magazine more than six months ago about what is in chicken ('Chicken', September 2004).

I have to say that when I read *The Ecologist's* exposé I was seriously disturbed about the scientific developments used by the Dutch to enhance the weight of chicken meat. I found it hard to believe that ground-up cow hooves and water helped make the chicken look plump.

I had a couple of friends comment, after your exposé was published, that they had experienced slimy surfaces on chicken fillets and water seeping out of them when they cut them. Maybe the public will finally be aware and concerned about what they eat.

**Alice McClymont
London**

SHAME ON YOU, ZAC GOLDSMITH

One morning last month I heard your editor Zac Goldsmith on Radio 4 say that 'even he' had to resort

to shopping at supermarkets for some items, such as their stranglehold on the market. What dispiriting and misleading nonsense.

My family lives on a very low income. We buy much of our non-perishable food from a relatively local wholefood wholesaler. Our fruit and vegetables come from a local organic farm shop (there is no box scheme in our area). We buy 'recycled' clothes from charity shops and shoes from ethical sources, which, if expensive, are good-quality and last a long time. We live in a rural area and travel by bus and buy all other items we need at local independent shops. It is possible, even on a low income, to consume both ecologically and ethically. We both eat and dress well.

**Karen Rush
Llanon, Wales**

RIP THE GREENS

Aidan Rankin's proposals re a new Ecology Party ('Time for a new Ecology Party', February 2005, and 'Grassroots democracy', May 2005) are all the more to be applauded now the Green Party has sadly demonstrated in the general election its inability to attract serious political attention. Political representation of environmental and ecological necessities is at a low ebb.

Time is running out for this reckless consumer world. Rankin is well aware that the public needs first a coherent appraisal of life on earth, and then immediate application of the measures required to sustain that life.

The public must become aware that sacrifices of immediate satisfactions are absolutely inevitable, either by choice or by painful necessity. The determination of the three main parties to concentrate on present benefits and to ignore the future should be condemned very strongly.

If the main parties do not have the guts to tell the public what is needed, then *The Ecologist* could invite Rankin – and your readers – to work on a manifesto that might give the politicians of all parties some real food for thought.

**Michael Dunwell
By email**

ECONOMIC LOGIC OF SUSTAINABLE FOOD

Trevor Wearing writes that it will be difficult to convince people on a budget of the benefits of more sustainable food products due to their cost ('Letters', May 2005). I would argue that this is true only if you do not also convince people of the changes to our diets that are necessary.

I have been eating a seasonal diet of largely local and organic food for the past 14 months. When shopping at supermarkets with no regard for the source or type of my food, my bill averaged out at £15 a week, depending on special offers. Over the past year it has averaged out at £13 a week, depending on the season and local harvests. I eat locally farmed meat



PHOTOGRAPH COURTESY OF RAINFOREST ACTION NETWORK

LEADING US BANK ADOPTS STRINGENT ENVIRONMENTAL GUIDELINES

Following relentless pressure from the campaign Rainforest Action Network (RAN), the Chicago-based banking giant JP Morgan Chase has embraced a comprehensive set of environmental policies that make it the most environmentally responsible operator in the US banking sector. JP Morgan Chase will now:

- establish a clear set of 'no-go zones' that will place the world's endangered forests off-limits [for commercial investment and exploitation];
- mandate reductions of greenhouse gasses for its internal operations, and seek to organise

its peers in the banking sector to push for federal policy initiatives to reduce greenhouse gas emissions for the US as a whole; and

- recognise and seek to preserve the rights of indigenous communities regardless of where they live, and compensate those communities if their rights are abridged.

Following the announcement, RAN said that it would cease its protests against JP Morgan and target instead other banks that haven't issued similar commitments.

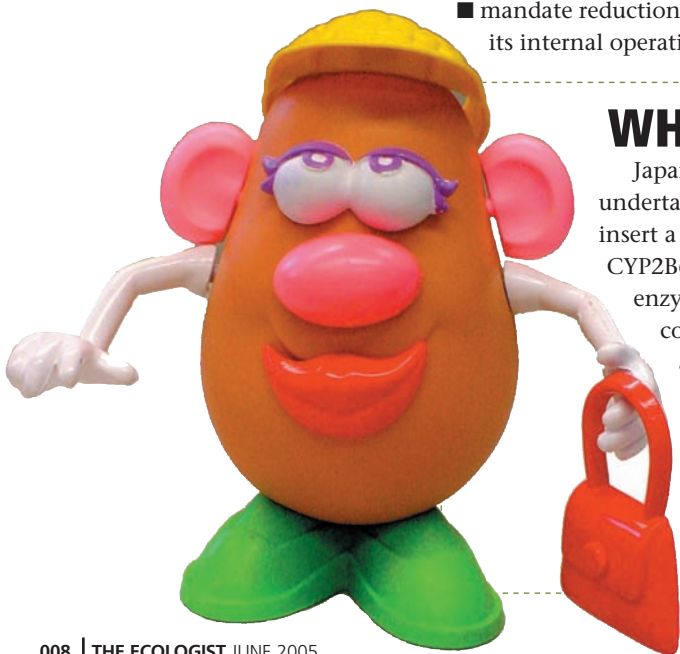
WHEN POTATOES BECOME HUMAN

Japanese scientists have undertaken tests in which they insert a human enzyme (known as CYP2B6) into rice and potatoes. The enzyme breaks down a range of common herbicides, pesticides and industrial chemicals.

Critics say the idea of eating a potato containing human genes smacks of cannibalism. Sakiko Hirose, of Japan's National Institute of Agrobiological

Sciences, countered: 'You could synthesise this thing, if you knew the [genetic] sequence, in the lab. It doesn't actually have to come from a human.'

But Joe Cummins, professor emeritus of genetics at the University of Western Ontario, warned of the possible health risks of the experiment. Cummins said: 'The human enzymes put into rice are responsible for causing most kinds of human cancer by activating certain pollutants into forms that attack the genes causing mutation.'



HERO OR ZERO?



BUSH CLIMATE SCIENCE IGNORES EFFECTS

When challenged on his stance as regards climate change, US president George Bush regularly refers to his wish for 'more research'. Now, the non-partisan congressional watchdog the Government Accountability Office (GAO) has alleged that the research Bush has commissioned almost completely fails to examine the impact of global warming on either

society or the environment. According to a GAO report released in April, none of the 21 climate change studies the Bush administration plans to publish by 2007 will feature assessments of global warming's possible effects on agriculture, water, energy or biological diversity.

For the sake of Mr Bush, here are two of the latest findings on the subject:

- 212 of the 244 glaciers on the Antarctic peninsula are retreating, according to scientists from the US Geological Survey and the British Antarctic Survey. The scientists found that temperatures have risen more than 4.5 degrees Fahrenheit in the region since 1950.
- Even if greenhouse gases were capped now, global temperatures would still rise 1 degree Fahrenheit this century, according to a Nasa-led team writing in the journal *Science*. Having studied data from the depths of the oceans and from space, Nasa's team concluded that the earth is absorbing more heat than it's giving off. The study's lead scientist called the findings a 'smoking gun' that should end doubts over the reality of global warming.

AMAZONIAN TORTURE ANTS

A species of ant found only in the Amazon has been observed trapping prey on specially constructed snares. Victims are pinned to the snares and then torn to shreds. The ants build the snares out of plant hairs which they strip from the vegetation on which they live. They then pierce holes all along the surface of the snare and hide underneath until an unwitting victim walks across the top, at which point the ants grab their prey through the holes so that it is unable to escape while it is bitten to death.



An ivory-billed woodpecker, long thought extinct, but discovered to still exist in North America. The bird, which has a wingspan of three feet, was formerly hunted because its feathers were fashionable accessories in women's hats. Ornithologists writing in the journal *Science* described the discovery as like 'finding Elvis'.



ZERO: SIR JOHN KREBS Now ex-head of the Food Standards Agency

A new independent review of the Food Standards Agency (FSA) found widespread popular mistrust about the agency's statements on organic and GM food. The Dean Review said: 'The vast majority of people consulted felt that the FSA had deviated from its normal stance of making statements based solely on scientific evidence... 'This view was expressed not only by stakeholders representing organic and GM interest groups, but by those who would be regarded as supporters and natural allies of the agency.' And in an interview with *The Times* to mark his departure, Krebs couldn't resist one last stab at the organic movement he so vilifies. He said: 'They have a vested interest in us supporting the notion that it is better to eat organic food, and we don't have a position on whether people should or should not be eating organic food. There is no scientific basis for saying there is a health claim relating to organic food.' Krebs, who was the FSA's first head when it was formed in 2000, leaves to take over as principal of Jesus College Oxford.

For an in depth profile of Sir John Krebs, go to www.gmwatch.org

WHAT WE LEARNT THIS MONTH...

- **1,000 toads mysteriously exploded in a Hamburg pond.**
- A German inventor created a 'telephonic angel': a loudspeaker to be buried alongside graves so that mourners can speak into a microphone at the surface and send messages to the departed.
- **The Communist Party in North Korea decreed that all the country's men would be expected to wear their hair no more than two inches long, as long hair apparently impairs brain function.**
- Concerned at the rise in obesity among children, the producers of *Sesame Street* have reduced the amount of cookies that the Cookie Monster will consume on air.
- **The distractions caused by endless emails, mobile phone calls and text messages are more damaging to IQ than smoking cannabis, according to a new survey.**
- The Museum of Foreign Debt opened to the public in Argentina. Its exhibits include a model kitchen to depict the financial recipes cooked up by the IMF. 'We open the freezer and the oven and there is no food,' explained the museum's director.
- **A Colorado school banned students from hugging, suggesting they give each other high fives instead.**
- An Arizona police department was seeking funding to train a monkey to wear Kevlar body armour and undertake dangerous missions.
- **The government of Hugo Chávez distributed 1 million copies of Cervantes' classic picaresque novel *Don Quixote* to the Venezuelan public. The country's minister of culture commented: 'We want the Venezuelan people to get to know better *Don Quixote*, who we see as a symbol of the struggle for justice and the righting of wrongs.'**
- The UN showed off its computer game 'Food Force', in which participants get to play at feeding starving people.
- **US executions were found to be below standards acceptable for veterinarians.**
- Three newly discovered species of slime-mould beetle were named after George W Bush, his deputy Dick Cheney and US defence secretary Donald Rumsfeld.
- **The Phnom Penh city authorities have signed a deal to privatise the memorial to Cambodia's Killing Fields.**
- Scientists at Yale University managed to make decapitated fruit flies walk, leap and fly by shining a laser at them.



RAINFOREST AT RISK FROM TSUNAMI RECONSTRUCTION

A new report from the World Wildlife Fund (WWF) warns of the potentially disastrous environmental consequences of the programme to rebuild the tsunami-ravaged Indonesian province of Aceh. According to WWF's *Green Reconstruction Policy Guidelines*, reconstruction efforts could seriously harm the Sumatran rainforest.

The report estimates that 1 million cubic metres of timber will be needed to rebuild Aceh over the next five years. 'If all this timber was sourced from Sumatra, the result would be massive deforestation, which would lead to floods and landslides and the potential for further tragedy for the Indonesian people,' said Tessa Robertson, head of the forests programme at WWF-UK.

According to WWF, loss of forests would also threaten much of Indonesia's wildlife, including endangered species such as the Sumatran tiger, rhino and elephant and the region's populations of orang-utans. 'Indonesia's forests have already been devastated by illegal logging,' said Robertson. 'The demand for timber to reconstruct Aceh would put even more pressure on the remaining forests and is likely to lead to even more illegal logging. Countries and companies must play their part in preventing this by donating timber that comes from the world's well-managed forests.'

In the past 50 years Indonesia has lost 40 per cent of its forest cover due to industrial and often illegal logging.

“ Science by peer pressure is dangerous, but sometimes it is necessary ”

Unnamed US nuclear scientist commenting after it was revealed that government scientists studying the environmental impact of the proposed nuclear waste dump at Nevada's Yucca Mountain had falsified results to ensure the project could continue



THE MOUSE THAT ROARED WITH LAUGHTER

Humans eager to assert mankind's supposed superiority to the rest of the animal kingdom regularly assert a range of characteristics that are allegedly unique to us; among the most common are humour and laughter. Recent discoveries, however, appear to have laid that tired old joke to rest. A report in the journal *Science* details findings from recent studies of laughter in other animals, findings which are likely to bring a smile to the face of anyone who feels kinship with other species.

■ When chimps play-fight they make sounds similar to human laughter. It is only certain physiological differences limiting chimpanzees' breath control that prevents them making exactly the same sounds as us.

■ Dogs encourage each other to play with a canine version of laughter. Playing recordings of the sound to dogs kept in kennels and dog homes drastically reduces levels of stress among confined animals. Humans wishing to encourage their own dogs to play in this manner can mimic canine laughter by making an abbreviated 'he-he-he' sound.

■ Lab rats made a chirping sound too high for humans to hear unaided in response to tickling by scientists or when playing with each other. They made the same sounds just before being given morphine or when having sex.

“

Where does the money come from to pay Tesco boss Terry Leahy? From producers and consumers; the cheaper he can buy from producers and the more he can get from consumers, the more money he has for his shareholders and himself

Lincolnshire farmer John Turner commenting on the news that the UK's largest supermarket made £65 profit every second in 2004

”



KEEPING THE EARTH FIGHTING FIT

The US Army's curious love affair with the environment continues. To celebrate Earth Day 2005 (22 April) it launched a campaign called Sustaining the Environment for a Secure Future. What the army wants is a nice clean environment in which to fight. In its Earth Day message, the US Army Environmental Center stated: 'For success in the global war on terrorism we must carry out our responsibilities for the long term. The land, air, and water resources we work and train on are vital to both our present and future missions. We must use those resources wisely in a manner that reflects our devotion to duty and respect for the needs of tomorrow's soldiers.'



BOLLYWOOD FOR MONSANTO

A Bollywood film idol has been hired by GM giant Monsanto to advertise its genetically modified Bollgard or BT cotton in India. Explaining his support for the company that gave the world Agent Orange, actor Nana Patekar said he had been motivated by the frequency of suicides involving pesticides among conventional cotton farmers in India, and because the country's federal government 'has given clearance to the [GM] technology and it must have considered all angles'.

94

The number (out of 104) of government- or university-funded studies into bisphenol A – a chemical used in plastic bottles, including baby bottles – that found harmful effects. Curiously enough, 11 out of 11 industry-funded reports found no ill effects.

625

The number of terrorism attacks to have occurred this year, according to US intelligence officials. The figure is four times last year's total, which was the highest in two decades. Coincidentally, for the first time in two decades the US government will not be publishing this year *Patterns of Global Terrorism*, an annual report listing all countries and groups involved in international terrorism.



PHOTOGRAPH BY GETTY IMAGES

“

Personally, I feel the time has come to act – to take steps as a nation to reduce the carbon intensity of our economy. And it's going to take all of us to do it

Paul Anderson, CEO of US oil company Duke Energy, announcing to stunned shareholders his company's decision to lobby for a tax on CO₂ emissions

”

FISH SMARTER THAN DOGS?

Long held as a byword for limited intelligence, it seems that fish may be due an apology. Scientists at Oxford University were stunned by the speed with which fish they were studying came to terms with an aquatic obstacle course. The blind Mexican cave fish learnt how to complete the challenge in a matter of hours – in a time that would be faster than it would take the average dog to complete a comparable test. Oxford zoologist Dr Theresa Burt de Perera said: 'The public perception of fish is that they are pea-brained numbskulls [which] can't remember things for more than a few seconds. We're now finding that they are very capable of learning and remembering, and possess a range of mental skills that would surprise many people.'



Greenpeace volunteers on the roof of deputy prime minister John Prescott's home, protesting at the government's failure to make UK homes more energy-efficient. The protesters left low-energy light bulbs and loft insulation outside the front door of Prescott's house in Hull

PHOTOGRAPH COURTESY OF GREENPEACE/TOUHG

DEAD STRAIGHT UP

Approval has been granted for a new environmentally friendly burial site in Australia: corpses will be buried vertically in biodegradable body bags in land used for grazing animals. Furthermore, bodies will be delivered to the cemetery in batches of 15 so as to reduce the environmental costs related with transportation. A cemetery spokesman said: 'When you die, you are returned to the earth with a minimum of fuss and with no paraphernalia that would affect the environment.'



RACE ON TO SAVE THE ALBATROSS

Once again, the bookmaker Ladbrokes has teamed up with David Bellamy's Conservation Foundation and the Tasmanian state government to raise awareness of how the albatross is threatened by longline fishing techniques. In the Big Bird Race 2005 punters can bet on which one of 17 specially tagged Tasmanian Shy Albatrosses – each sponsored by a different famous owner – will complete their annual migration from Australia to southern Africa first.

In longline fishing thousands of baited hooks on lines of up to 130 kilometres long are dragged behind boats. Birds are attracted to the hooks as they glint in the sun. It is estimated that 300,000 seabirds die because of longlining each year, with many albatross species facing the very real threat of extinction as a direct result. The situation is as serious as that facing dolphins in the 1980s before public awareness and pressure brought about a change in tuna fishing techniques. *The Ecologist* has a bird, 'Ecologist Junior', flying in the race.

■ www.ladbrokes.com/bigbirdrace

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TRILLION DOLLARS

The value of the total world output of goods and services in 2004. In 1950 the figure was just \$7 trillion. The world's economy grew by 5.1 per cent last year: the fastest rate in 30 years. Just how long can the planet's resources sustain such growth?



TEFLON OUT OF THE FRYING PAN

Credited in the Guinness book of records as the world's most slippery substance, Teflon has escaped the scrutiny of environmental regulators for 50 years. Now evidence suggests that the chemicals that leak from Teflon pans during cooking may be more harmful to the environment and human health than DDT BY PAT THOMAS

Discovered largely by accident in the late 1930s, Teflon has made all our lives a little easier. Waxy, slippery, dirt-, fat- and water-repellent, consumers encounter this amazing material in the coatings on frying pans and cooking utensils, stain-proof carpets and clothes, paper products, fast food packaging, spectacles, insulation on electrical wires and even the fabric roofs covering football stadiums.

Teflon-coated cookware is the ultimate in cookware convenience. It keeps food from sticking to the pan, allows the diet-conscious to use less fat while cooking, and makes washing up easier. In fact, it's so useful that nobody, not even its manufacturer DuPont, has bothered to do much in the way of proving whether it is actually safe to use.

The chemistry of Teflon is so complicated that most scientists don't fully understand it. What is known is that Teflon is composed of several toxic chemicals that can be released from heated pans into the air and into food. The more often you use your pans at high temperatures, the quicker the coating will break down and emit tiny particles and gases into the air. As this happens (usually within about two years of continual use),

washing Teflon-coated pans by hand or in a dishwasher with harsh detergents may accelerate the process further.

The chemicals emitted by Teflon are harmful to humans and deadly, even in minute amounts, to pet birds. Even if you've never used a Teflon-coated pan, there's a good chance that you are carrying some of Teflon's breakdown products in your body because the substance has a wide range of uses outside the home.

Teflon, known chemically as polytetrafluoroethylene (PTFE), is a plastic-like substance made up of a complex mixture of perfluorinated chemicals (PFCs). All good non-stick coatings intended

Unlike environmental villains such as DDT and PCBs, perfluorinated chemicals are not generally volatile. In other words, they do not become easily airborne and so tend not to travel long distances. In addition, to produce a useful substance like Teflon, PFCs are normally 'locked' into polymers (plastic-like materials). So it has long been assumed that they could never leak into the environment, that even if they could they would not break down, and that even if they broke down they would be biologically inert.

To find out more about polymer fume fever, DuPont enlisted factory workers to smoke Teflon-laced cigarettes until they became sick

for use in cooking are made with PTFE. The difference between brands lies in the proportion in which PTFE is blended with other materials.



All of these assumptions are being proved wrong. Today, PFCs are considered dangerous because they fulfil every single criterion for persistent bio-accumulative toxins: that is, they do not biodegrade; they accumulate in people, animals and the environment; and they have been shown in laboratory tests to be toxic to mammals.

Although there are nearly 100 known PFCs, only two have been studied in any depth: perfluorooctane sulfonate (PFOS), a breakdown product of the stain repellent Scotchguard; and perfluorooctanoic acid (PFOA), a breakdown product of Teflon. Both have been found in the blood of nearly every human tested, as well as in the blood of animals in the Arctic and in the Atlantic Ocean.

The quickest way to degrade Teflon is to heat it. DuPont claims publicly that its non-stick coatings are stable up to 600° Fahrenheit, a temperature which the company says is well above that reached in everyday cooking.

Independent studies dispute this. The lowest recorded temperature at which Teflon by-products have been detected in the air is 446° Fahrenheit. The lowest temperature at which heated non-stick coatings have been reported to kill birds, however, is 396° Fahrenheit. This suggests that toxins may be released at much lower temperatures.

In tests conducted in the US by the independent watchdog the Environmental Working Group, cookware coated with Teflon and other non-stick surfaces greatly exceeded these temperatures within two to five minutes on a high setting on a conventional oven-top. For example, a generic non-stick frying pan pre-heated on a conventional,

electric oven-top burner reached 736° Fahrenheit in three minutes and 20 seconds, and the temperature continued to rise even after the test was terminated. A Teflon pan reached 721° Fahrenheit in just five minutes under the same test. DuPont's own studies suggest that the average oven-top drip pan can quickly reach temperatures

of 1,000° Fahrenheit. At temperatures of 680° Fahrenheit and 932° Fahrenheit, scientists at the University of Toronto have found that non-stick coatings like Teflon break down into a range of neurotoxins and greenhouse gases.

Heated to temperatures consistent with everyday cooking, Teflon

emits minute particles that can lodge deeply in the lungs. These particles are deadly to pet birds and can cause a disease known as polymer fume fever, a severe flu-like condition, in humans.

Polymer fume fever first emerged in factory workers in the 1950s. In an effort to understand more about the condition, DuPont eventually conducted several small-scale animal experiments, the culmination of which was a study in which 12 rats, 10 mice, six guinea pigs, four rabbits and one dog were exposed to Teflon fumes for six hours. The animals did not die and DuPont concluded that polymer fumes were safe. The problem was that their factory workers continued to suffer from what was called 'the shakes'.

To find out more, DuPont enlisted factory workers to smoke Teflon-laced cigarettes until they became sick and concluded that being a smoker might up the odds of contracting polymer fume fever because the heat from the cigarette acted like a magnet for any fluorinated

Every assumption about the safety of Teflon is being proved wrong. The PFCs it is made of fulfil every single criterion for persistent bio-accumulative toxins: they do not biodegrade; they accumulate in people, animals and the environment; and they have been shown in laboratory tests to be toxic to mammals

THERE'S TEFLON IN EVERYTHING!

Airplane parts, exteriors and coatings
 Anti-wrinkle creams and treatments (eg, skin injections)
 Auto engine parts
 Camping equipment and outdoor clothing – eg, Goretex
 Carpets and rugs
 Clothing for adults, children and infants
 Computer chips
 Curling irons/ hair straighteners
 Dental floss
 Electrical insulation
 Fast food container linings
 Firefighting foam
 Furniture – sofas, chairs, beds
 Gardening equipment and patio furniture
 Hair dryers
 Hosiery
 House paint, interior and exterior
 Kitchen utensils and gadgets
 Irons and ironing board covers
 Leatherwear
 Lightbulbs
 Luggage
 Medicine containers
 Nail polish and hardener
 Pesticides
 Pet bedding, leashes, collars and harnesses
 Prosthetic devices and reconstructive surgery
 Razor blades and shaving foam/ gel
 Soft furnishings
 Solar panel coatings
 Spectacles with scratch-resistant lenses
 Stain repellents
 Surgical instruments
 Umbrellas, rainwear

particles in the air. From this limited data the company concluded that Teflon was generally safe for humans, as long as they weren't smoking while cooking. Nevertheless, medical journals have continued to report cases of polymer fume fever in homes, and since the mid-1960s DuPont employees have been obliged to wear protective breathing apparatus when working with Teflon heated above 400° Fahrenheit.

Apart from being a crude indicator of safety, the effects of these kinds of

TEFLON

short-term studies are misleading in other ways. While humans develop polymer fume fever, animals (with the exception of birds, which die an extremely painful and agonising death when exposed to Teflon particles) do not. Also, since PFCs are persistent and bio-accumulate, it is the longer-term effects that may be most important and most devastating.

These problems are only just coming to light because when toxicologists look for environmental poisons in humans they generally only examine fat and blood. But PFCs have been shown to accumulate in human organs like the liver, gall bladder and thyroid gland. In other primates, exposure to one of Teflon's breakdown products, PFOA, has led to hypothyroidism (the condition of having an underactive thyroid). This effect is also apparent in human studies. A prolonged state of hypothyroidism is a risk for obesity, insulin resistance and thyroid cancer.

Laboratory studies also show that PFOA is toxic to at least nine types of cell that regulate immune function. Cells in the spleen and thymus – both critical to immune function – are particularly vulnerable, and humans exposed to PFOA exhibit reduced immune function. Most recently, PFOA has been linked to raised cholesterol and triglyceride (blood fat) levels in factory workers and, in animals potentially dangerous changes in the size and weight of several important organs such as the brain, liver and spleen.

Perfluorinated also act like skeleton keys in the endocrine system (the body's communications network), activating deranged and mistimed hormonal signalling. This is a potential trigger for cancer, infertility and developmental abnormalities. Exposure in early life is thought to be particularly harmful. Data uncovered by the US Environmental Protection Agency shows that DuPont has known since 1981 that PFOA is passed from mother to child and that it can cause the same facial abnormalities in humans noted in animal studies.

In addition to being released in normal household use, perfluorinated can spill into the environment during their manufacture and application. Local residents and factory employees are on the front line of any human

GIVING OFF GAS

At every stage of the heating-up process Teflon-coated pans emit a range of toxic gases and particles capable of making humans and animals very sick. Among these are neurotoxins, greenhouse gasses and even agents used in chemical weapons.

TEMPERATURE

WHAT GOES INTO THE AIR

464°F/ 240°C

Ultrafine particulate matter These particles have caused extreme lung damage to rats within 10 minutes of exposure. Longer exposures cause death.

680°F/ 360°C

Difluoroacetic acid Largely unstudied, although kidney toxicity has been reported in rats.

Hexafluoropropene Produces decreased immunity and chromosomal abnormalities in animals. In people, it can lead to eye, nose and throat irritation, heart palpitations, irregular heart rate, headaches, light-headedness, and decreased motor speed, memory and learning.

Monofluoroacetic acid Can kill people even in extremely low doses. Low doses provoke nervous system symptoms. Higher exposures can lead to irregular heart rate, heart attacks and respiratory failure.

Perfluorooctanoic acid Causes four types of tumours in rats – in the liver, pancreas, mammary gland (breast) and testes. Similar effects have also been noted in humans. It has also been linked to hypothyroidism and raised cholesterol.

Tetrafluoroethylene A potential kidney and liver carcinogen known to cause cancer in laboratory animals.

Trifluoroacetic acid Causes bone abnormalities and birth defects in animals.

878°F/ 470°C

Silicon tetrafluoride A highly toxic, corrosive gas that can cause eye and throat irritation, difficult breathing, bluish skin colour from lack of oxygen, lung damage and lung oedema. Long-term exposure can cause weight loss, decreased numbers of red and white blood cells, discoloration of the teeth and abnormal thickening of the bone.

887°F/ 475°C

Perfluoroisobutene A highly toxic corrosive chemical warfare agent. Symptoms in people include bad taste in mouth, nausea and weakness. Lung oedema occurs about one to four hours after exposure.

932°F/ 500°C

Carbonyl fluoride A fluoridated version of a WWI chemical warfare agent. Fumes can irritate eyes, ears and nose. More serious symptoms of exposure include chest pains, breathing difficulty, fluid accumulation in the lungs, liver damage and increased glucose levels.

Hydrogen fluoride A toxic corrosive gas that can cause death to any tissue it comes into contact with, including the lungs.

1,112°F/ 600°C

Octafluorocyclobutane Can cause heartbeat irregularities, unconsciousness and death. People with pre-existing heart conditions may be extra vulnerable.

Perfluorobutane A global warming chemical. Untested for long-term effects in humans.

Trifluoroacetic acid fluoride Largely unstudied, but can cause foetal bone abnormalities and neural tube defects in rats.

1,202°F/ 650°C

Carbon tetrafluoride A refrigerant and potent greenhouse gas. Can cause eye, ear and nose irritation, heart palpitations, irregular heart rate, headaches, confusion, lung irritation, tremors and, occasionally, coma.

Teflon breakdown products are fatal to pet birds



health fallout. Much of what is known about the toxicity of Teflon's constituent parts comes from studies of these individuals.

In 2001, residents living near DuPont's Washington Works plant in West Virginia filed a legal action against the company alleging that it knowingly contaminated waterways near the site. Research commissioned by the residents found a statistically significant excess of prostate cancer and female reproductive cancers in the area compared to the US average. The residents also managed to obtain the health records of 5,000 DuPont employees at the site and found an excess of these and other more uncommon cancers such as non-Hodgkin's lymphoma, leukaemia and multiple myeloma.

In March this year a West Virginia judge approved a settlement in which DuPont agreed to spend at least \$107m to reduce PFOA emissions from the factory and fund a study into the human health effects of PFOA contamination in the community water supply. Depending on the outcome of the study, DuPont could be liable for another \$235m to establish a long-term medical monitoring programme to help residents detect disease and seek early treatment.

Sold for decades as the 'housewife's best friend', the safety of Teflon has never been proven by any rigorous scientific study. Although DuPont claims that its non-stick coatings are stable at all but the highest temperatures, this clearly is not the case. All available evidence suggests that Teflon's breakdown products have caused enough problems over a wide enough range of mammals, including primates, to indicate an urgent need for more human data, and yet no such data exists.

Consumer groups in the US are demanding that Teflon pans carry a health warning. But does this really go far enough?

Consider some of the unanswered questions surrounding this substance:

- How toxic are all of Teflon's various constituents to humans?
- What besides heat causes Teflon to break down?
- How do Teflon by-products get into animals in pristine wildernesses?
- How much goes into our food when we cook?
- How much

goes down the drain when the pans are scrubbed by hand or put in the dishwasher?

- How many cases of polymer fume fever in the home are mistakenly diagnosed as 'flu'?
- Apart from birds, which other

Data uncovered by the US Environmental Protection Agency shows that DuPont has known since 1981 that the Teflon breakdown product PFOA is passed from mother to child and that it can cause the same facial abnormalities in humans noted in animal studies

household pets might be affected by Teflon fumes?

- What's the most responsible way to dispose of Teflon pans?

Teflon may reduce the amount of fat we cook with, make washing up easier and clothes and carpets last longer; but it is a frivolous and unnecessary substance the benefits of which pale beside the possibility of killing beloved pets and raising your risk of heart disease, diabetes, birth defects and cancer.

In accordance with the precautionary principle, Teflon should be withdrawn completely from household use until DuPont can produce incontrovertible evidence that this artificial chemical compound is safe to use. If such data is not forthcoming it's easy to predict a future in which legal action could bring Teflon's manufacturer to its knees.

- For more information about Teflon, visit the Environmental Working Group website at www.ewg.org and the FAN Pesticide project website www.fluoridealert.org, which contains numerous studies into the health effects of exposure to Teflon-, PFOS- and PFOA-containing pesticides. You can find these by using the site search engine or clicking on the fluorinated pesticides bar. Pat Thomas is health editor of *The Ecologist*

WHAT CAN YOU DO?

Although some exposures to PFCs are unavoidable, as a consumer you can choose not to spend money on products containing Teflon. Consider these suggestions:

- Replace Teflon cookware. Consider using stainless steel, cast iron, Pyrex or enamel-coated cookware instead.
- Look for the Teflon label on carpets and clothes. With normal wear and tear, these coatings could break down and contaminate your home and family. If you are unsure whether the fabric has been treated with Teflon, ask. Make it clear to your retailer that Teflon coatings are unacceptable to you.
- Forget fast food. It's likely to be packaged in PFC-coated boxes and paper. PFCs, the chemicals Teflon is made from, are also used in containers for a wide variety of supermarket foods, including microwave French fries, pizzas and popcorn.
- Avoid cosmetics and toiletries with 'fluoro', 'perfluoro' or PTFE on the ingredient list. Products that might contain PFCs include face and body lotions, pressed powders, nail polish, and shaving cream.
- Start a campaign. In the US, the Environmental Working Group has been very vocal about the human and environmental impact of PFCs. In the UK, the World Wildlife Fund, Friends of the Earth and Greenpeace all recognise that PFCs are widespread pollutants, but full information on this family of chemicals is still hard to come by here. Who among *The Ecologist's* readers would like to help rally concerned consumers?



GIVE PLACE A CHANCE

Can changing the words we use to talk about the environment affect the way we behave? BY MALCOLM TAIT

The wait is finally over. Most of the Countryside Agency, English Nature and the Rural Development Service, which the government announced last year would be amalgamated into one body, now know what they'll be called. 'Natural England' is the name of the new body, and it's due to be launched in January 2007.

So what do we know about the new organisation? For a start, three into one doesn't really go, so about 600 redundancies are due to be made between now and 2007. And the cost of setting up this new body will be around £40m, which the government believes will be recouped within three years.

Then there's the inevitable strapline. Nothing can exist without a slogan these days, and Natural England is no exception. Apparently this was a team effort. After a lengthy consultation with staff of each of the bodies and various partner organisations, they managed to come up with a catchy, catch-all little number: 'for people, places and nature'.

Well, I suppose that says it all. It

does ring a few bells, however. The RSPB has been running the similarly all-encompassing 'for birds, for people, for ever' for, well, years. Even this very magazine sported 'planet, people' for a while before its current slogan-free existence.

So as slogans go, 'for people, places and nature' owes as much to what's gone before as to what is to come – except for one word. Once upon a time, 'place' was one of those words like 'nice' that English teachers rapped you over the knuckles for writing: 'Use your imagination, boy. Be more specific. "Place" doesn't mean anything.'

Now it most definitely does, and it's precisely because of the word's generic nature. The trouble with the word 'environment' is that it's losing its meaning. 'The environment' is that part of our world that we know we have to look after, but which we can retreat from when we want to.

The trouble with the word 'environment' is that it's losing its meaning

'Most people think that the environment is everything that happens outside our lives,' wrote Jonathon Porritt recently. 'We're here, and the natural world is over there. Yet this is a huge philosophical error creating a false divide between us and the physical world. We need to change our mindset here, to view our world as being us *in* the environment, not us *and* the environment. And the only way we can do this is to acknowledge that the environment is rooted in our sense of place: our homes, our streets, our neighbourhoods, our communities.'

Tom Flood, the chief executive of the conservation volunteering organisation BTCV, has been talking about that 'sense of place' for a long time. 'A lot of people do not have a connection in their lives with a sense of place – either because of their culture, a fear for their personal safety, or, of course, lack of access to open space', he wrote last year. (BTCV's slogan, incidentally, is 'inspiring people, improving places'.)

This is why the word 'place' is beginning to take root in the environmental movement, and why it's pleasing to see that Natural England has given it the nod. Its very all-purpose nature enables it to mean whatever each and every individual wants it to mean. Your sense of place is different to mine, but it's just as important to you as mine is to me.

Enabling everyone in the country to feel a connection with their sense of place is not so much to do with policies as philosophy. It's initially about enabling, encouraging and supporting people to feel engaged in their

immediate surroundings, and then further down the line giving them the room to get on with it themselves. It's steady decentralisation. Can a governmental body actually help set such a liberating process in motion?

Watch this place.

■ Malcolm Tait's new book *The Birdwatcher's Companion* is published by Robson Books this summer



ONE OF OUR GERMS IS MISSING

Undeterred by a series of terrifying accidents, the Bush administration is pushing ahead with its potentially apocalyptic biological weapons programme **BY HEATHER WOKUSCH**

Two months ago it emerged that a US company had inadvertently sent vials of a 1957 pandemic flu strain to laboratories around the world. The accident is only the latest outrage committed by the billion-dollar cash cow that is the US federal biological weapons programme.

As you might recall, the Bush administration started its 'bio-defence' spending spree following the September 2001 deadly anthrax attacks in the

US, and one of its first projects was to genetically engineer a super-resistant, even more deadly version of the anthrax virus. Our leaders are nuts.

Unfortunately, Project Jefferson, to give the anthrax programme its official name, is not an isolated experiment. A US Army scientist in Maryland is currently trying to bring back elements of the 1918 Spanish flu, a virus that killed 40 million people. Meanwhile, a virologist in the Missouri city St Louis has been working

on a more lethal form of mousepox (related to smallpox) – just to try stopping the virus once it's been created.

Furthermore, a lack of controls and runaway spending in the US bio-warfare programme are exacerbated by the Bush administration's bellicose disrespect for the internationally recognised Biological Weapons Convention. In other words, reduced pressure on weapons labs to issue declarations and allow inspections means less

ILLUSTRATION BY ADRIAN TEAL

accountability and more opportunities for secrecy and abuse.

Put bluntly, the increasing number of recent bio-weapons blunders in the US should come as no surprise. In February 2003, for example, the University of California at Davis (UCD) took 10 days to inform nearby communities that a rhesus monkey had escaped from its primate-breeding facility. Coincidentally, UCD was at the same time vying for government funds to set up its own 'hot zone' bio-defence lab, which would be able to use primates for biological weapons testing. If the escaped monkey had been infected with ebola, or some other virus, it's unclear when or even whether the public would have been informed.

At roughly the same time that the monkey ditched UCD, the Pentagon unearthed more than 2,000 tons of hazardous biological waste in Maryland, much of it undocumented leftovers from an abandoned germ warfare programme. Nearby, meanwhile, the FBI was draining a pond for clues into the 2001 anthrax attacks.

None of this inspires much trust in the transparency of US biological weapons programmes. And matters only appear to be getting worse.

In 2004, a whopping \$6 billion went up for grabs for federal bio-defence programmes, and laboratories across the country went ballistic trying to get their hands on some of that cash. And as fast as the money started appearing, so too did the cases of fraud and abuse.

In June 2004, for example, the US Army was caught shirking inspections at a major bio-defence lab under its domain. The scandal went back to 1999, when the army had commissioned a biological and chemical weapons lab at the US Department of Energy's Oak Ridge National Laboratory in Tennessee. Oversight regulations obligated the army to inspect the lab each year thereafter, and the federal agency the Centers for Disease Control and Prevention (CDC) was supposed to have inspected the lab on a regular basis too.

Everything seemed to be running smoothly. In December 2003, the committee in charge of safety at Oak Ridge announced that it was 'comfortable [about] the review and inspections...

conducted by the CDC and the army'.

However, there was just one, ever so small, problem. In 2004, the US Department of Energy's inspector general discovered that the army actually hadn't inspected the Oak Ridge bio-defence lab for the previous three years, and that the CDC hadn't been there for four years.

Also in 2004, a military bio-defence contractor called Southern Research landed itself in hot water by accidentally sending live anthrax all the way across the US from Frederick in the eastern state of Maryland to Oakland Children's Hospital and Research Center in California. To make matters worse, it turns out that Southern Research's lab didn't even maintain the institutional bio-safety committee required by federal research rules. What do you imagine its punishment was? The Bush administration gave the company the task of safeguarding a new \$30m biological weapons facility being built near Chicago.

And In September 2004, three lab workers at Boston University Medical Center were accidentally exposed to the potentially lethal bio-warfare agent tularemia. The lab, however, didn't report the tularemia infections until two months later – conveniently *after* it had won a contract to build a new \$178m bio-defence laboratory.

Concerns about lack of transparency and monetary waste aside, the Bush administration's bio-weapons programme raises obvious ethical questions. Why should the US create newer, even deadlier, viruses? Who are these catastrophic weapons going to be tested on? What populations will they ultimately be used against?

These questions take on an even more urgent edge when you consider them in the context of the White House's military adventurism and the US media's poor reporting of its human consequences. For example, eyewitnesses to last year's attack on the Iraqi city of Falluja claimed that US forces used poisonous gases and bombs that exploded into fires that burned the skin despite water being thrown on the burns – a telltale sign of napalm or phosphorus bombs. In the UK Labour MP Alice Mahon demanded that Blair made 'an

emergency statement to the Commons to explain why this [was] happening'. She said: 'It begs the question: "Did we know about this hideous weapon's use in Iraq?"' No such question was asked in the US Congress. The US mainstream media didn't even cover the 'weird bomb' allegations.

But it doesn't take a genius to put two and two together: if American citizens allow their government to ignore international

weapons-control conventions and then say nothing while fresh billions are invested in barbaric new weaponry, then they lose the right to act surprised when their military uses that weaponry on innocent civilians abroad.

Or even on Americans.

You may be surprised to learn that in 2003 the Pentagon quietly admitted to having used biological and/or chemical agents on 5,842 US service members in secret tests conducted between 1962 and 1973. In operations called Project 112 and Project SHAD, the US

Concerns about transparency and monetary waste aside, the Bush administration's bio-weapons programme raises obvious ethical problems. Why should the US create newer, even deadlier, viruses? Who are these catastrophic weapons going to be tested on? What populations will they ultimately be used against?

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Defense Department tested its own weapons on service members aboard navy ships and in all sorts of other nasty ways – such as spraying a Hawaiian rainforest and parts of the Hawaiian island Oahu. All in all, tests were conducted in six states (Alaska, Florida, Georgia, Hawaii, Maryland and Utah), as well as in Canada and Britain.

Many military personnel were not informed when the toxic agents were being tested on them. Only decades later, as crucial documents slowly become declassified, have the veterans' health complaints been acknowledged.

You might think such barbarism could never happen again: too many legal protections for citizens are now in place. Think again.

There's a tricky clause in title 50, chapter 32, of the United States Code (the official publication that consolidates and codifies the general and permanent laws of America) which states that the US's defence secretary has the authority to conduct a chemical or biological agent test or experiment on humans in certain cases 'if informed consent has been obtained'.

So far so good. But check out section 1,515 of title 50, chapter 32. Entitled 'Suspension; Presidential Authorization', section 1,515 says: 'After 19 November 1969, the operation of this chapter, or any portion thereof, may be suspended by the president during the period of any war declared by Congress and during the period of any national emergency declared by Congress or by the president.'

You got it. If the president or Congress decides the country's at war then America's secretary of defence doesn't need anybody's consent to test chemical or biological agents on human beings. Sure gives you pause for thought during these days of perpetual 'war on terror'.

In January 2005, US Senate majority leader Bill Frist called for a new Manhattan Project (referring to the WWII-era nuclear weapons bonanza) for biological weapons. Frist told an audience at the World Economic Forum that 'the greatest existential threat we have in the world today is biological', before going on to predict a bio-warfare attack 'at some time in the next 10 years'.

How ironic that while Frist cited the 2001 US anthrax attacks as proof that more biological weapons research was necessary, he failed to mention that those incidents involved anthrax produced right in the good 'ole USA – or that the primary suspect in the attacks was a US Army scientist. Frist also didn't clarify exactly how developing even more biological warfare agents would make the world safer.

The original Manhattan Project ultimately led to US forces dropping atom bombs on Hiroshima and Nagasaki, with the resulting slaughter of hundreds of thousands of people. It's terrifying to consider the potential repercussions of the Bush administration's coveted new biological-weapons Manhattan Project.

■ Heather Wokusch is a freelance writer who can be contacted via www.heatherwokusch.com. This article was adapted from her forthcoming book *The Progressives' Primer: 100 easy ways to make a difference now*

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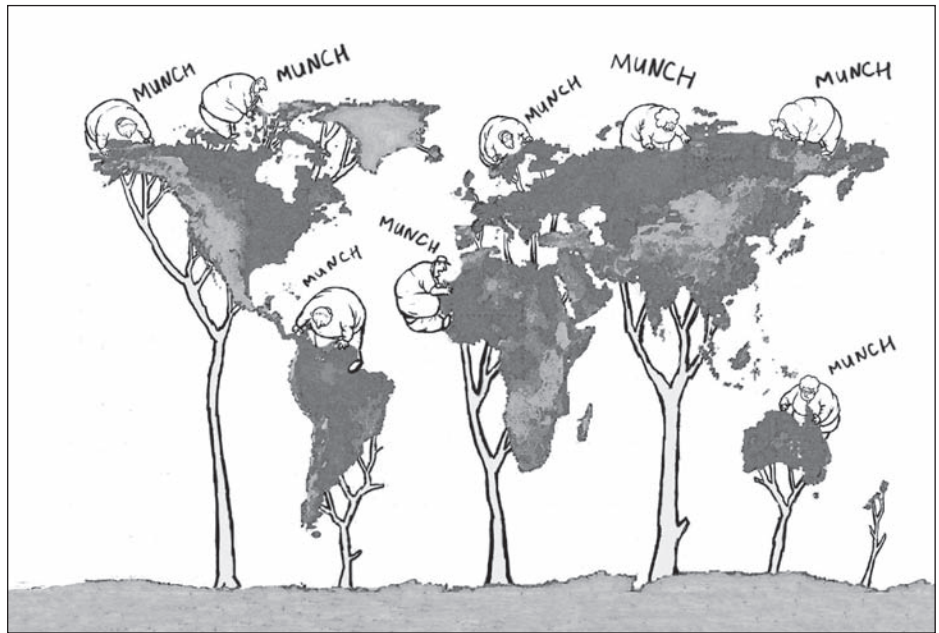
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Ecologist READER CHALLENGE

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 techniques used by the development industry's sophisticated propaganda machine have been analysed by the anthropologist AF Robertson. He highlights the language the industry uses to sell its policies, and stresses that much of its value rests in 'its imprecision of meaning'. He points out that the buzz words it uses can be 'combined into almost infinite permutations and still "mean" something'. Robertson illustrates his point by listing the 56 words that occurred the most frequently in a planners lexicon. These are arranged below in four different columns of 14 words.

One word can be selected at random from each column to compose a typical four-word development phrase. For example, A3, B6, C9 and D12 make 'systematically balanced cooperative action'. A12, B9, C6 and D3 construct another fine sounding phrase: 'comprehensively mobilised rural participation'. None of these phrases mean anything, yet they are typical of the seductive language that fills the countless speeches, plans, project proposals and glossy pamphlets of the development industry.

	A	B	C	D
1	Centrally	Motivated	Grass-roots	Involvement
2	Rationally	Positive	Sectoral	Incentive
3	Systematically	Structural	Institutional	Participation
4	Formally	Controlled	Urban	Attack
5	Totally	Integrated	Organisational	Process
6	Strategically	Balanced	Rural	Package
7	Dynamically	Functional	Growth-oriented	Dialogue
8	Democratically	Programmed	Development	Initiative
9	Situationally	Mobilised	Cooperative	Scheme
10	Moderately	Limited	Ongoing	Approach
11	Intensively	Phased	Technical	Project
12	Comprehensively	Delegated	Leadership	Action
13	Radically	Maximised	Agrarian	Collaboration
14	Optimally	Consistent	Planning	Objective

The *Ecologist* would love to hear from readers who have noticed examples of such development drivel. Please email them to editorial@theecologist.org with details of who said them and in what context, and we will print the best ones in the magazine.

ILLUSTRATION BY CHRIS MADDEN: FROM 'THE BEAST THAT ATE THE EARTH'. WWW.INKLINEPRESS.COM

PURELY COSMETIC CHANGES?

The US Food and Drug Administration has issued a hefty warning to the cosmetics industry – clean up your act or else. The question is: will the agency follow through?

BY PAT THOMAS

For the past year or so *The Ecologist* has picked apart the labels of some of the most popular brands of toiletries and cosmetics. Those readers used to thinking of environmental protection purely in terms of preserving biodiversity and seeking alternatives to fossil fuels might not have understood why. But the murky truth about modern toiletries is that they are made with often persistent industrial chemicals that pollute the environment during their manufacture and the human body during use.

As awareness of the problem has slowly spread, consumer and environmental groups have become more and more vocal about the need to regulate and restrict the use of chemicals in personal care and household products. And it finally appears that some voices have been heard.

In March the US Food and Drug Administration (FDA) issued an unprecedented warning to the cosmetics industry stating that the agency is serious about enforcing a longstanding but largely ignored law requiring companies to inform consumers that personal care products have not been safety-tested.

The FDA was acting in response to a petition by the independent watchdog the Environmental Working Group (EWG), the contents of which were based on the EWG's unsettling survey of the ingredients in nearly 7,500 widely available toiletries and cosmetics. The survey found that one third of all products contain ingredients linked to cancer, 70 per cent may be contaminated with harmful impurities, and more than half contain 'penetration enhancers' (often harsh solvents, but also examples of new nanoparticle technology) that drive ingredients deeper into the skin and to blood vessels below. The health risks of the vast majority of these products and ingredients have yet to be fully established.

If the FDA follows through, it would mean that more than 99 per cent of personal care products on the US market could be forced to carry a caution stating: 'Warning: the safety of this product has not been determined.'

It's a big 'if'. A law requiring this kind of warning on products has been in place in the US for some time. But the FDA has tended to turn a blind eye to transgressions, partly because of consumer disinterest and lack of understanding, and partly because the chemical industry, which generates so much profit and employs so many people throughout the world, is politically very powerful.

More lapdog than lion, the FDA has for years deferred to the 'safety' reports generated by the Cosmetics Ingredient Review (CIR). Various described as an independent review panel and an industry watchdog, the CIR is neither. It was established by the industry lobby the Cosmetics Toiletry and Fragrance Association and continues to be funded by the companies it is supposed to be policing.

Even so, the FDA relies on the CIR's yearly ingredient safety reviews as a core component of the public health safety net. As does the EU. Indeed, because cosmetics require no review or approval before they go on sale anywhere in the world, there would be no systematic examination of ingredients at all without the CIR's assessments.

It's worth asking, however, whether a clearly biased review of cosmetic safety is really better than no review at all. A perusal of the CIR's record is very telling. In its near 30-year history the panel has reviewed just 11 per cent of the 10,500 cosmetic ingredients catalogued by the FDA. In other words, 89 per cent of the ingredients used in cosmetics remain unassessed. In three decades only nine ingredients have been banned from use in cosmetics.

Chemicals in cosmetics may be perceived as being at the 'fluffy' end of the environmental spectrum – something not too scary that enlightened beauty editors and a handful of celebrities can carp about without having to go too deeply into 'the issues'. But in reality the stakes are potentially high.

On average, we each use nine cosmetic products a day containing an aggregate of 126 unique ingredients. Such safety testing as exists looks for immediate reactions such as skin redness, rashes or stinging. It does not look for potential long-term problems in humans or in the environment. Yet the industrial chemicals that go into things like shampoos and hand creams are not trace contaminants. They are the basic ingredients used in percentage amounts: the analogy used by the EWG is that they are like the flour used in making bread.

Absorbed into the body, they can be stored in fatty tissue or vital organs such as the liver, kidney, reproductive organs and brain. Even as cosmetic companies complain of unfounded hysteria over as yet unquantified harm, scientists are finding industrial plasticisers like phthalates in urine, preservatives known as parabens in breast tumour tissue, and persistent fragrance compounds like the hormone disrupter musk xylene in human fatty tissue and breast milk. Medical research is proving that fragrances can trigger asthma – even in people who have no history of the condition, and that the detergents in shampoos can damage delicate eye tissue. Epidemiological data links hair-dye ingredients with bladder cancer and lymphoma.

If these problems had been linked to ingredients in drugs they would have been withdrawn from the market. At the very least, independent researchers would have been awarded sizeable grants

to help produce definitive data. But, because of a longstanding tendency for us all to confuse the perceived value of toiletries and cosmetics in modern society with actual evaluation, they remain in use and on sale.

Scientists monitoring the environment are equally concerned. Along with pharmaceuticals, personal care products are now some of the most ubiquitous pollutants in our waterways. Washed down the sink or toilet, they flow into sewage systems and are discharged into our water supply and onto the land. Municipal sewage treatment plants have no technology in place to check for or remove these chemicals. The risks posed to aquatic organisms (by continual life-long exposure) and to humans (through long-term consumption of minute quantities in drinking water) are essentially unknown. There are major concerns about these products promoting microbial resistance and hormone disruption, and the consequences of daily exposure to other chemicals that are carcinogenic, mutagenic, teratogenic and neurotoxic remain unknown.

In Europe concerned campaigners will be watching the FDA's actions with renewed interest. Here in the UK, the process for regulating toiletries and cosmetics is equally sluggish and complex: agreement and regulation have to be made at EU level. Whether the FDA is simply flexing its muscles or whether it really starts throwing punches may determine how vigorously, and successfully, consumers here can demand more honest labelling and better safety standards too. ■



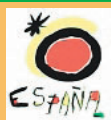
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up front



FOILING CLIMATE CHANGE

It has been revealed that the UK's leading environmental NGOs have been secretly lobbying the government to change its climate change strategy. The plan is to focus on a high-tech version of the plan to stop them writing 'Climate Change' on their front doors. The plan is to focus on a high-tech version of the plan to stop them writing 'Climate Change' on their front doors.

US BLOCKS ETHICAL TIMBER PLANS

It is the advantage of Tony Blair's government to support the US president in his efforts to bring the US president to the attention of the world. The plan is to focus on a high-tech version of the plan to stop them writing 'Climate Change' on their front doors.

UP FRONT

HERO OR ZERO?

BYRON NEPHTUNE

Byron Neptune is a hero or a zero? The plan is to focus on a high-tech version of the plan to stop them writing 'Climate Change' on their front doors.

COKE'S GOT A LOT OF BOTTLE

The plan is to focus on a high-tech version of the plan to stop them writing 'Climate Change' on their front doors.

DEBATE



DEAR PAUL

The plan is to focus on a high-tech version of the plan to stop them writing 'Climate Change' on their front doors.

DEBATE

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SPORTS UTILITY VEHICLES

Are SUVs a crime against civilization, or paragons of efficiency? Are they only arrogant and antiseptic, or big, beautiful and mobile? And do they polarize passions, or arouse pitiful politics of envy against the Americanization of British culture? Paul Kingsnorth and Michael Harvey discuss.

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BEHIND THE LABEL

NIVEA MOISTURISING LOTION

Are we being naive about Nivea? BY PAT THOMAS



It's a name we all grew up with. In some form or another Nivea – the world's first water-in-oil cream – has been the most popular and trusted hand and body lotion since it first emerged in 1911.

In recent years the range has expanded to include a baffling number of sub-brands, including colour cosmetics, facial skin care, body care, hair care, hand care, men's lines, children's products, sun protection, baby products, bath care, deodorants and lip care. But it's the famous blue bottle of lotion (along with the little tin of crème) that most of us think of when we think Nivea.

Nivea is made by international cosmetics and toiletry giant Biersdorf and is sold in some 150 countries. Very specific marketing tactics mean that wherever it is sold Nivea is perceived as a 'local' brand. It's a strategy that has paid off. In 2004 Nivea accounted for €2.7 billion of Biersdorf's €3.8 billion sales.

British consumers spent around £631m on skincare products in 2003. Fuelled by consumers' desire to look good regardless of their age. And, regardless of what it costs, this figure is set to rise by £100m by 2008.

Nivea's ingredients are, sadly, not very different from commercial hand and body lotions in all price ranges all over the world. But it does not yet use nanotechnology: the ultimate achievement in penetration

enhancing ingredients that bypass the skin's protective barrier and pass more deeply into the body and bloodstream. So it may be a relatively 'safe' choice.

Nevertheless, given the trust that women have put into Nivea over the years, it's dismaying to see just what goes into the bottle. Along with semi-synthetic fatty acids and waxes, many of which do not have full safety data, Nivea lotion contains the full complement of oestrogenic parabens, contact allergens and penetration enhancers, five potential carcinogens, perfume, and even extra fragrance ingredients. In fact, one third of the listed ingredients are fragrances that are known irritants and sensitisers – chemicals that, with repeated exposure, can trigger allergic reactions. Once a person is sensitised even the smallest exposure can trigger a response.

INGREDIENTS

Aqua, paraffinum liquidum, PEG-150, myristyl alcohol, sorbitan stearate, stearic acid, cetyl palmitate, sorbitan oleate, isopropyl palmitate, octyldodecanol, phenoxyethanol, sodium carbomer, methylparaben, isopropyl myristate, lanolin alcohol, simethicone, BHT, butylparaben, ethylparaben, isobutylparaben, propylparaben, parfum, limonene, geraniol, linalool, hydroxycitronellal, hydroxyisohexyl 3-cyclohexane carboxaldehyde, citronellol, butylphenyl methylpropional, cinnamyl alcohol, citral, benzyl salicylate

INGREDIENTS	PURPOSE	ADVERSE EFFECTS
Paraffinum liquidum	Lubricant emollient	Also known as mineral oil. A cheap ingredient that produces a temporary moisturising effect. Penetration enhancer. Prolonged contact destroys the natural oily barrier of the skin, leading to dryness. Can be contaminated with polycyclic aromatic hydrocarbons (PAHs). Some PAHs are potential human carcinogens.
PEG-150	Acts as a thickener, solvent, emulsifier and surfactant	Penetration enhancer; skin irritation. May be contaminated with 1,4-dioxane and ethylene oxide, impurities linked to breast cancer
Methylparaben, butylparaben, ethylparaben, isobutylparaben, propylparaben	Preservatives	Skin irritation; contact dermatitis; contact allergies. Parabens are oestrogen mimics: butylparaben and isobutylparaben have the strongest effect, followed by propylparaben, ethylparaben and methylparaben. Excess oestrogen is a trigger for cancers of the breast, ovary, uterus and testicles and may have effects on foetal development. Recently, scientists conducted an analysis of breast cancer tissue and found accumulated parabens in every sample.
Simethicone	Synthetic silicone-based moisturiser; film former	Skin irritation; film formers trap other substances (including other ingredients in the product) beneath them, and because they do not allow the skin to breathe they may exacerbate skin irritation caused by sweat or other substances.
BHT	Antioxidant	Contact allergies/dermatitis; potential carcinogen; may cause birth defects
Parfum	Fragrance	Allergenic; triggers asthmatic reactions; skin irritation; central nervous system disruption; artificial musks and phthalates (common fragrance ingredients) are hormone-disrupting and potential carcinogens.
Limonene	Synthetic fragrance	A common pesticide in flea-control products, causes skin and eye irritation; powerful sensitiser; may trigger asthma attacks; produces tumours, reproductive abnormalities and delayed growth in some animals.
Geraniol	Synthetic fragrance	Irritating to skin and eyes; a sensitiser.
Linalool	Synthetic fragrance	Skin, eye and respiratory irritation; in animals causes CNS disorders affecting muscle control.
Hydroxycitronellal	Synthetic fragrance	A contact allergen and skin, eye and lung irritant.
Hydroxyisohexyl 3-cyclohexane carboxaldehyde	Synthetic fragrance	A contact allergen and sensitiser; worsens eczema in two to three per cent of sufferers.
Citronellol	Synthetic fragrance	Also used as a pesticide, a severe skin irritant.
Butylphenyl methylpropional	Synthetic fragrance	Skin irritant. Use is restricted in both leave-on and wash-off products due to powerful sensitisation potential. In animals, skin applications at high concentrations caused sperm damage and CNS effects.

ALTERNATIVES

Healthy skin does not need lots of gunk put on it. If your skin is persistently dry, in spite of your using moisturisers, your skincare products may actually be the cause of the problem. When a moisturiser is necessary, vegetable and biological oils are a better choice. Alternatively, consider products from the following companies:

Essentially yours

www.essentially-yours.co.uk

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www.greenpeople.co.uk

Higher Nature

www.highernature.co.uk

Weleda

www.weleda.co.uk

Aubrey Organics

www.aubrey-organics.com

(available in the UK from Au Naturel: 0800 0851 697)

Neal's Yard

www.nealsyardremedies.com

Jason

www.jason-natural.com

Pioneer Trading

www.pion-tc.co.uk



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)

DEBATE



PHOTOGRAPH BY MERCEDES-BENZ UK



Michael Harvey is the editor of the BBC's Top Gear Magazine and a former

motoring correspondent for The Financial Times

Paul Kingsnorth is the former deputy editor of The Ecologist



and author of One No: many yeses (see www.paulkingsnorth.net)

SPORTS UTILITY VEHICLES (4X4S)

Are SUVs a crime against civilisation, or paragons of efficiency? Are they ugly, arrogant and antisocial, or bright, beautiful and mobile? And do the polar passions they arouse pit the politics of envy against the Americanisation of British culture? **Paul Kingsnorth** and **Michael Harvey** discuss



DEAR PAUL,

Let me get one thing straight; I don't swallow the 'rational' argument against sports-utility vehicles (SUVs). Sure, they burn more gas than smaller cars, but so do all big cars. So why is this not about efficiency instead of an issue as esoteric as vehicle height? (And while we have the tape measure in hand, let's make this understood; this *is* about vehicle height.) An SUV's 'footprint' is no bigger than that of an 'ordinary' car. A Land Rover Discovery, for example, has the same footprint as a London taxi.

Sure, big-engined cars also pollute more, but only by emitting CO₂. Other dangerous exhaust gases from cars have been regulated almost out of existence. Once again, let's make this an issue about vehicle efficiency and not vehicle architecture. For one thing, car makers have proved themselves surprisingly resourceful at improving efficiency.

And as for safety, you're more likely to be injured by a small car, with a low, rounded nose – like an Audi TT, which, from the pedestrian's point of view, is the most lethal car on the road.

What about compatibility? (The 'ouch factor' when your smaller car is hit by a larger SUV.) Forget about US-built 'trucks', to borrow the well chosen vernacular Americans use to describe the SUVs they manufacture over there. US SUVs are, for the most part, built like old locomotive carriages, and hurt when they hit you. Not so the SUVs popular in the UK, most of which are built like regular cars.

You probably guessed I believe the anti-SUV argument to be an irrational, indeed emotional argument. I believe passionately in smaller, more efficient motor cars. But I also believe in choice. I'll give up my SUV when all those diplomats and plutocrats have ditched their limos (we'll get to aviation and ship fuel later no doubt). In the meantime, I won't be your totem because my car happens to be taller than yours.

Sincerely,
Michael

DEAR MICHAEL,

I don't dislike SUVs because they're tall. I hate them because they're a crime against civilisation. Why? Let's start with fuel efficiency. You say big-engined cars only emit CO₂. 'Only' CO₂? It's CO₂, of which vehicle emissions are the fastest-growing contributor, that's changing the climate of the entire planet. It's CO₂ that threatens to knock half of the world's species into extinction and flood New York. Small matters, I know, compared to the freedom of the British motorist, but probably worth mentioning.

As for safety: urban SUVs are involved in 25 per cent more accidents than ordinary cars. The European New Car Assessment Programme gives them an average crash-test score of just four out of 36. The Royal Society for the Prevention of Accidents advises parents not to drive their children to school in SUVs. Doesn't sound promising, does it?

Then you bring up the oldest justification for selfishness: 'choice'. But what does 'choice' actually mean? Could I nip down the shops in a tank? What if I drove a Harley without a silencer up and down your road all night? Or do you actually believe, as most of us do, that sensible

limits should be placed on the freedom of drivers? If so, then it comes down to where we draw the line: and I draw it at SUVs. Sorry.

Finally, I couldn't help noticing that you say 'gas' instead of petrol and 'regular' instead of ordinary. This says it all, for SUVs represent the Americanisation of British driving. I bet they're great for cruising through the Arizona desert, or tooling along the massive streets of LA, where the authorities have thoughtfully removed all the pavements. But watch them grinding through the medieval streets of somewhere like Oxford, where I live, and you see them for what they are: ugly, arrogant and antisocial.

Still, let's celebrate one point of agreement. 'I'll give up my SUV,' you say, 'when all those diplomats and plutocrats have ditched their limos.' Great! Let's join forces, then, to clear the scourge of limos *and* SUVs from our streets. And when we've done that, let's get on to taxing airline fuel.

All the best,
Paul

**DEAR PAUL,**

Crime against civilisation? I know I came out fighting, but shall we both reach for a little perspective here, eh? The SUV's only 'crime' is that it emits as much CO₂ as any other large car (and considerably less than a London cab, which seats only five yet puts more tarmac in the shade than the Yummy Mummy's favourite ride – the seven-seat Volvo XC90).

We both know that the entire transport sector represents less than 20 per cent of global CO₂ emissions; and that cars share that sector with *completely* unregulated trains, planes and nasty smelly cargo ships. You would have to make an awful lot of trips to Sainsbury's to match the amount of CO₂ emitted by the average refrigerated boat rushing in mangetout from Kenya.

But cars are easier targets. Big, bright, beautiful, mobile monuments to their owners' material success. Odd, that they should inspire such powerful resentment...

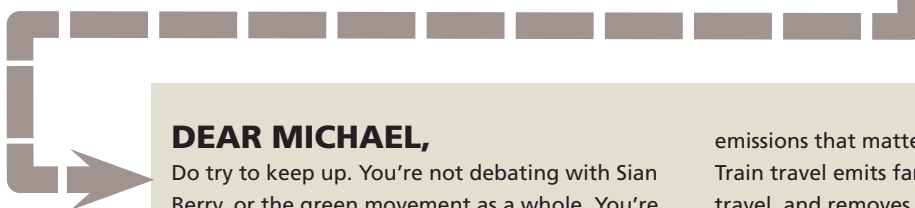
Fragrant anti-SUV campaigner Sian Berry (the founder member of the Alliance Against Urban Four-by-Fours) loves to hate the middle-class mothers who drive their offspring to private schools in their SUVs, but says very little about the black DJs similarly

devoted to their 'trucks' (I'll use inverted commas so you can look away when I lapse in to the Americana you so despise). SUV loathing is the prejudice that dares speak its name.

And it's such a waste of time and effort. If you want to save the planet, please learn to look beyond the architecture of my car. But then substantive solutions have never been the green movement's stick. Aren't we only learning now the truth about recycling or, for that matter, wind farms?

So redeem yourself. Assuming you do believe in personal transport, why not concentrate your energies on making cars more efficient and, ultimately, emissions-free? Petrol-electric hybrid SUVs are quite the thing in the (whisper it) US right now. Some manufactures think hydrogen versions might be as little as 10 years away. Then what are you going to get worked up about? People with big houses?

Sincerely,
Michael

**DEAR MICHAEL,**

Do try to keep up. You're not debating with Sian Berry, or the green movement as a whole. You're debating with me. My objection to SUVs is part of a wider framework of environmental concerns and objectives, which also include working to prevent unnecessary plane journeys, household energy waste, over-consumption and more. Bitterly jealous though I am of your no doubt enormous 'material success', it's not the reason I don't like these cars.

See if you can respond to the following points with rational rebuttals, rather than willy-waving fulminations:

1. I'm opposed to all unnecessary car use, whether it be nipping to the local shop in an SUV or driving the kids round the corner to school in a Mini.
2. I'm particularly opposed to large cars that are used, like SUVs, limos or the 'trucks' of DJs, black or otherwise, to ferry small numbers of people on unnecessary journeys.
3. Comparing cars with trains (what do you mean by 'unregulated', by the way?) is spurious. You know very well – or should do – that it's not overall

emissions that matter but emissions per capita. Train travel emits far less per person than car travel, and removes large amounts of potential congestion from the roads.

4. 'Architecture' matters. Driving big cars down small streets causes both damage and resentment in a way that a smaller car (or, better still, a bicycle) would not.

5. We seem to agree that bringing mangetout from Kenya by boat is stupid and unnecessary. Three cheers for the local food economy, then.

6. 'Fuel efficiency' won't save you. It's been estimated, for example, that if all the cars in the US converted to hydrogen fuel cells, it would take at least twice as much energy as is currently produced by the country's national grid to fuel them. The real issue is our spiralling and unnecessary energy use: a society-wide issue, of which driving SUVs is only one part – albeit a growing and easily preventable part.

Fraternally,
Paul

DEAR PAUL,

Oh, please: don't you understand that the world outside doesn't see different shades of green? It doesn't care whether you speak eloquently and with reasoned charm like your editor, or whether you scare the living daylight out of pre-schoolers like Ms Berry and her SUV-attacking chums. Radicalism will win you headlines; it won't win you the war.

So, please, drop the totemic assault on tall cars. (I meant to ask: do you hate vehicles like the Renault Espace? Or does having a more sloping windscreen excuse certain cars from your wrath?) And use your considerable passion to persuade the transport sector as a whole to lean off. Then when you've done that you can do some real work and attempt to translate Kyoto into Mandarin.

To your points:

1. We at *Top Gear Magazine* (and even Jeremy Clarkson himself) have never knowingly encouraged unnecessary car use. I like to think we are all too rounded as human beings to regard driving as a pastime. (But I may be guilty of being optimistic there...) My family has a two-seat Smart which is used 90 per cent of the time. Something 'bigger' only comes out when the seats are likely to get filled.
2. My SUV has seven seats and they are regularly all filled.

Indeed, Volvo estimates that its best-selling, seven-seat SUV spends half its life at 100 per cent occupancy. And I'm sure I don't need to remind you that there is no more efficient way of using fossil fuels than an internal combustion engine.

3. Are we talking about congestion or emissions here? (I firmly believe that the only answer to the former is road pricing, and have always supported the congestion charge.) Now you know very well, Paul, the problem with trains: the 8.05 from Godalming jam-packed with commuters is extremely energy efficient (even if it is running on electricity produced at a largely unregulated fossil-fuel-burning power station). It's the nearly empty 11.03 that screws it up for you. That and the fact that few of us live and work in railway stations.

4. They don't cause damage unless they hit something. Any vehicle – especially a bus – can do that.

5. Yes, although we've seen what the end of crop exports has done to Zimbabwe...

6. Once again, I agree with you (although your view on hydrogen production costs is not shared by everyone). But to be honest, if oil reserves are as low as some are now saying, global warming may be the least of our problems.

Hope that clears things up a little.

M

DEAR MICHAEL,

You're probably right: the public don't see the nuances. When they watch Jeremy Clarkson tearing up a Scottish mountain to 'road-test' an SUV, ripping through heather and peat, or crashing one manfully into a chestnut tree to test its toughness, they probably don't think 'hmm, now there's a man who likes to discourage unnecessary car use'. Life can be cruel.

But let's get back to the real issues. You continue to insist that people campaign against SUVs because they are a 'totem' of something or other. Yet when I explain the real reasons to you, you start throwing out red herrings – Zimbabwean agriculture, China and Kyoto, black DJs – so that you can avoid responding.

So I'm going to return to the two biggest black marks on the SUV's record – both of which I bought up in my first letter, and neither of which you responded to. Can you answer me two simple questions?

First, we agree that climate change is real and getting worse. We agree that CO₂ emissions are its major cause. We agree that SUVs emit more CO₂ emissions than ordinary cars. Would

you also agree that we all have a personal responsibility to emit as little as possible? If so, how can you justify driving an unnecessarily polluting car? If you, living in one of the richest countries in the world, can't sacrifice a small degree of 'choice' to tackle the worst environmental problem humanity has ever faced, what hope is there of us solving it?

Second, I notice you avoided my point about safety entirely, and I can see why: SUVs are some of the most dangerous cars on the roads, especially if you happen to be outside them. To add to my earlier points, I note that the UK Transport Research Laboratory (TRL) reported two months ago that 2004 was the worst year for road deaths for seven years. It blamed the reverse on the increasing popularity of SUVs and 'people carriers'. Do you accept that SUVs are more dangerous for pedestrians, cyclists and other drivers than ordinary cars? If so, why not drive something smaller and make the roads safer for all of us?

All the best,
Paul

DEAR PAUL,

I think most folks were thrilled to see that Land Rover on top of that mountain, and I think most folks laughed out loud when Jeremy drove into the tree. So however correct your message might be, people just ain't hearing it. Maybe you should listen just a little harder to those people who are vaguely sympathetic to your argument and in a position to fine-tune it a little. I assume you're not so smug that you were not made more than a little anxious by the almost immeasurably small visibility of the Greens and green issues in the May election. Someone, somewhere is not doing their job.

I do insist and will continue to insist that SUVs are not the issue (I honestly believe personal transport shouldn't even make your top 10 of environmental issues, but, hey, it's what I'm here for), and that it's all unnecessary polluters you should object to: old cars, taxis, limos, sports cars, people carriers, all cars made in America, buses, commercial vehicles and, yes, some SUVs.

So why have you picked on SUVs? Can you tell me that? I can tell you a 10-year-old Volvo emits not only a lot more CO₂, but a whole bunch of other nasties likely to kill my kid sooner than global warming.

I know, I know, I know: you believe SUVs are dangerous

and you quote the TRL opinion (from which the agency has now distanced itself) that SUVs are more likely to be involved in accidents. Hmmm, funny that. In the US the National Highway Traffic Safety Administration says quite the reverse, not altogether unsurprisingly considering the clear visibility advantages SUVs offer.

The TRL also now says that an SUV might well be *safer* in a pedestrian impact, the bluff front actually helping to keep the pedestrian's head away from the windscreen. Indeed, shortly to be introduced European legislation is forcing car makers to redesign the noses and bonnets of new cars to make them higher and more bluff.

And yes, we did see a rise in road fatalities last year, but please don't try and pretend that was anything other than a sadly predictable rise in deaths in young men aged 17-34. I think even you know they don't drive SUVs.

You must be heartened to hear of the rapid decline in sales of large SUVs in the US and of how sales of small cars are booming in the UK. Motorists are not as careless as you believe. So, please, give the individual some credit, and learn to fight those battles really worth fighting.

Michael

DEAR MICHAEL,

Doubtless the viewers of *Top Gear* found the sight of a middle-aged plonker in saggy jeans ramming his big silver car into a 300-year-old tree downright hilarious. I think this tells us all we need to know about the viewers of *Top Gear*. And its readers, come to that.

Fortunately, according to your circulation figures, only 165,000 people buy your magazine. That means around 59.58 million people don't. I reckon that gives us something to work with. It's also 118,000 less than voted for the Green Party in May, by the way. Perhaps you're not doing *your* job.

But I am going to answer your question, even though you haven't answered all of mine. 'Why have you picked on SUVs?' you ask. Well, we've gone through the SUV's black marks pretty exhaustively. I could use this last letter to roll out some more we haven't even covered: the sheer volume of materials that go into making such a massive vehicle, for instance, and the impact that has on the environment.

But I think the answer is broader than that. I think the reason that people have begun to focus on SUVs is that – unlike old Volvos or London taxis – they have opened a new front in what seems to be our losing battle against car culture.

I have been campaigning on transport issues for

more than a decade. In that time I have seen climate change move from a 'wacky' theory that appeared only in magazines like *The Ecologist* into mainstream science and politics. I have seen new roads destroy virgin countryside. I have seen the number and volume of cars on the roads grow relentlessly. I have heard politician after academic after journalist acknowledge that our insane love affair with the car needs to end if we are to live in any kind of decent society.

Then, just as I thought we might be getting somewhere, along came the SUV – the epitome of everything that has been going wrong. Dangerous, arrogantly wasteful, pointless, irresponsible and antisocial, driving one sends a crystal-clear message to society: 'Stuff you. I'll drive what I like. You can clean up the mess.' No wonder people respond in kind.

'Personal transport' is a big issue, and it's only going to get bigger. We need to change our whole relationship with the car, and quickly. The rise of the SUV doesn't take us forward: it drags us backwards. Sales are declining, you say. Then maybe I'm not alone. Sales of bicycles, by the way, are apparently booming. Care to join me?

All the best,
Paul

Do you have images like this?
High-quality, shocking and eye-catching pictures that would help raise awareness of the dangers of plastics and rubbish? If so, please email the *Ecologist* art desk at sarah@theecologist.org

FANCY A TINNY MATE?



PHOTOGRAPH BY GETTY IMAGES



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or £12.95 for five plus £2.50 p&p



Dear Dr. Tatiana



*It's a fiasco. I'm a hopeless male three-spined stickleback. I was watching my eggs when I heard a sudden noise. I turned to look—just for a second—and when I turned back, all my eggs had been stolen. Who would do such a terrible thing, and how can I prevent its happening again?
Want My Eggs Back in Vancouver*



Dear 'Want My Eggs Back in Vancouver'

Egg pirates—it's an old problem. All you can do is remain vigilant. The trouble is, in many fish species females prefer to lay eggs in a nest that already contains some. They take the presence of other eggs as proof that the nest is safe, that the male who owns it is particularly manly or that he's a good parent and unlikely to eat his babies. Success spawns success, you might say.

And in sticklebacks, it often spawns a black market in eggs. I don't mean that you get rough-looking fellows selling

stolen eggs in the run-down parts of lakes and streams. No, the thief keeps the eggs for himself, taking them to his own nest so he can pretend he's a breed of super dad. Why are sticklebacks particularly vulnerable to egg theft? We don't know for sure. It maybe that the eggs are easy to heist: unlike the eggs of most fish species, stickleback eggs stick to each other in convenient, portable clumps.

Something like this goes on in the cloud forests of Papua New Guinea and the rain forests of Australia. The aristocrats of these forests are the bowerbirds, close relations of birds of paradise. And like their relations, bowerbirds mostly eat fruit. Because they are quite big, bowerbirds are easily able to monopolise fruit trees, scattering smaller birds out of their way. Thus, like aristocrats everywhere, most of these birds have lots of free time. And so, naturally, they have a hobby. It's art.

Male bowerbirds spend weeks building and decorating elaborate 'bowers'. Depending on the species, the bower could be anything from a clearing strewn artfully with leaves to huts more than four meters (13 feet) wide or towers more than three meters (10 feet) high, woven out of sticks, painted with juice from crushed fruits, and decorated with flowers, mushrooms, feathers, snakeskins, snail shells, butterfly wings, beetle heads – or anything else that catches the artist's eye. One scientist nearly had his camera stolen by a bowerbird who wanted to add it to his decor; another almost lost his socks. Artistic styles differ greatly among populations – even populations of the same species. So that whereas flowers

might be fashionable in one area, beetle wings will be all the rage in the next. Moreover, this is no random collection of junk: the objects are selected and placed with great care. If you intrude into a bower and move things around, the artist will put them back again after you've gone. If you add objects that weren't there before, he'll take them away. And if you watch an artist at work, you'll see him experimenting – trying out different items in different positions.

Why do they do this? To impress girls, of course. Females come to the bowers to mate. And one way to make your bower look even better than a rival's is to resort to theft and vandalism. Yes, I'm afraid that bowerbirds are not above foul play to further their own ends. Stealing is rife. Rare or fashionable objects vanish from one bower only to appear in another. And some bowers are regularly vandalised or completely destroyed. Vandals, like the egg pirates or any other common burglar, approach stealthily, tiptoeing through the undergrowth and freezing at the slightest sound.

Worst of all, such behaviour is often rewarded. In species like yours or theirs, females don't seem to care how a male filled his nest with eggs or why he's the only one with a collection of unusual feathers. They just go for the fellow with the most lavish display. In these species, as in so many others, I'm afraid that nice guys finish last.

Boys, if you feel consumed with aggression, you're probably experiencing a testosterone surge. Keep cool. Don't plunge into battle with the first fellow you see – and above all, don't let yourself be goaded into fighting over a woman. Remember: there are few circumstances in which you should actually throw down the gauntlet and fight. If you have doubts, refer to my Rules of Engagement.

RULES OF ENGAGEMENT

You should be prepared to fight to the death only if you can answer yes to both of the following questions:

1. Is your only chance to mate here, now?
2. Will fighting increase the number of girls you can mate with?

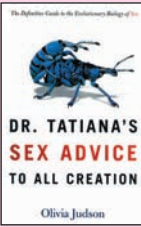
If the conditions are not right for fighting




Male bowerbird with GSOH seeks female into blue plastic

to the death, it may still be appropriate to trade body blows. However, you should fight only if you think you can win. Since size is the primary determinant of victory, you should always pick on someone smaller than you. Before engaging in combat, try intimidation: flex your muscles, puff up your chest, shout, do whatever it takes to show your opponent there's no point in fighting you. If, when you've done all this, you discover you're less frightening than your opponent, retreat immediately. If you find you are always running away, do not despair. I have help for you in the next issue.

■ *Extracted from Dr. Tatiana's Sex Advice to all Creation by Olivia Judson, published by Vintage at £7.99*
Copyright Olivia Judson, 2002



Readers of *The Ecologist* can buy Olivia Judson's book for the special price of £6.99 plus free p&p. To order, please call **01206 255800** and quote the reference 'Ecologist'




The Yangtze is the world's third longest river, running 4,000 miles from Tibet to Shanghai. Steeped in history and myth, it irrigates China's great central valley, where close to half the nation's food is grown. Yet the river also brings devastation, its treacherous and flood-prone waters claiming countless lives over the years. Despite widespread international censure, construction of the world's largest hydroelectric project nears completion – the Three Gorges dam. The project is named after the area in which it is found – a region home to some of China's most beautiful scenery and significant archaeological remains, a region ingrained in the country's history, literature, art and culture.



THREE GORGES


The Chinese are understandably reluctant to talk about the adverse effects of the Three Gorges dam project. But **Sharron Lovell's** extraordinary photographs confirm how the project is transforming thousands of lives for the worse

THREE GORGES DAM



The future water level is marked in an alleyway in Dachang. Very few Chinese towns survived the destruction wreaked by the revolution quite as well as this ancient place, where three of the four original town gates remain intact. Owing to its extraordinary state of preservation, it is to be moved brick by brick to higher ground and transformed into a theme park.

Dachang's homeowners, however, will not benefit from this monstrous tourist attraction. Dissent is dangerous in China; a number of people have been imprisoned and reportedly tortured for moderate opposition to the dam - some simply for gathering petitions. It is difficult to find open criticism in the region, but Dachang's residents are unusually vocal. They complain bitterly at the loss of their heritage, the inadequate compensation, and the embezzlement of relocation funds.



A farming family harvest their last crops before the disappearance of their land in 2003. Prohibited from growing further crops they have just weeks to vacate their home. They have not yet been allocated any alternative housing. With little hope of access to new farmland, they don't know how they will make their living in the future.

Roughly 70 per cent of the population to be displaced are from rural communities. Resettlement moves people from villages to towns and cities, exchanging rural for urban, agricultural for industrial. In many cases, entirely new urban centres have been built from scratch to house people who for generations have known nothing but the countryside.



The area of the Three Gorges was recently identified as the birthplace of an ancient Chinese civilisation, yet 1,074 historical sites will disappear beneath the waterline. Underfunded teams of experts desperately excavate whatever they can, yet only a tiny proportion of sites will be explored and then only on a very rudimentary level. It is claimed that thousands more sites lie undiscovered.

THREE GORGES DAM





An elderly couple in front of the home they have occupied for the entirety of their marriage. The '180' marker painted in red indicates the level to which the water will eventually rise. While the more developed and commercial sectors sprawl onto the higher ground, the oldest parts of the numerous river towns along the Yangtze are made up of tangles of narrow alleyways that twist up and down the river's banks. It is within these alleys that the oldest communities exist; tightly knit social networks fostered in crowded conditions, a culture of interdependence and companionship. Children are free to roam in and out of neighbours' homes, and the alleys themselves provide a public arena where people do business, play mahjong, eat and gossip. These core districts will be the worst affected areas and largely submerged. As people are forced to move, communities which have endured for generations will be dispersed.

THREE GORGES DAM

Regimented, numbered apartment blocks in the 'new' Shingshan. Original towns and communities have been moved to higher ground and mutated into enormous cities, a blessing for civil engineers and urban planners, who can finally create cities with efficient roads and sewage systems. The new cities look impressive from a distance. Yet up close the newly built streets are covered in piles of dust and rubbish. In many places up to two thirds of the population has already been moved, but the towns remain



half-finished: plumbing and sewage systems are incomplete, and rats thrive amid the mountains of rotting garbage. The presence of washing hanging out to dry indicates the houses are inhabited, yet the streets remain lifeless, with no sign of the community of the older towns.

At a cost of more than \$24 billion, the half-mile-wide, 600-foot-high Three Georges Dam is the largest industrial project in the world, with a planned capacity of 18,200 megawatts. The Chinese government has hailed it as the greatest engineering feat since the construction of the country's Great Wall. Supposedly it will bring:

- ❑ **Improved electricity supply:** The hydropower turbines are intended to provide as much as one-ninth of China's electrical production.
- ❑ **Better flood control:** The Yangtze River is famed for dramatic flooding, which over 100 years has claimed more than 1 million lives.
- ❑ **Environmentally sustainable energy:** Guo Shuyan, deputy director of the project, has described the Three Georges Dam as 'environmentally sound'.

THE REALITY IS A LITTLE DIFFERENT:

IMPROVED ELECTRICITY SUPPLY?

■ In November 2000, the World Commission on Dams released a report showing that dams generate less power than believed. This is largely because of silting, which reduces the lake's capacity, preventing the flow of water. According to one official, silting will render the Three Gorges Dam useless for electricity production in about 40 years.

■ A 2003 article in *The Times* stated: 'Engineers have given warning that a silt build-up could cripple the [Three Gorges] turbines, allegedly leading Siemens, one of the main suppliers, to turn down the offer from Beijing of a contract for maintenance work that would make it responsible for running the turbines.'

■ Furthermore, according to a former senior executive on the project quoted in *The Financial Times* in 2000, potential customers for electricity generated by the dam are likely to be served by other local power stations that are now being planned. The Ertan Dam in southwest China, completed in 1998, is unable to sell 60 percent of the power it generates at a loss of more than \$120m a year.

BETTER FLOOD CONTROL?

Global hydrological experience over the years shows that dams and embankments can worsen the severity of extreme floods. By confining rivers and straightening their courses, embankments increase both the volume and speed of water, increasing its capacity to cause damage downstream.

■ Sediment retention behind the dam will make the Yangtze's downstream water more aggressive, and will lead to greater erosion of downstream banks and levees.

■ Even Three Gorges Dam president Lu Youmei has admitted the dam is not the answer to the Yangtze's floods. In 1998, summer flooding in the lower Yangtze River cost more than 4,000 lives and \$36 billion in damage.

ENVIRONMENTALLY SOUND?

■ According to the vice-director of the region's water resources bureau, the dam has rendered one quarter of 207 tributaries of the Yangtze and Jialing rivers in the area becoming 'severely polluted' and essentially useless as water resources.

■ The project threatens the survival of many species of animal, including the baiji dolphin, the finless porpoise and Siberian cranes.

■ When a 142-metre-high dam was built on the Zhuxi River, a tributary of the Yangtze, to stop silt flowing into the Three Gorges Reservoir, a large artificial lake was formed. Called Tianxianhu, the lake has become a cesspool filled with untreated domestic and factory waste. According to the *Chongqing Morning Post*, this effluent is now pouring into the Three Gorges reservoir through a flood-relief channel.

SO WHY'S IT BEING BUILT?

■ A 2001 article in *The Washington Post* quoted a senior Chinese engineer as saying: 'From all angles this project has enormous problems, but China's system doesn't seem to be able to correct such a massive mistake. Our leaders are worried that if it did, the regime could fall.'

■ For more than 80 years Chinese leaders including Mao Zedong and Deng Xiaoping, have dreamt of building the dam. The former chair of China's parliament called it a 'symbol of the superiority of the socialist system'.

STEFFI THE VAMPIRE SLAYER

Paul Kingsnorth talks to Stephanie Roth, the former *Ecologist* campaigns editor who has just been awarded the 'environmental movement's Nobel prize' for risking life and limb to prevent the exploitation of the largest gold reserves in Europe **WORDS BY PAUL KINGSNORTH**

Rome hadn't witnessed anything like it for years. It was 106 AD, and the emperor Trajan, fresh from his latest conquests north of the Danube, was staging a vast celebration in Rome's Circus Maximus. Almost 350,000 people would witness 10,000 gladiators and 11,000 animals battling through 123 consecutive days of gladiatorial combat. To accompany the games, the emperor was erecting new buildings and public works across the city.

Trajan had reason to celebrate. His recent conquests had extended the Roman empire to its greatest ever extent. The troublesome Dacians, who inhabited the land now known as Romania, had been crushed. And, if the rumours running around Rome were to be believed, the emperor was paying for

the city's extravagant celebrations with gold he had taken from the dead Dacian king Decebalus; gold that had come from a wealthy mining region called Alburnus Maior, which now belonged to Rome.

Almost 2,000 years later, in the early 21st century, a Romanian entrepreneur named Frank Timis arrived in Alburnus Maior. Timis was a convicted heroin dealer with a string of failed businesses behind him, who had emigrated to Australia years before. Now he was back, at the head of a new multinational company he had created called Gabriel Resources. Despite having no mining experience, Timis was

determined to extract the vast reserves of gold which, despite almost constant mining since Trajan's day, still lay under the Romanian mountains in Alburnus Maior – known these days as Rosia Montana.

The gold deposits under Rosia Montana are the biggest anywhere in Europe. Like emperor Trajan, Timis knew that vast profits were to be had if he could succeed in exploiting them. Like Trajan,

he had dreams of conquest. Unlike Trajan, he was about to meet his match.

Stephanie Roth has explained why Frank Timis's proposed mine would be such a disaster hundreds of times, but

'I couldn't care less about threats. You might get a miner coming to you and saying, "if I lose my job because of you I'm going to cut your throat". It happens. The company itself doesn't threaten you, of course. It doesn't need to: it can mobilise the local miners to do it instead'

when I ask her to do so again she does it with good humour and passion. She's going to have to keep telling the same story for a while yet. In recognition for the past three years she has spent organising the campaign against the mine, the former *Ecologist* campaigns editor has just been awarded the Goldman Environmental Prize – the closest thing the green movement has to a

Nobel award.

'The mine plan is,' she says, 'a uniquely destructive proposal. Here we have a very sleepy valley, populated by farmers and people going about their own business. Beautiful place, small communities, traditional life. You also have very special archaeology: Roman mine workings, a mausoleum, temples, the remains of a great Roman civilisation. And what Gabriel want to do is build an



Goldman Environmental Prize winner Stephanie Roth

PHOTOGRAPHS COURTESY OF THE GOLDMAN ENVIRONMENTAL PRIZE & ALBURNUS MAIOR



A medieval clock tower in the Transylvanian village Sigisoara, where plans for a Dracula theme park were defeated as a result of a local campaign that included Stephanie Roth



Gabriel Resources' plans would destroy some of the most remarkable Roman ruins in Europe. The ancient mine workings shown above have already been vandalised by geological sampling

open-cast mine. This means basically you blow up mountains, take away the rock in trucks and then use cyanide to extract gold from it. You're left with an extremely toxic sludge, laced with cyanide and mercury and other poisons. This is then dumped into a tailing pond – essentially a lake of poison which will cover hundreds of hectares of this valley.'

'They propose to do this in a place where 2,000 people live. And you know something else? The whole area is protected by law. So why is the government allowing this to happen? You tell me. Locals are suing them at the moment. Maybe we'll find out.'

The story of what Gabriel Resources plans to do to the small, rural communities of Rosia Montana is indeed

chilling. The open-cast gold mine the company plans to build would destroy the homes of around 2,000 people: 730 houses, 138 flats and 16,000 hectares of agricultural land would go. As well as destroying or damaging some of the most remarkable Roman ruins in Europe, it would also trash 10 churches and nine ancient cemeteries. The poisonous sludge that would result from the corporation's attempt to extract 500,000 ounces of gold from the mine over its proposed 16-year life would form a cyanide storage pond measuring up to 600 hectares in size. The lake would be held up by a 185-metre-high dam, would drown a nearby village and threatens to pollute the drinking water of 100,000 people.

More remarkable than this, though, is the story of what Roth and the community around Rosia Montana have done to fight the mine proposals.

Roth wound up in Rosia Montana, she explains, almost by accident. 'I was working out my notice at *The Ecologist* back in 2001,' she says, 'and one day I read some documents about a planned Dracula theme park in Transylvania that a company was planning to build near the medieval town of Sigishoara and it sounded horrendous to me. I contacted the people who were campaigning against it, and I asked them, "hey, would you mind if I come along as a volunteer?" And they said no. So I ended up in Romania.

'We managed to stop them building the park, and we had a lot of fun doing it – Romania is quite a serious country, and people aren't used to campaigning in a humorous way. For such a long time they were under a dictatorship with a secret police... There still is a secret police, which harasses campaigners. But I think what I did for that campaign was introduce the fun factor. We sent garlic cloves and Dracula postcards to the Ministry of Tourism – things like that. And that liberated a lot of people, I think.'

Fresh from her victory seeing off the Dracula park, which would have destroyed an ancient oak woodland and a medieval citadel, Roth was kicking about in Sigishoara wondering what to do next when she met a journalist who had come to cover the theme park story. 'He told me he had just come from a place called Rosia Montana, and he had found a story

no one else had written about. A mining company was proposing a huge mine, 2,000 people would have to be moved, and he said, “you should go and have a look”. So the next weekend I packed my bags and I hitchhiked to Rosia Montana. I met the local opposition; we had a chat; we spent a whole day together; they explained the project to me and why they opposed it. And I thought that they made a lot of sense but, given the mining company’s power, they needed unprecedented support.’

Support was exactly what they got – and a friend who turned out to be one of the most effective campaigners in Europe. Up to that point Gabriel Resources had assumed its

mining project was a shoo-in. It seemed to have everyone from the local council to the Ministry of Culture in its pocket. At that time the only opposition came from a group of local residents and farmers with little experience of fighting anything so big, ruthless and international. From this unpromising clay, the campaign to

save Rosia Montana has been moulded into the biggest civil society movement in Romania, and one of the most effective environmental campaigns in Europe.

‘You have to see this in the context of globalisation, and of Romania’s forthcoming entry into the EU,’ Roth explains. ‘The Romanian government is selling off everything it can. There’s a small state-owned mine in Rosia Montana at the moment and the government has to close it, because EU entry means it can no longer give it state subsidies. Now, the government has a responsibility to close it and do an environmental rehabilitation. Instead of doing this, though, they decided to privatise it – to hand the land to Gabriel. For them this is a win-win situation. They can sell it off, save money

If the mine were to go ahead, this historic hilltop church in Romania’s Corna Valley would end up on an island surrounded by toxic waste water and the surrounding village would be completely immersed

and sell off also the responsibility. And instead of closing the mine and cleaning up the area, they are selling it to a company which plans to build a mine which is 50 times larger.’

If Gabriel Resources and the reason for its activities were global, Roth decided, the opposition to them had to be too. ‘The first thing we had to do,’ she explains, ‘was make the campaign international – get it into the English language so the world could read about it. We set up a

website, got press releases going, started to explain what people could do to help us. We also needed to make alliances within Romania. In the summer of 2002, we organised together with an NGO from Bucharest a one-day public meeting in Rosia Montana. We invited 50 Romanian NGOs to come and find out what

The poisonous sludge that would result from the mine would form a cyanide storage pond measuring up to 600 hectares in size. The pond would be held up by a 185-metre-high dam, would drown a nearby village and threatens to pollute the drinking water of 100,000 people

was going on. We started a national working group to fight this project. Outside Romania I got in contact with Greenpeace, and they came to Rosia Montana and made a commitment to help us. We talked to NGOs in Canada, where the mining company is based, and slowly the opposition began to grow.’

The company and the government, though, were not going to take any of this lying down: as the campaigners worked to expose them, they were working equally hard to push the project forward. The Romanian Ministry of Culture, in particular, which was supposedly responsible for safeguarding the unique archaeology of Rosia Montana, seemed more interested in ensuring that Gabriel Resources got its mine working in time.



ROSIA MONTANA TIMELINE

- 1999 Gabriel Resources is granted a concession of land on which to site its planned open-cast gold mine in Rosia Montana.
- 2000 Alburnus Maior, a local protest group, is founded to fight the proposed mine.
- 2001 Stephanie Roth arrives in Rosia Montana and begins to expand the campaign.
- 2002 The World Bank refuses to support the mine as a result of the growing protest movement. A coalition of Romanian churches joins the movement against the mine.
- 2003 The Romanian Academy, the country’s most senior scientific body, attacks the mine proposals. Frank Timis, founder of Gabriel Resources, is replaced as CEO amid ‘panic’ restructuring. More than 1,000 international historians, archaeologists and classicists protest about the proposed mine. Under increasing pressure, Romania’s prime minister accepts that the mine ‘poses grave risks’ and that the government is not obliged to approve it.
- 2004 Gabriel Resources acknowledges that the project may never get off the ground. Its shares begin to nose-dive. Demonstrations against the project spread to Canada, where Gabriel Resources is registered. Greenpeace activists stage a high-profile demo in Bucharest as opposition continues to spread.
- 2005 The European Parliament comes out against the proposed mine. Rosia Montana is included on a list of the world’s ‘most endangered sacred sites’. Stephanie Roth is awarded the world’s largest environmental prize for spearheading the campaign against the mine proposals.

INTERVIEW

'The Ministry of Culture are crooks,' snorts Roth. 'For the last few years the mining company has been carrying out archaeological excavations, which it has to do by law. But they only excavate in areas which are archaeologically not important, and then they ask for the de-protection of huge areas on this basis. And because the company is so influential, the Ministry of Culture gives them these de-listing permits

'We challenged these de-listing certificates in court, and just recently we won a major victory on a very important protected area, which has been re-protected. Unfortunately for the company, this is the mountain that contains the largest amount of gold. It also contains really important archaeological treasures. Without this mountain, the mine project is dead.' Roth grins at the prospect.

Nevertheless, I say, surely even now the economic interests at work are hugely powerful. It's gold and vast profits versus Roth and some farmers. Can the campaign against the mine really win?

Roth replies: 'The farmers are not just farmers. They are also property owners who are refusing to sell their properties to the company, which needs them for the project to go ahead. Plus, for the first time in Romanian history, all Romania's different churches have united – behind us and against the mining project. The churches also own a lot of property in Rosia Montana, and they have refused to sell any of it to the company. And because it's a private project not a public one, the land can't be forcibly expropriated. Without this land, there can be no mine.

'And, you know, there are just more and more reasons piling up why this mine cannot ever happen. For example, Romania is desperate to join the EU. But just last year the European Parliament, which had been monitoring the project, passed a resolution warning the Romanian government that the mine poses a serious environmental threat to the whole region. So Romania's accession will be conditional on the Rosia Montana

project. I think this all adds up to one thing: Gabriel Resources is dead in the water. This mine can never happen. There is just too much opposition.'

Gabriel, though, is not giving up that easily. Nor are the mine's supporters, many of whom stand to profit heavily from it. And when legal methods don't work, they are happy to resort to more underhand, and dangerous, tactics, as Roth has become grimly aware.

'I couldn't care less about threats,' she asserts. 'You might get a miner coming to you and saying, "if I lose my job because of you I'm going to cut your throat".

It happens. The company itself doesn't threaten you, of course.

It doesn't need to: it

can mobilise the local miners to do it instead. Let me give you an example. Two days ago the mining company held a meeting in Rosia Montana and the managing director said to their employees and local miners, "we can't give you any jobs this year, or buy you any houses or do anything for you. We have to concentrate on the opposition. We have to invest all our money in fighting them". He said to the miners, "if I was you, I'd stand up for my rights, and I'd act now to protect my job". And the very next day one of my colleagues was attacked by one of the miners who had attended this meeting. The mining company is the moral author of that attack. It was very convenient for them: they don't need to get their own knives out. Others do it for them.'

Roth was herself the victim of such an attack last year. She tells the story matter of factly, although she knows very well that she is lucky to be alive. 'There is a valley,' she says, 'where they want to put the tailing ponds, and I was physically attacked there by one of the town's councillors. It was violent. He was very strong. I was lucky, because my reaction was to cry out and a young lad I knew was nearby and he came and saved my life.'

It makes you wonder why she does it. Romania is not her home country, and yet for three years she has dedicated every

waking hour, at great personal risk, to saving this community from destruction. Why did she go on way beyond the point where most of us would have given up? She considers the question.

'I don't know,' she says. 'It's about doing the things you believe in. It's wonderful to find what you believe in; to find what you are looking for; to find 'meaning'. I found it in Rosia Montana. The members of the local opposition don't want to give up their land, because to them their land is the true gold. They are my friends and they are my family, and they are fighting for their lives and their survival. And if laws on environmental protection mean anything, if property rights mean anything, if laws on the use of cyanide mean anything, then this project simply cannot go ahead. But you know what makes me happiest? It's when I see the farmers of Rosia Montana giving the finger to the mining company. In a way the campaign has made them also aware of their rights and has liberated them. They've been told to shut up for so many years, but they're not shutting up any more, and seeing that is the best prize of all.'

WHAT YOU CAN DO

The Romanian government is in the process of evaluating the proposed mine's environmental impact. Please write to it, urging it to reject this hugely damaging and unnecessary project. Send letters to:

Sulfina Barbu
Minister for the Environment and Water Management
Boulevard Libertatii Nr. 12
Sector 5
Bucharest
Romania
Email: ministru@mappm.ro

COPY YOUR LETTER TO:
Călin Popescu Tăriceanu
Prime Minister
Piata Victoriei Nr. 1
Sector 1
Bucharest
Romania
Email: premier@gov.ro



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COMPETITION TERMS AND CONDITIONS:

- 1 The winner will be the first entry drawn at random from all correct entries received before the closing date of 12pm (GMT), 13 June 2005.
- 2 The competition is open to all UK residents aged 18 or above, except employees of The Ecologist and their families and friends.
- 3 The prize will be drawn on Wednesday 15 June 2005, and the winner will be notified that day by email and/or telephone.
- 4 The Ecologist takes no responsibility for any entries that are lost, delayed, illegible, corrupted, damaged, incomplete or otherwise invalid.
- 5 The tickets are for free entry to the festival only.



CUBA

HEALTH WITHOUT WEALTH

Starved of funding by the US embargo and the Soviet Union's collapse, Cuba has a health service to put its rich northern enemy to shame. Much of the responsibility for this medical miracle is due to the island's transformation into a model of environmental good practice

BY **BRENDAN SAINSBURY**

It's 5pm Havana-time on the Cuban capital's crescent-shaped *Malecón* sea-drive, and a handsome and svelte-looking taxi driver is steering his battered automobile – a 1955 Chevrolet recently refitted with a Lada engine – painfully homewards to a cacophony of unhealthy screeching. Old men cling to fishing lines, young couples kiss on the promenade, and a group of off-duty nurses stand outside the giant façade of the *Hermanos Ameijeiras* Hospital trying to hitch a free ride back west through crumbling Vedado.

Welcome to Cuba – land of trade embargoes and clapped out old cars, free healthcare and libidinous young taxi drivers. Forty-six years after a cigar-puffing Fidel Castro first rolled triumphantly into Havana atop a jeep with the dashing Che in tow, Cuba remains famous for its failed politics, questionable human rights record and a transport system stuck incongruously in the 1950s.

It might come as some surprise, therefore, to discover that – literally speaking – the health of the nation is still in remarkably good shape, particularly in contrast to that of its much larger neighbour, and enemy, to the north. It's hard to resist the comparison. In the US the federal government forks out an average \$4,178 per person annually on healthcare. In embargo-strapped Cuba a tight-fisted Castro coughs up a paltry \$186 per head to finance his citizens in a similar way: that's 4 per cent of the US contribution. Nevertheless, defying all logic, the health indices in both countries are almost equitable.



PHOTOGRAPH BY CORBIS

CUBA

Back in 1978 Castro boldly declared that Cuba would become a pioneer in Third World medicine, place a doctor in every community, match the health performance of the world's economic giants and provide a realistic challenge to the medical power of the US. He was right on all four counts.

Under the dark shadow of a permanent US trade embargo, Cuba, which languishes 172nd on the world's league table of nations' wealth (in between Mongolia and the Central African Republic) subsequently stuck the lion's share of its meagre resources into healthcare. The aim was to match its northern neighbour on every health index from life expectancy to infant mortality rates. Quite remarkably, it did.

With a doctor/patient ratio of 1/170 and a national pool of 30,000 GPs, who skills-wise could knock strips off many of their US counterparts, Castro's health experts have developed a medical research facility that is the envy of many of the world's cash-rich democracies. The list of Cuba's medical achievements can be rattled off like patients at a walk-in clinic: home-grown treatment for more than 15,000 Chernobyl victims, the successful vaccination of 1.5 million Haitian children against measles, the production of the world's first meningitis B vaccine (subsequently licensed by drug multinational GlaxoSmithKline), heart transplant and cancer research programmes, and one of the world's lowest national rates of Aids.

Given such dramatic and ground-breaking results, it would seem obvious that the rest of the world would be queuing up to learn from the Cuban experience. But they're not.

So why, instead of constantly lambasting the Castro regime for political reasons, doesn't the developed world divert its energy into trying to emulate a health system that manages resources, eliminates waste and remains free to everyone, and which does that against *all* odds?

'Healthcare is better now because we can do more with less,' commented Cuba's understandably smug health minister Leoncio Padron in 1998. Padron's statement was a truism of sorts. Thanks mainly to the ongoing US embargo (which since 1992 has included emergency food aid and medications) preventative medicine in Cuba has become a way of life. Cuba has 21 medical schools training doctors en masse, and a family doctor programme placing qualified health professionals inside every single community in the country. Consequently, the government has been able to secure more legitimacy in the international arena and greater popularity at home.

Just like many blockaded countries of yesteryear, the Cubans have responded to their unenviable economic plight with resourcefulness and innovation, putting into practice the Darwinian principle of adapt and survive. Whether it's stuffing Lada engines into the bonnets of vintage Chevrolets or sourcing cholesterol-lowering drugs from sugar-cane wax, Cuba's cash-strapped citizens have learnt by experience to squeeze every last drop out of their natural resources, medical or otherwise. Absolutely nothing goes to waste. To environmentalists the Cubans are ecologists by necessity.

Traditional herbal remedies, many of which were first imported via slaves from Africa, are aided and encouraged, while an increasing proportion of low-cost naturally concocted botanical therapies are borrowed directly from Mother Nature.



PHOTOGRAPH BY JEREMY HORNER/PANOS PICTURES



Meanwhile, out in the streets and squares of decrepit Havana, more subtle influences are quietly at play. Far from being the unhealthy and under-nourished beings of anti-communist myth, the residents of this most exotic of Caribbean cities exude a level of warmth and passion that few visiting European ‘tourists’ can resist. Falling into step alongside pallid, overweight and uncoordinated Western wannabes out on two-week vacations from Prozac and junk food, the Cubans don’t just walk; they glide, sauntering rhythmically through the timeworn streets like dancers shaking their asses to the syncopated beat of the rumba.

Maybe the secret is in the food rationing. Refreshingly independent of the corporate influence of McDonald’s and Starbucks (and, by implication, of an unhealthy dose of saturated fats), Havana’s famously bad chefs are – if a little short of sun-dried tomatoes – all too ready to bolster the immune systems of their populace with a rich selection of home-grown organic ingredients.

The organic transformation of Cuba can be traced back to the collapse of the Soviet Union. In 1991, with the Soviet Union consigned forever to the dustbin of history, Cuba waved goodbye to more than 1.3 million tonnes of imported chemical fertilisers. Castro’s answer was the so-called Urban Agricultural Programme. Under-utilised areas of land around the country’s towns and cities were quickly turned into intensive vegetable gardens employing new organic farming techniques. Chemical pesticides were outlawed for good. Furthermore, in the push for greater food security, lateral thinking and intellectual foresight has prompted such eco-friendly practices as nutrient recycling, soil and water management and land-use planning.

Cuba’s transport crisis provided another, equally important health boost. With the abrupt end to 30 years of preferential Soviet oil subsidies, the canny Cubans decided to counter a potential transport catastrophe by purchasing 1.2 million bicycles from China. ‘With bicycles, we will improve the quality of life in our society,’ proclaimed the born-again environmentalist Castro without the slightest hint of irony.

But Castro’s words have been born out by experience. The so-called cycling revolution *has* played a large part in eliminating a culture of idleness and sloth in Cuba. Almost overnight a transport system based on exhaust-belching Hungarian buses and ugly Russian Ladas was transformed into one that is 99 per cent reliant on pedal power.

But it’s not all sun and salsa. Cuba pays the price for its free medical service in a multitude of ways: bad housing, draconian food rationing, and wages so low that doctors often have to double up as waiters if they are to afford the most basic luxuries.

And there are other dichotomies, too.

Not surprisingly, Castro’s bullish brand of authoritarianism has led to a huge exodus of medical talent in the past: émigrés off in search of better opportunities and greater political freedoms abroad. The prioritisation of health, the critics relentlessly expound, is little more than a propaganda tool: a brave front for some of the revolution’s more underlying failures.

The dark days of the ‘special period’ were particularly hard to bear. In 1991 the Cuban economy went into freefall: GDP dwindled by 60 per cent, and an increasingly desperate leadership introduced emergency austerity measures in an

Worn signpost for the Abel Santamaria hospital in Havana



CUBAN HEALTHCARE TIMELINE

- 1959** Fidel Castro, accompanied by Argentine doctor Ernesto 'Che' Guevara, takes power in Cuba.
- 1960** The US trade embargo begins, and half of Cuba's 6,250 doctors flee to the US. Cuba's Ministry of Public Health sends medics out to rural villages.
- 1963** Cuba begins a Third World medical assistance programme by sending 56 doctors to Algeria.
- 1984** Initiation of primary-care-based Family Doctor Programme designed to train approximately 75,000 doctors as GPs/ local health advocates and establish clinics, hospitals, maternity homes and elderly care centres in every town and village in the country.
- 1985** Cuba's first heart transplant operation.
- 1990** Following the collapse of the Soviet Union, Castro institutes the 'special period', a package of warlike austerity measures which, while keeping the lid on any political reforms, legalises the dollar and flirts tentatively with the market economy
- 1991** Cuba begins its 'urban agricultural programme', a scheme whereby large tracts of urban wasteland are put to productive use to grow food organically for purely domestic consumption.
- 1992** In the US, the Cuban Democracy Act bans shipments of food and medicines to Cuba.

Castro's health experts have developed a medical research facility that is the envy of many of the world's cash-rich democracies

attempt to offset plummeting living conditions and rising discontent. The health system didn't escape unscathed, either. Everything from anti-inflammatory drugs to toilet paper became scarce, and the sick suffered as a result. Vitamin deficiencies re-emerged, key prescriptions almost disappeared off the shelves completely, and optic neuritis, a rare form of eye and nerve disorder linked to poor food quality, took root among an increasingly beleaguered population.

To his credit, Castro saw the light and pulled the country back from the brink. In a shrewd act of political pragmatism, socialist rhetoric was turned on its head and the government opened the economy up to limited private enterprise and allowed the US dollar to be used as legal tender alongside the Cuban peso.

Something obviously clicked. By the year 2000 Cuba was out of its economic coma and re-emerging as a leaner and decidedly greener quasi-socialist state propped up by foreign tourism, greater access to dollar-priced goods and a thriving network of local farmers' markets selling organic home-grown goods. Thanks in part to its well-rounded health system, the country had survived, and so had Castro. But it was a close-run thing. For many, far too close.

Ninety miles across the choppy waters of the azure Caribbean Sea, in Kyoto-free America, the world's most expensive medical system continues to creak dangerously beneath the weight of a \$1.7 trillion annual budget. And it is doing so in the face of rising obesity rates, huge gaps in health-insurance coverage and general public dissatisfaction. Contrasts don't get much starker than that.

Held up against the rest of the world's liberal democracies, the US is unique. Despite frequent boasts about freedom of speech, individual liberty and the right to brandish firearms, the slightly more brushed-under-the-carpet concept of free universal health coverage is a political non-starter in America.

Defenders of the US medical system point to its well-paid doctors, cutting-edge technology, deluxe service, and access to the latest and greatest new drugs. But while that's all true in part, it's by no means the full story. Throughout the highways and byways of small town America, the on-the-floor reality is slightly less utopian. The US health service offers some of the best levels of medical care in the world: of this there is no doubt; but (and it's a big but) only for the minority of people who can afford it.

Banished to the sidelines, more than 43 million significant others have no medical insurance, with plenty more forking out up to a third of their monthly salaries to fund adequate cover. Even worse, a recent Harvard survey dimly concluded that more than half of all personal bankruptcies in the US today are triggered by people who had the downright audacity to fall ill.

But the real and far less-reported worry comes from a much deadlier threat: wastage. Product duplication, drug company dinner tabs, costly litigation battles, and a \$100 billion bill for chasing up the uninsured: the US system puts profit over people and wants over needs, time and time again. Preventative medicine is a virtual non-issue, and the concept of natural remedies often laughed at. Instead, the health sector prefers to invest its resources in more lucrative pharmaceutical businesses, researching cures for depression, obesity and vanity pills, while

drug giants such as Merck continue to churn out modified copies of existing medications like cars with new number plates.

In truth, the Americans run their health service like they drive their automobiles: singularly, uneconomically and with a gleeful disregard for the long-term environmental consequences. And while Cuba is squeezed ever tighter by a long line of vindictive US administrations, and the capricious Castro is stuck on the same Christmas card list as Kim Jong Il and Saddam Hussein, the achievements of its free health system and life-saving vaccines go shamefully ignored. The entire world is poorer for it.

There is nothing new in the idea that Cuba could be a blueprint for other cash-strapped, debt-haunted nations. Castro has been saying as much for decades, and ongoing exchange programmes with up to 58 Third World countries have sent Cuba's famous flying doctors far and wide. One such recipient is Angola. I gained a painful insight into some of the issues affecting the oft-forgotten and violent African country when I spent a work sabbatical there a couple of years ago.

According to David, a science teacher from the teacher training college of the Angolan province of Benguela, Angola's problems are due to a lack of resources. David and I worked together building mud-brick latrines in Asseque, a small township of approximately 7,000 inhabitants perched scenically on the periphery of Angola's dry western desert. Twice a week we would watch a small procession of dour-faced young men and plaintively wailing women filing slowly past. Nestled in their midst would be a small brown coffin: normally that of a child, or perhaps a village elder. Cause of death: malaria. Reason: no drugs, no clinics, no health service.

A big strapping man in his mid-30s, during the 1980s David spent seven years studying in Cuba. He didn't pay a penny for the privilege. How could he? Through no fault of his own, David

hails from one of the poorest nations on earth – and one of the richest.

Angola's tattered health system belies the true potential of a country that churns out more than one million barrels of oil a day and which is the world's fourth largest producer of diamonds. After spending six months trudging wistfully through its dusty townships and villages, I quickly became adept at reciting a long list of mind-boggling facts and figures that was supposed to justify my presence there. Life expectancy: 37 years; infant mortality: 191 per 1,000; doctor/patient ratio: 1/13,000. I wasn't the first to be overwhelmed. For decades, successive think-tanks and internationally sponsored aid agencies have been ploughing through similarly depressing lists of research data searching vainly for an elusive panacea.

But what exactly are these agencies seeking to cure? In Angola, people continue to starve and die primarily because nobody has ever bothered to go back to the roots of the country's problems and isolate their causes: they have failed to take their hands out of their pockets and construct a working

development model from the ground up. Their approach is all hope, faith and charity.

So where does Cuba come in?

Love them or hate them, the Cubans lead the world in the field of preventative medicine. High-cost curative services take second place to tackling problems at source. Quite simply, there is no other choice. Now, imagine an Africa with an interlinking network of rural health clinics, well-trained community doctors, compulsory immunisation programmes and accurately updated countrywide medical records – and all of this built on a budget of next to nothing. An impossible dream? No, actually. Just ask Castro.

Hold out your arm, close your eyes and prepare yourself for a nice free injection of Cuban-style regulation policies: a life-saving stab of greater government accountability, shrewd forward planning, and a better distribution of resources all round. It would just be the tip of the iceberg, but it would be a start.

Cuban involvement in Africa is, of course, a relatively familiar concept. Cuba as a preventative model for our own costly health systems, however, is a little harder to swallow. After all, what the hell can Castro teach *us*?

Well, a little bit about conservation for starters. In a world of finite resources and irreversible ecological damage, a world in which politicians waste millions on electioneering alone and in which scarcity stalks the food chain like the grim reaper, the possibility of Cuban-style austerity measures and long-term resource management maybe isn't quite so outlandish.

And as Castro's battle with his own mortality gets ever closer, one can't help but wonder how many of Cuba's ecological innovations and environmental solutions – inadvertent or otherwise – will outlive his own rather dubious political legacy.

The Americans run their health service like they drive their automobiles: singularly, uneconomically and with a gleeful disregard for the long-term environmental consequences

COMPARING CUBA WITH THE US

	US	CUBA
Population	293,027,571	11,308,764
Area (sq km)	9,629,091	110,860
GDP per capita	\$35,831	\$2,900
Infant mortality (per 1,000)	6.5	6.3
Life expectancy	77.43	77.04
Doctor/patient ratio	1/352	1/170
Aids cases per million	241.2	7.3
Immunisation for one-year-olds	95 per cent	100 per cent
Vehicles per 1,000 people	815	23

A large white wind turbine stands in the ocean under a sunset sky. The word "GREEN" is written in large white letters in the upper right.

GREEN

ELECTRICITY... ARE YOU BEING CONNED?

Just change your
electricity supplier
and help fight climate
change. Sounds to
good to be true. Is it?

BY **JEREMY SMITH**

PHOTOGRAPHS BY **ANT UPTON**



What should I do? Working for *The Ecologist*, it's a question I regularly get from my friends. 'Should I buy organic apples from the supermarket, or non-organic ones from my local greengrocer?' 'If there are problems with Esso, Shell and BP, which petrol station should I fill my car up at?' 'Is it worse to drive to the Alps for a skiing holiday, or to fly to Spain to stay in an eco-lodge?'

These are all questions with no simple answers. So I was relieved a couple of months back when a friend asked what I thought was for once an easy one. He was fed up being bothered by people telephoning on a Sunday to try to sell him electricity. Having read a few copies of the magazine that I keep shoving in his hands whenever I visit, he wondered if there wasn't perhaps a green option.

I told him that for four years now I'd been with a company called Good Energy (it was known as Unit-E when I joined), and that it supplied me with 100 per cent renewable electricity.

He seemed impressed: 'That must have been a lot of work.'

'What do you mean?' I replied, incredulous. 'I just phoned up, they sent me a direct debit form, I filled it in and that was it. Easy.'

'So how is your electricity different?'

'Errr...' I was stumped. I had no idea. There are no wind turbines near my house in north London (not that I can see too many nuclear power plants or coal stations on the horizon, either). Just where did my electricity come from, and how on earth could it be called green?

I looked at one of my old bills. On

it Good Energy declared that it was 'committed to delivering 100 per cent renewable electricity to its customers'. Sounds good, but didn't answer my question. How could Good Energy be delivering on its commitment to me? When I changed over to it no one had come and rewired my house. No one had unhooked me from my old power supply and connected me to the nearest wind turbine. So what was actually different about the electricity being delivered to my home? The answer is nothing.

The reality is that switching to Good Energy has made absolutely no immediate difference to the source of electrons that powered my kettle. My electricity, like everyone else's connected to the UK's national grid, still comes mainly from whatever the closest power station is. If you live near Sizewell B and have a 100 per cent green energy tariff, chances are most of your electricity was produced by the fission of uranium by British Energy – a firm that your taxes have repeatedly saved from bankruptcy. Neither green, nor cheap. Similarly, people like Margaret Thatcher's former press secretary Bernhard Ingham may despise wind power, but if any of them has a house in the vicinity of Delabole in Cornwall or any of the country's other increasing number of wind turbines they are probably sat there swearing at a TV powered by the very energy source they hate. (And however much they might swear, the screen doesn't flicker if there's no wind.)

So what is happening? When a company offers you a '100 per cent green' tariff what it is actually saying is that for every unit of electricity you use it will provide the national grid with the same

amount but from a renewable source.

I called my friend and explained. He seemed happy and, for a while, so was I. I'd also discovered from Good Energy's website that it offers a carbon calculator which allows customers to 'find out how much you can cut your pollution' by signing up to the company. So I found a bill and followed the instructions, typing in how much I paid each year and how many kilowatt hours I used. At the end I learned the reassuring fact that I had saved '1,496 kilograms of CO₂ a year'.

And there I left it. Until a couple of weeks ago when I was reading George Monbiot in *The Guardian*. In an article describing the ongoing arguments over a proposed wind farm at Winash in Cumbria, Monbiot wrote: 'The Winash project, by replacing energy generation from power stations burning fossil fuel, will reduce carbon dioxide emission by 178,000 tonnes a year. This is impressive, until you discover that a single jumbo jet flying from London to Miami and back every day releases the climate-change equivalent of 520,000 tonnes of carbon dioxide a year. One daily connection between Britain and Florida costs three giant wind farms.'

I did the maths. By being with Good Energy last year, I had, according to the firm's calculator, saved the equivalent of a flight in a jumbo jet from London to... well, London: 1.496 tonnes of carbon is what a jumbo emits in a flight lasting just less than eight miles.

Had I let my friend off lightly? After all, last year he'd holidayed in the Caribbean and the south of Italy, driven his car to countless meetings across the country, and eaten daily food from a

By being with
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to... well, London.
A mere 1.496
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just under eight
miles.

GREEN ELECTRICITY

supermarket whose (organic) produce had flown more miles than he had managed by road and air combined. It was going to take more than saving eight miles worth of jumbo fuel to reduce the impact of his consumption by any significant amount.

Realising this made me feel pretty stupid. Ever since I'd first changed supplier a few years ago I'd continued under the misguided impression that somehow I had just absolved myself of all concerns about how much electricity I used. Because I had been assured that my electricity was now being 'delivered' from renewable sources, I was convinced that I no longer had to think about whether I left the TV on standby, overfilled the kettle, or switched the lights on all across the house. I sincerely thought that as I was using green electricity, it didn't matter how much I used.

But of course this isn't the case. We don't use the wind's infinite energy. We use the finite amount of it that the total number of turbines in the UK manages to transform into electricity. And when we've used that up, we are forced to rely on climate-changing coal, Russian gas imports, and very expensive toxic nuclear power.

So what on earth does Good Energy's pledge actually mean?

Before 1989 the UK energy supply was centrally owned and in public hands. When it was deregulated that year the door was opened to private companies to buy up generators and sell the energy that they produced. Companies such as Good Energy could buy already existing wind farms or hydro power stations, and start selling 100 per cent renewable electricity.

Consumers such as me were now able to buy their power from companies that owned nothing but wind turbines and/or dams, but what difference did it make? The UK's total energy structure was still the same: the same amount of CO₂ was being released into the atmosphere; there was the same amount of nuclear power with all the associated risks of pollution, terrorism and radioactive waste. All that

had changed was the price of my bill. Because, of course, for the peace of mind that renewable electricity was supposed to bring, I was paying a premium – a premium that I assumed was being spent on making more of the UK's power supply come from renewable sources.

If only it were. At the time the energy market was deregulated, the UK produced approximately 3 per cent of its energy from renewable sources. By 2002, that amount was still 3 per cent. In the 13 years since deregulation we hadn't increased the percentage of our power being produced by non-polluting means one inch. Yes we'd built some more turbines, stuck a few more panels on our roofs, but in the same period the amount of electricity we'd consumed had also

gone up.

Then again, if companies like Good Energy have been building turbines, it's not their fault that we haven't cut our consumption. But what if they haven't?

In recent weeks a new website has been launched: *WhichGreen* www.whichgreen.org. It lists all the electricity companies that offer green tariffs,

and shows how much they invested per customer in building new sources of renewable energy in 2004. According to the site (see the table on page 61), Good Energy has not spent a single penny. Nor has Green Energy, another supposedly '100 per cent renewables company'.

In fact, one company in the 'green energy sector' stands out, having spent £901.64 per customer in renewable infrastructure (the next biggest investor spent just £8.33). That company is ecotricity, the first company in the world to offer a green tariff (when I joined the then Unit-e, ecotricity was only available to business customers) and the creator of... the *WhichGreen* website.

This fact alone made me loath to believe anything the site had to say. However, all the information on the website comes from either the individual companies themselves, or from

independent sources such as Ofgem – the energy industry's regulator. Furthermore, the site has a feedback area on which the companies are free to comment as they wish about what *WhichGreen* says about them, and to challenge or justify the figures. And although the way the site grades the various companies ensures that Ecotricity does much better than anyone else, it seems to be justified.

I've also looked through all the different companies' promotional literature and websites. All manner of green claims are made. '£9 a year will be donated to a fund to be spent on community energy projects.' 'For every new customer, we donate £10 to the RSPB.' 'We'll plant enough trees to absorb your CO₂ emissions.'

These are all good-sounding efforts, but none of them addresses the core issue. We currently produce 34 per cent of our power from coal, 22 per cent from nuclear, 37 per cent from gas, yet only 3 per cent from renewables. This balance has to be dramatically shifted. The only way to do this is to build more renewable energy sources so that when old coal and nuclear power stations get decommissioned over the coming years there is enough renewable electricity being generated to replace them.

Started in 1995, ecotricity was the first company in the world to offer green electricity. From the beginning it was set up with the express purpose of changing the way electricity in the UK is generated and supplied in order to bring about significant environmental improvement. (As a company without shareholders it can make decisions based on what is best for the planet, not what maximises profit.) Ecotricity built its first wind turbine a year after starting business. In 2004 the company spent £7m building new renewable power sources.

It is true (and far better than nothing) that a company such as npower (whose green tariff is called Juice) spent about £40m in 2004 developing new renewable energy sources. However, the company did so off a customer base of 5 million. Look at that from a different angle: npower has 1,000 times more customers than ecotricity, yet spent only seven times as much on building new renewable power sources.

Npower has 1,000 times more customers than ecotricity, yet spent only seven times as much on building new renewable power sources

THE RENEWABLES OBLIGATION

In 2002 the U.K. government established the Renewables Obligation (RO)

– designed to substantially increase the amount of renewable energy being generated. That year, the RO committed every power company to provide 3 per cent of their energy from renewable sources, and for that percentage to rise by around 1 per cent year on year until they all reached the government target of 10.4 per cent by 2010.

So, how is the RO supposed to work?

CARROT AND STICK...

For every one megawatt hour [MWh] generated by renewable energy owned by an electricity company, they receive a Renewable Obligation Certificate (ROC). At each year end, the number of ROCs a company has generated is measured against its RO target.

If they exceed their target, they can sell the excess ROC's, and so gain funds for further renewable energy power generation. (THE CARROT).

If they fall short of the target, they can meet it by either buying excess ROCs from the market or paying a 'buy-out' fee (fine) to the regulator to cover the shortfall. (THE STICK).

SO MUCH FOR THE THEORY, WHAT OF THE REALITY?

By the end of 2002, the UK's electricity suppliers only provided the government with enough ROCs to meet 58.9 per cent of their total renewable obligations.

SO WHY DID THE RO SCHEME FAIL IN YEAR ONE?

Flaw one: The carrot is mouldy

Companies could meet their RO shortfall by simply taking the 'buy-out' option, rather than pay the market price for the ROC's on the market. So companies couldn't sell their surplus ROC's, so the supposed financial incentive wasn't there.

Flaw two: The stick is broken

There is no stick if it's cheaper to pay a fine (buy-out option), than to meet the RO by either generating ROC's through

building new renewable energy sources or to buy ROC's on the market.

Having missed the RO by 41.1% in year one of the scheme, what did the government do in year two (2003), to ensure the electricity companies met hit their RO targets?

SIMPLE, OR SO THEY THOUGHT.

(1) They redefined 'renewable'! In 2002, sources eligible for ROC's included: wind, hydro stations of less than 20MW capacity, burning landfill gas and solar. In 2003 they added co-firing – eg, shoveling olive pips in with coal.

(2) They raised the bar on hydro capacity. Following fierce lobbying from the companies that bought up the UK's large hydro power stations following deregulation, the Department of Trade and Industry allowed the output from hydro stations with capacities greater than 20MW to qualify for the RO, provided the electricity companies refurbished them. It wasn't until year two, however, that the companies began to complete this work.

(3) Thirdly (and allegedly) some of the hydro power stations who's capacities exceeded 20MW were allowed to split themselves in two! For example, an old 35MW station, now qualifies as one 15MW station and one 20MW plant. (We would like to emphasise the word allegedly here as this is from an unquotable source. If anyone can prove or disprove this please do get in touch)

AND THE RESULT?

Amazingly, even when the goalposts have been moved, in 2003 the power companies only provided enough ROCs to meet 55.8 per cent of their obligation. A miss of 44.2%. This is even more extraordinary when you compare year on year figures. In year one of the RO, the UK produced 223 MW of renewable electricity that qualified for ROCs. Of this, 140MW came from newly built sources. In year two, the amount of energy qualifying for ROCs shot up to 765.3MW. Of this only 270MW was from new build. Much of the rest was the refurbished hydro. Clearly the system isn't working. So it's

been stopped? No. And worse than that, organizations that should know better are perpetuating the RO myth.

FINALLY... 'ROC' RETIREMENT

In 2003 Friends of the Earth (FoE) and power company Good Energy launched the idea of 'ROC retirement'. The thinking being that if you reduce the number of ROC's available to buy in the market, and demand for them remains constant / rises, then the cost of buying ROC's will exceed the cost of generating ROCs. This would then lead to more renewable capacity being built.

A sound theory, unless of course:









- 1** The number of ROCs on the market seems to bear no reflection to their price;
- 2** There appears to be no demand for ROC's whilst it remains cheaper to pay the fine for missing the RO than trying to hit it with sufficient ROC's.

Having said this, why would a company retire ROCs if they can sell them for money? For a company committed to building new renewable sources, it would be shooting themselves in the foot to cut off such an essential revenue stream. On the other hand, for a company interested only in maximising return to shareholders, such seeming altruism won't go down well. ROC retirement has got a lot of coverage, most notably via a league table of green electricity suppliers on the FoE website. FoE made ROC retirement a requisite for being listed as a 'recommended' green energy company. (When I spoke to FOE, however, it was keen to distance itself from the table, and said it intended to remove it from the site. A month later, the table was still there.)

Last year the Advertising Standards Authority (ASA) criticised an advert by RSPB Energy (see the main article) for claiming that ROC retirement led directly to the creation of more renewable energy sources. The ASA adjudged that it 'had seen no evidence to prove the assumption on which the claim rested'.

WHICH COMPANY DID THE MOST TO COMBAT CLIMATE CHANGE LAST YEAR?

How much did the various companies offering consumers a 'green option' spend on the construction of new renewable energy generation (per customer) in 2004?

RANK	SUPPLIER	£	CUSTOMER	C
01	 Ecotricity	901.64		
02	 Powergen	8.33		
03	 Npower	7.20		
04	 ScottishPower	4.46		
05	 EDF	0	gy Ener	
06	 Good Energy	0	gy Ener	
07	 Green Energy UK	0	gy Ener U	
08	 Scottish & Southern Energy	0		

Furthermore, npower is owned by RWE, which aside from being the second biggest energy firm in Germany is also the biggest water utilities company in the world and the owner of Thames Water, which came top of the Environment Agency's list of most polluting companies in the UK last year. Personally, I want my money going to a company completely committed to building renewable energy, not one which is just a small, clean part of a much larger, dirtier whole.

On that basis alone, I would also discount London Electricity and SWEB, as they are both owned by EDF: the French state-owned utility, which generates 88 per cent of its energy from nuclear power. In 2002 the European Commission ordered EDF to return €900m derived from tax breaks which the firm had used to finance foreign acquisitions. EDF invested nothing in renewable power in the UK in 2004.

What is more disturbing is who the other companies that haven't invested in renewables claim to be. Scottish and Southern Energy (SSE) runs two tariffs: RSPB Energy and power2. SSE calls RSPB Energy the 'UK's greenest energy company'; each time a new customer joins the tariff, SSE donates money to the RSPB (which also, conveniently enough,

audits the scheme). Yet SSE, according to Dale Vince at ecotricity, did not spend a penny on building new renewable electricity supply in 2004. Power2 is even worse, as it makes the ridiculous assertion that its customers can 'decrease greenhouse gases just by ironing' – irresponsibly implying that consuming more electricity is something positive.

Almost all of SSE's 'green electricity' comes from old hydro stations that the firm bought after deregulation. When I challenged the company's spokesman about this he replied: 'We know some environmentalists have a problem with dams. But as far as we see it, it's power from water running down hills. The water would still run down the hills even if there wasn't a dam there. We think it's the greenest form of electricity there is.' However green he might think SSE's dams are, the fact remains that they were there before

deregulation and should not be used to give the impression that SSE is actually doing anything to decrease our reliance on fossil and nuclear fuels.

Most disturbingly, both Good Energy and Green Energy claim to offer only '100 per cent renewably powered' energy (at a premium), yet neither has built any new renewable power generators. Green Energy has only been in existence three years, and says that it intends to start investing in renewable infrastructure in a couple more – once it has built up some capital. It may still come good.

Just today I received a letter (on 100 per cent recycled paper) from Good Energy saying 'thank you for choosing [us] to supply you with 100 per cent renewable electricity'. Renewable maybe. But certainly not new. In the eight years since it started trading, says *WhichGreen*, Good Energy has not spent a penny of my or anyone else's money on building new renewable electricity generators. Every kilowatt of power it has supplied has been bought up from already existing renewable power sources.

Which leaves me with ecotricity. Next year the company plans to more than double its spend on building new renewables to £15m. And before people comment that the UK cannot

'Green energy' supplier Power2 makes the ridiculous assertion that its customers can 'decrease greenhouse gases just by ironing', irresponsibly implying that consuming more electricity is something positive

be powered on wind alone, the company also derives some of its electricity from solar power and has plans to get involved in wave power. By 2008 it plans to be investing at least £40m in new renewable infrastructure each year. By 2010 it aims to be generating 500 megawatts from new green sources, and hopes to have recruited a million customers.

Or rather 999,998, as, having finished my research into the green electricity market, I made two calls. One to ecotricity, telling them I wanted to sign up. And one to my friend, telling him to do the same.

The ultimate price of oil addiction.



Gas guzzling is a dangerous addiction, and Ford Motor Company doesn't know when to say when.

The facts don't lie. Ford is on an oil binge. According to the EPA, Ford cars and trucks have ranked the worst in overall fuel efficiency of all major automakers for 20 out of the last 30 years including every year since 2000. Ford's fleet today gets fewer miles per gallon on average than the Model-T did 80 years ago.

Americans are paying the ultimate price for oil addiction.

The United States consumes more oil and emits more greenhouse gases than any other nation on Earth, and the auto industry is the single largest cause of our oil addiction. More than 50 percent of our

oil comes from conflict regions like the Middle East, and here at home, more than 100 million Americans live in cities that exceed federal health guidelines for air quality.

Declare independence from oil and demand zero emissions cars today at JumpStartFord.com.

Jumpstart Ford is an international grassroots campaign to compel America's flagship automaker to chart a new course to a zero emissions future. Join the movement calling on Ford to improve its fleet-wide fuel efficiency to 50 mpg by 2010 and eliminate tailpipe emissions by 2020.



JumpStartFord.com

BOOKS

Super Kids: 250 incredible ways for kids to save the planet!

Sasha Norris and Rupert Davies
Think Publishing, 2005, £5.99

Children are more likely to be closer to and fascinated by nature than their parents, yet inspiring them to act in ways that protect the planet is difficult when so much of the relevant literature is targeted at adults. *Super Kids* goes a long way towards filling that gap, with more than 200 entertaining and practical ways for children to get involved in making the world a more sustainable place – from composting to sharing toys. Norris and Davies's lively book is a must for anyone whose children are eager to 'do their bit'.

Reviewed by Rufus Weston

Ripped and Torn: Levi's, Latin America and the blue jean dream

Amaranta Wright
Ebury Press, 2004, £10.99

Hired by jeans manufacturer Levi's to travel to South America and learn first-hand how the company could better sell its products to the continent's teenagers, Amaranta Wright found her journey fast changing from one of promotion to one of discovery. In many ways this

is a personal companion to Naomi Klein's *No Logo*: more personal and less polemical, it is the tale of a young person's effort to understand the issues that define and divide the world in which we live. In her own words, Wright goes in search of 'freedom from an ideology that converts every aspect of humanity into an opportunity to acquire, to exploit'.

Reviewed by Sarah McCarthy

Consuming Cultures: globalization and local lives

Jeremy Seabrook
New Internationalist Publications, 2004, £14.99

Globalisation destroys more than just rainforests, atmospheres, farmlands and economies: it destroys cultures, too. And in doing so it destroys history – the unwritten social glue holding societies together, distinguishing them from one another, and giving the world as much of its richness as a biodiverse rainforest or coral reef. In this elegantly written and deeply personal book, Seabrook compares changes in his own family over the past three generations, with ones he has witnessed in his many travels around the world. A moving read for anyone who thinks that life is about more than material accumulation.

Reviewed by Sarah McCarthy

Ecological debt: the health of the planet and the wealth of nations

Andrew Simms
Pluto Press, 2005, £12.99

If I borrow from the bank, the building society or even from a friend, one day I'm going to have to pay them back. But when we 'borrow' from the

earth, using her resources of air, water, soils and minerals in our own lives, the notion of repayment becomes a little more... abstract. Yet, as climate changes is increasingly showing, payback time is coming, with interest. Simms' timely book makes it impossible for those of us in the West to deny that we are taking more than our fair share (if everyone in the world lived like we do in the UK, it would take five planets' worth of resources to supply our needs), and lays out some practical suggestions for what we can do. An essential book for anyone concerned about their place in the world.

Reviewed by Jeremy Smith

The Collapse of Globalism: and the reinvention of the world

John Ralston Saul
Atlantic, 2005, £16.99

Globalisation, contends Saul in this elegantly written and deeply important book, is dead. Its believers' great hopes – that nation states would be replaced by global markets, that international trade would bring democracy and peace to us all – have been shown to be hollow. Called a prophet by *Time* magazine, and one of *Utne's* '100 visionaries of the world', Saul has provided a vital analysis of why globalisation was never inevitable and always destined to fail, and of what will come in its place.

Reviewed by Sebastian Boshier





CD/DVD OF THE MONTH

Reverend Billy and the Church of Stop Shopping (DVD and CD)

Tomato, 2005

Reviewed by Jeremy Smith

'What can we do with our mundane selves?' Rev Billy asks early on in the DVD that accompanies the CD of some of his and the Church of Stop Shopping's finest moments. Well, for starters we can stop attempting to analyse the merits of these two discs. You do not review this. You bear witness. You let it into your soul. You listen, and you watch. And in the end you thank the Lord for the good reverend. The world needs people who will climb onto the counter of Starbucks clad in white suit and dog collar, and, with a giant white megaphone, beseech all who care to listen (and all who don't) to worship 'the god that is not a product'. It is not for us to judge, but to celebrate.

Jack Kerouac wrote, 'I pictured myself... strange and ragged and like the Prophet who has walked across the land to bring the dark Word, and the only Word I had was "Wow!"' Reverend Billy is just such a figure. A prophet of non-profit. Watching this DVD, listening to these songs, fills me with joy, with hope, with gratitude – that there are people who not only say no, but who climb onto the counter and shout it through the megaphone, even as the police try to wrestle them down.

If you have ever wondered why we devote our back page every month to this man, I implore you to watch and listen to these discs and, I hope, learn. Only through seeing him in the moment, seeing the space change around him, will you understand that this is so much more powerful than just some surreal prank.

What sort of world is it, he asks, where we are told to believe that 'bombing is security', that 'racism is crime fighting', that 'sweatshops are efficiency'? 'When things are this absurd,' he says, 'we forget what evil is.' We may nod in agreement, but we still sip

their coffee, vote for their leaders, buy their products, fight their wars. It takes a figure such as Billy to jolt us out of this absurd complacency, out of our obscene complicity... out of our 'mundane selves'.

But let's leave the final word to the reverend himself and his **'Beyond Song':**

And I don't know what it is,
But a lotta money buys a lot less.
Here's a million bucks for a breath of fresh air,
Okay, take a number, the line's over there.

And I don't know what it is,
But laugh till you cry isn't what it was.
Hilarious how very rich the comedian is,
He lost all his jokes in the laugh-track biz.

And I don't know what it is,
But here's your gun and here's my son.
So someone far away gets our democracy,
Smart bomb the people who want to be free.

When did we start to believe beyond you?
When did the product die on the shelf?
I think you lost us when you said,
There is nothing to love but fear itself.
There is nothing to love but fear itself.

You said Life on Earth is a network of terror,
And shopping keeps the demons in the zoo.
Well it's not that we're young or black or we're labour,
Until you change we're the Devil to you.
Until you change we're the Devil to you.
I believe in making more than money
And we all know what it is...

■ To find out 'what it is', go to *The Ecologist's* new website www.theecologist.org, where you can download the whole of the 'Beyond Song'

WEBSITES OF THE MONTH

Apologies to all ardent Luddites who see the internet as the devil's matrix, but for those of you lost in cyberspace here are this month's *Ecologist*-friendly sites.

www.Freecycle.org

The Freecycle network is made up of groups from across the globe. It's a grass-roots movement of people who are giving away (and getting) all manner stuff for free. Started in May 2003 to promote waste reduction in the Arizona city of Tucson and to help save the local desert from being taken over by landfill, it has grown so that it now has more than 1 million members worldwide (there are more than 90 groups in the UK). The way it works is simple. When you want to find a new home for something – whether it's a chair, a fax machine, piano or old door – you simply send an email offering the item in question to members of your local Freecycle group. You need never throw anything away again.



www.Equop.co.uk

Equop is an ethical and design-led fair-trade organic clothing company which goes beyond just selling its own gear: it is also seeks to promote other responsibly-minded individuals and groups, and provides them (and everyone else) with a vital resource about responsible trade. If you like one of the designs featured on the equop website, then vote for it. When enough people do so to make a

limited print run of the design environmentally viable, you get the chance of owning one of the items produced. And the website is about much more than just clothing: independent free-thinking, music, journalism, art, etc, are all promoted too.

www.storewars.org

From the geniuses who brought you *The Matrix* www.thematrix.com comes *Grocery Store Wars* just in time to coincide with the final episode of the *Star Wars* movie series. As low-budget as its near namesake is high, and with potatoes, broccoli and other items of fresh produce in the roles once made famous by Mark Hamill et al (and very little difference in acting ability), *Store Wars* is proof positive that the force of humour is strong in the environmental rebellion.

EVENTS



11 June

World Naked Bike Ride

The second World Naked Bike Ride takes place on Saturday 11 June. More than 54 cities across the world will experience the sheer joy of this global naked protest against oil dependency

and car culture. In the UK cyclists will participate in rides planned for London, Brighton, Edinburgh, Manchester, and Yorkshire.

www.worldnakedbikeride.org/uk

5-19 June

London Sustainability Week

Watch displays by local beekeepers. Learn how to promote butterflies in your garden. Join a composting network. Talk to the experts about setting up a food co-op. With more than 300 events taking place across the capital, the London Sustainability Week is one giant celebration of community action.

www.londonsustainabilityweeks.org



PATENT MADNESS

Another wonderful invention that proves how lost we would be without technological progress and scientific endeavour...

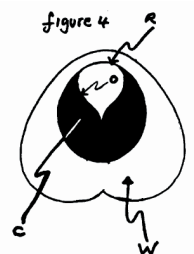
THE CONTOURED ULTERIOR POUCH (CUP)

Patent number: GB2301524

Publication date: 12 November 1996

Inventor: Edouar Deberger

Description: The CUP hides and augments a man's scrotum, but has an opening leaving his penis free.



What better summary of the CUP's value than the inventor's own words? 'From time immemorial,' says Edouar Deberger, 'an integral element of the male psyche has been his awareness of the presence or absence of pronounced manly form in his loins. What man not generously blessed by nature, would not wish for the care-free confidence of his more robustly equipped fellows who suffer no modesty when their manly form naturally draws envious glances.'

Your 32-page guide to ethical living

green pages



BOX-SCHEME BABY FOOD

Best for your baby, and local farmers too

BORDEAUX BIO-DYNAMITE

Monty Waldin
on the
miraculous wine
of Château
Falfas

YIPPEE IT'S JUNE...

Elderflower
fritters and
a glass of
nettle beer

RECLAIMED WOOD...

come home to a
200-year-old wooden floor

SAVING FACE
28 days in the life
of your skin

**ESSENTIAL
DIRECTORY**
More than 200
ethical organisations

JUNE FOOD FOR FREE

Celebrate summer
solstice with...
Wild strawberries
in a glass of
champagne...
Ramsons in a
peanut butter
sandwich...
And a nipplewort
salad

BEAUTIFUL BONES HERRINGS FOR TEA

Joanna Blythman

'Don't read it and weep. Read it and change the way you shop'

Hugh Fearnley-Whittingstall

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Postage and packing is free on all
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for delivery. Offer expires
30 September

NEW



Contents

70 June in season

Can you imagine a better way to celebrate the summer solstice than with a glass of elderflower sparking wine accompanied by wild strawberries and a pot of wild rose flower jelly?

72 Seasonal recipes for June

Hugh Fearnley-Whittingstall and River Cottage HQ chef **Gill Meller** wax lyrical about June's abundant food of the month: elderflower. Not only is it free, it can be turned into stomach-soothing sorbets and fritters or thirst-quenching cordial and wine. Gill also feasts on seared venison loin with morels and thyme

76 Herring: the silver darlings

Guilt-free fish-eating is increasingly hard to do. Luckily the herring's number doesn't seem to be up yet, and in the hands of **Mitch Tonks** it can be the star ingredient in a seasonal salad. It's also perfect on toast with anchovy and rosemary, or baked in mustard and caper sauce

78 Bio-Divine

Monty Waldin takes a tour round the biodynamic Château Falfas estate. A magnificent exception to the mass of Bordeaux winemakers who are drenching their vineyards with chemicals and turning out poor imitations of New World styles

80 Saving face

Skin has a life of its own that most of us know nothing about. Getting in touch with its natural rhythms, rather than bullying it with creams and potions, is the most reliable path to a better complexion

82 Box-scheme baby food

Keen for your little one to avoid the over-processed, additive-packed diet of today's obesity-prone youth? Then give your weaning baby healthy eating habits for life by starting them off with nutritious food easily made at home

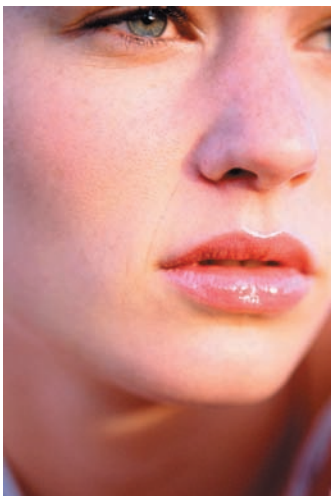
84 Reclaimed Wood

An astonishing 2.5 million tons of timber is ripped out of libraries, churches, hospitals, pubs and homes a year in the UK. Increasingly, however, it's being reclaimed by a small army of salvage firms, and sold to customers eager to buy seasoned old-growth timber

90 Essential directory

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

Getting in touch with
your skin, page 80



JUNE IN SEASON

Nippewort, bog pimpernel, shaggy cap mushrooms... There's so much more to June than just lettuce

SUMMER SOLSTICE – 21 JUNE

The solstice, from the Latin for 'sun stands still', is the longest day of the year, marking the beginning of summer and the time of the year when thousands of pagan Druids and other revellers gather at Stonehenge to re-enact a thousands-year-old celebration of the sun.

From as far back as 3000 BC up until the 11th century, when worship of the sun and stars was banned under King Canute, worshippers came together to witness the summer solstice sunrise at Stonehenge.

In modern times, the celebration has been marked by violence, culminating in the infamous 1985 'Battle of the

Beanfield', when 12 people were hospitalised after police clashed with revellers trying to reach the stones.

Since the re-opening of the site in 2000, after 15 years of its being closed, the celebrations have been festive and peaceful, with thousands dancing and singing around a ring of flaming torches and playing acoustic instruments.

Last year's open-air dance celebrations were presided over by Druid leader 'King Arthur Pendragon', a self-styled 'battle chieftain of the Council of British Druids', who says that summer solstice is 'not a day in church for us, it's a celebration – we don't sit in pews'.



June FRUIT & VEGETABLES

VEGETABLES:

Aubergines
Asparagus
Beans: Broad, French, runner
Broccoli
Carrots
Cauliflower
Courgettes
Cucumbers
Fennel
Perennial herbs: Such as sage, thyme and rosemary; produce leaves all year round
Kohlrabi
Lettuce
Mushrooms
Peas: Shell, mangetout, sugarsnap
Radishes
Shallots
Spinach
Spring onions
Summer squash
Swiss chard
Turnips
Watercress

FRUIT:

Currants
Gooseberries
Raspberries
Strawberries
Tomatoes





JUNE FOOD FOR FREE

Elderflower: Munch straight off the branch on a hot summer's day: tastes as frothy as a glass of cream soda. Or separate from the stalks and make what is indisputably the best sparkling wine besides champagne.

Ramsons: Also known as wild garlic, large colonies of ramsons can often be smelt tens of yards away. They make an excellent substitute for garlic or spring onions in salads. The woodland ecologist Oliver Rackham enjoys them added to peanut butter sandwiches.

Nettles: Gather only the youngest leaves from the top of each plant. Great for soups, purées and haggis.

Sea beet: Treat like spinach, and pick the big fleshy leaves from the base and the thinner pear-shaped ones near the head.

Wild rose flower: Pick just before they shed their petals. Can be used to make delicious wine, brandy, vinegar, jam and jelly.

Wild strawberry: Much like their bigger, less tasty domestic relatives. Hard to find, but if you manage enough for a wineglassful, cover with champagne and celebrate.

FUNGI

Fairy-ring champignon: The fairy-ring champignon's natural tendency to dry out is one of its great virtues, and means that the caps can be easily preserved by threading them on strings and hanging them for a week or two in a dry, well-ventilated room.

Shaggy cap: Pick while the cap is still closed and the gills pale. Cook as soon as possible after picking, before the cap starts to dissolve. Remove the stems and fry the caps quickly in oil or butter. The taste is pleasant and mild, the texture a little like shellfish.

St George's mushroom: Has a strong mealy almost yeasty smell that some may find too rich (unless you catch them young). Goes very well when combined with other strongly favoured ingredients: for instance, in quiches with cheese and spinach or spring greens.

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

WILDFLOWERS TO LOOK OUT FOR IN JUNE:

Fragrant orchid: Pink, sweetly scented flowers with a curved spur and gathered in cylindrical spikes.

A perennial of calcareous grasslands, and chiefly pollinated by moths.

Bog pimpernel: Flowers are five-lobed and pink with darker veins. Found in marshes, fens, wet meadows and other boggy places.

Perforate St John's wort: A hairless perennial of wasteland, open woodlands, scrub and grassland. Widely used in herbal medicine. The stems bleed a red sap when cut.

Yarrow: Small white or pink flowers with an outer ray of verticillate florets. A hairy perennial herb of grassland, hedgebanks, wasteland, roadside verges and gardens. Used as a herbal remedy to ease colds.

Nipplewort: Yellow flowers consisting of a ray of verticillate florets and gathered in loose-branched clusters. Found predominantly in hedgerows, walls and woodland edges.

The young leaves are edible.



St John's Wort

GREEN PAGES IN SEASON



SEASONAL RECIPES FOR JUNE

Abundant food of the month: elderflower. By **Hugh Fearnley-Whittingstall**

The creamy-coloured sprays of highly scented flowers are without doubt the elder's greatest gift to the kitchen. You don't need many, and whatever liquid, syrup or batter you dip them in will be infused with their intense and delightful muscaty taste.

They can be used in many ways, imparting their flavour to sorbets, ice creams, cordials, jellies and jams. The affinity with gooseberries is particularly well known. The transfer of flavour is easily achieved: pick the flowers, if possible, on a dry sunny day, and choose those that are well opened but still fresh: the sprays should be full, not yet losing any flowers. Flowers can simply be dipped into syrups, ice mixtures and the like to infuse for a few minutes, then strained out. For jams, jellies and ices that are not going to be strained, three or four flower heads can be wrapped in muslin or a square of cotton, dipped into the pan of jam, jelly or syrup while it is hot and bubbling, and removed after a few minutes.

In this way, you can experiment with the flavour of elderflowers in many ways. But there are four elderflower recipes worth having down pat: fritters, cordial, wine and, my own favourite, sorbet.

ELDERFLOWER SORBET

Ingredients: 225 grams of caster sugar, 600 millilitres of water, four elderflower sprays, the juice and thinly grated rind of four lemons, one egg white (optional)

How to make: Dissolve the sugar in the water, bring to the boil, and boil hard for seven minutes to get a light syrup. Off the heat, add the elderflower and the lemon juice and rind. Leave to infuse until cool, then strain and pour into an ice cream machine. Or part freeze, remove to whisk, part freeze and whisk again, in the traditional fashion (an egg white can be folded into the half-frozen slush before the final freeze).

ELDERFLOWER FRITTERS

These make a surprisingly pleasing dish for a small dinner party (or a romantic supper for two).

Ingredients: 115 grams of plain flour, a pinch of salt, three tablespoons of olive oil, two teaspoons of rum or kirsch, 150 to 200 millilitres of lukewarm water, two or three elderflower heads, groundnut or frying oil, one egg white, caster sugar or runny honey, wine vinegar

How to make: Mix the flour and salt with the oil and rum or kirsch, and whisk in the water by degrees until you have a batter the consistency of double cream. Cover and leave to stand in a cool place for at least half an hour. Prepare your flower heads by dipping them in cold water and giving them a quick shake, and lay them on a cloth ready for dipping. In a large, high-sided pan (or a dedicated deep-fat fryer) heat at least five centimetres of groundnut or sunflower oil, until a small cube of white bread thrown into it turns golden brown in 30 to 40 seconds. Turn down the heat to maintain a steady temperature. Whisk the egg white until it forms soft peaks, then fold gently into the batter. Dip the flowers in the batter, allowing the excess batter to drip off them, before lowering gently into the hot oil. Fry the flowers in small batches, turning once or twice, until they are puffed up and golden brown. Remove each flower head as soon as it is done, and drain on kitchen paper. Keep in a low oven or on a warm plate until you have enough to serve. Serve with a sprinkling of caster sugar or runny honey, warmed and thinned with a little wine vinegar

ELDERFLOWER CORDIAL

Ingredients: One litre of elderflowers, 350 grams of granulated sugar, lemons, water

How to make: Cover the elderflower with water. Simmer for 30 minutes. Top up the pan if necessary, to keep the liquid covering the flowers. Strain the flowery liquid through muslin or a jelly bag, gently squeezing it to extract all the juice. Measure the amount of juice.

Add the granulated sugar, and the juice of half a lemon to each 500 millilitres of liquid. Heat gently to dissolve the sugar. Bring to a gentle simmer and skim off any scum. Let the cordial cool.

Pour the liquid through a funnel into clean bottles, up to about one centimetre below the top. Seal the bottles with screw tops or a cork. Thus bottled, the cordial will keep for several weeks in the fridge, but if you wish to keep it for much longer you will need to sterilise the bottles to ensure that there are no yeasts or bacteria present which could cause fermentation.

ELDERFLOWER WINE

Unassisted, flower wines lack the body that comes naturally from pulpy fruits and which is necessary for the formation of a good must. Body and must are created by using raisins. Never put your flowers into boiling water: excessive heat will scald the scent-producing parts of the flower and stop their essential oils flavouring the wine.

This recipe suggests quantities of sugar and water for a medium dry wine, which is a good balance for a

highly scented flower wine. If you like something drier or sweeter, add less or more sugar.

How to make: In a sterilised bucket or bowl, make a must by mixing 225 grams of sultanas or raisins, 500 grams of sugar, one litre of boiling water and the juice of two lemons. When it has cooled down to blood temperature and the sugar has dissolved, add some yeast. Cover the bucket or bowl and leave to ferment for a week, stirring at least twice a day with a sterilised bottle.

Put about two litres of elderflowers in a bowl and crush them lightly. Pour over 500 millilitres of warm water and stir well, breaking up the flowers a little more as you do so. Add this flowery mulch to the must in the bucket. Leave to ferment for five more days. Strain off the flowers and dried fruit and pour the liquid into a fermentation jar.

Dissolve the rest of the sugar, usually another 500 grams, in two litres of hot water. Cool to blood temperature and top up the fermentation jar to the shoulders. Add the rest later, when the fermentation has quietened down.

Leave until fermentation has finished, then rack by siphoning off the wine from any gunk in the bottom of the demijohn. Put one end of a plastic tube in the liquid. Put the other end below the fermentation jar and suck to get the liquid flowing. Put the end into another sterile demijohn and fill it up with the liquid.

Put an airlock in the new demijohn, and leave for another couple of months. You may have to rack two or three times to clear the wine. (It is OK to bottle after the first racking as long as you are prepared to sacrifice the odd bottle, which may explode if secondary fermentation occurs.)

Put the wine into sterilised bottles or leave in the demijohn with a safety bung, in case it starts fermenting again. Store in a cool place. Most flower wines are quite drinkable after just a couple of months in the bottle, though they may benefit from a year or two of ageing.

River Cottage HQ chef **Gill Meller's** elderflower recipes

ELDERFLOWER CREAM

Slightly sweetened cream is always great with a tart, fruit compote. For something a little more special this month, try flavouring your cream with elderflowers and serving it with meringues and a gooseberry compote.

Ingredients: 30 grams of caster sugar, 150 millilitres of water, six to eight elderflower sprays (de-bugged), 200 millilitres of organic double cream

How to make: Put the sugar and the water in a pan and gently heat until the sugar has dissolved. Turn up the heat and reduce the mixture by half to form a light syrup. Take off the heat, throw in the elderflowers and allow to infuse for two hours. Pour the syrup through a sieve into a jar (it will keep for a few weeks in the fridge). Whip the cream to soft peaks in a large bowl, then fold in the syrup and refrigerate until needed.

ELDERFLOWER SHORTBREAD

The subtle scent of elderflowers will flavour each sweet and crumbly crunch...

Ingredients: Eight to 10 freshly picked sprays of elderflowers, 90 grams of caster sugar, 125 grams of softened unsalted butter, two egg yolks, 200 grams of plain flour (sifted with a pinch of salt)

How to make: Gently de-bug your elderflowers and cut off the flower sprays from the stems. Put the flower heads in a food processor with the caster sugar and pulse until they are very finely chopped and well dispersed in the sugar: the idea is to flavour the sugar. Cream the now fragrant sugar with the softened butter until light and fluffy (I use a food mixer for this job). Beat in the egg yolks and then add the flour in stages until the mix comes together. For a shorter, better-textured biscuit work the flour in by hand. Wrap the dough in cling film and refrigerate for an hour. Pre-heat the oven to

165 degrees centigrade.

Roll out the dough into a sheet about ½ cm deep. Cut it with a biscuit cutter or upside-down glass about four to five centimetres wide. Place the circles on a buttered and oiled baking tray. Bake for 15 to 20 minutes, until golden brown round the edges.

Allow to cool before serving with an elderflower and gooseberry fool or your favourite ice cream.

■ When they're out of season, replace the elderflowers with either chopped preserved ginger or lavender (a River Cottage favourite).

HUGH'S SEASONAL DRINK OF THE MONTH: NETTLE BEER

This simple and refreshing brew has the great advantage of being ready to drink within a week of being made.

Ingredients: 12 litres of water, one carrier bag of young nettle tops, the juice of one lemon and one orange, one and a half kilograms of sugar, 55 grams of cream of tartar, yeast

How to make: Bring the water to the boil, and pour over the nettles. Mix well, then leave to infuse for at least an hour, until cooled down to blood temperature. Strain into a pan. Add the lemon and orange juice, the sugar and the cream of tartar. Heat gently, stirring, until the sugar has dissolved. Leave the mixture until it is tepid and stir in the yeast (started in a little warm water and sugar). Cover and leave for two to three days. Remove any scum which has risen to the top in fermentation. Decant, or rack as for wine, to get the liquid off the sediment. Put into beer bottles, and leave for just two more days (but up to a month, if you have the patience). Drink cold with a sprig of mint.



SEASONAL MEAT: VENISON

by Gill Meller

SEARED VENISON LOIN WITH MORELS AND THYME

Venison is one of the few wild meats available at this time of year. It is a lean meat and benefits from quick cooking at a high temperature. The loin runs along each side of the animal's back (the saddle).

At the beginning of June you might catch the last of the fresh wild morel mushrooms. If not, dried morels are not too hard to get hold of these days.

Ingredients (serves two): 350 grams of trimmed venison loin, salt and pepper, a little oil for frying, a handful of trimmed, cleaned morel mushrooms, two peeled and finely sliced shallots, half a glass of white wine, 50 millilitres of cream, a good pinch of fresh thyme leaves

How to make: Season the meat generously with salt and pepper. Heat a little oil in a heavy-based frying pan until very hot. Sear the meat for five minutes turning often so as

not to colour it too much. Add the shallots and mushrooms to the pan, and when the shallots have softened slightly (after two or three minutes) remove the venison and set aside on a wooden board to rest. Add the wine to the pan and reduce by half. Then add the cream and the thyme. Boil to reduce to a thick sauce, and then season to taste. Slice the venison and serve on warmed plates with the morels and sauce spooned over.

■ All Hugh's recipes this month are taken from *A Cook on the Wild Side*. A limited reprint of the book is available from www.rivercottage.net



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JUNE SPRING FEASTS

We'll be picking the very best of what's available on the day to create a spontaneous four-course spring feast for you. Don't miss out on this month's seasonal treats. Log onto www.rivercottage.net for dates and booking information.



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HERRING THE SILVER DARLINGS

After decades of overfishing, the North Sea herring is now listed by the Marine Conservation Society as one of the '25 fish species to eat with a clearer conscience'

The herring is the most widely eaten and, according to *The Guinness Book of Records*, most frequently found fish in the world. The Atlantic Ocean is sometimes referred to as 'the herring pond'.

In the UK, the majority of herring are caught in the Scottish waters of the North Sea, although herring can be found in most northern hemisphere oceans year-round. Herring inhabit waters ranging from 20 to 400 metres in depth.

Schools of herring generally travel in a triangle between their spawning, feeding and nursery grounds. There is at least one herring stock spawning in any one month of the year. Each different population has its own spawning time and place. At spawning time, a female herring may deposit between 20,000 and 40,000 eggs, according to her age and size. Just before spawning, the genital organs of sexually mature herring are so large that they make up about one fifth of the total weight of the fish.

Herring are very tender and fragile fish. They have extraordinarily large and delicate gill surfaces, and upon contact they lose their large scales. Herring can live up to 20 years and, on average, measure between 15 and 17 centimetres when caught.

Herring feature prominently in poems and folk songs and have even inspired books, such as *The Silver Darlings* by Scottish novelist Neil Gunn. Nutritionally, the herring's fuel value is equal to that of a beef steak,

and they are packed with omega-three fatty acids, which have long been recognised for their beneficial effects on health and wellbeing. As a Dutch proverb says, if herring is around, the doctor is far away.

MITCH TONKS' HERRING RECIPES

Unless they are big, serve a couple of herring per person. Look for fat, juicy ones with clear eyes, firm flesh and bright gills. And there's no hiding from the small bones in herring. Either fillet them before cooking (or get your fishmonger to do it), or simply accept that a little careful picking through the bones is worth a mouthful of this sweet perfect food.

FRIED HERRING ROE ON TOAST WITH ANCHOVY AND ROSEMARY AND GHERKINS

Ingredients: Half a jar of salted anchovy fillets with their oil, two cloves of garlic, the leaves from two sprigs of rosemary, 450 grams of unsalted, softened butter, 150 grams of soft herring roe, plain flour, butter for frying, two pieces of toast, six small gherkins, finely sliced, a squeeze of lemon juice, one tablespoon chopped fresh parsley

How to make: Put the anchovies, garlic and rosemary leaves into a food processor and blend until smooth, then stir into the softened butter. (This recipe will make a biggish batch of the butter and I always keep some of it in the freezer so I can slice a bit off as and when I need it. I like to melt it and add some chopped tomato flesh, some fresh parsley and a squeeze of lemon before serving.) Lightly coat the roe in flour and fry gently in a little butter for three to four minutes until golden. Spread the toast with the anchovy and rosemary butter or gentlemen's relish and lay the gherkins on top. Add a good squeeze of lemon juice to the herring roe, sprinkle with the parsley, then lay the roe on top of the toast and serve.

CURED HERRING SALAD WITH CAPERS, PICKLED RED ONIONS AND SOUR CREAM

This dish can be presented as a salad, or, if you chop all the ingredients really finely, grill some ciabatta and just pile them up on top with a little lemon juice: they make a fabulous crostini. If you don't like the



idea of a cured herring fillet and don't like the texture of 'raw' fish, then try grilling the herring or mackerel fillet first to give it a nice crispness; then marinate it. You will still get the same flavour, but you will change the texture slightly and might find it more approachable.

Ingredients (serves two)

One very finely sliced red onion, the juice of two limes, four filleted herring, 100 millilitres of white wine vinegar, three tablespoons of sugar, one tablespoon of capers, a small handful of finely chopped gherkins, a handful of finely chopped parsley, a small pot of sour cream, a pinch of paprika

How to make

Finely slice the red onion, cover with lime juice and leave to marinate for about one hour. Lay the herring fillets in a non-metallic dish. Mix together the vinegar, sugar, capers and gherkins, and pour the mixture over the fish. Cover and leave in the fridge to cure for one to two hours. This can be done overnight.

Before serving, toss the finely chopped parsley in with the herring. Lay each fillet on a plate, making sure you have plenty of capers and gherkins spooned over the top. Then dress with a handful of the onions, and finally top with sour cream and a sprinkling of paprika.

FRESH HERRING BAKED WITH A MUSTARD AND CAPER SAUCE

Ingredients (serves two)

Four herring, about 250 grams each, cleaned and scaled and heads cut off, one tablespoon of chopped dill, one finely chopped small onion, one small handful of capers, four finely chopped gherkins, 100 millilitres of white wine, 100 millilitres of water, a small handful of parsley, lemon juice, a desert spoon of English mustard

How to make

Take a square of tin foil (the size of the width of the roll). Overlay it with a sheet of greaseproof paper and put all the herring in the middle. Mix the rest of the ingredients in a jug. Fold up the sides of the tin foil and pour in the liquid. Seal tightly so that none of the juices escape. Then bake in a hot oven for 10 to 12 minutes until the herring is just moist. Serve with a parsley salad and some boiled new potatoes to soak up those wonderful piquant juices.

■ You can get an amazing choice of fresh fish and shellfish at each of Mitch Tonks FishWorks restaurants and fishmongers in Bath, Bristol, Christchurch and London. For more details, or to find out about FishWorks home delivery service and cookery schools, see www.fishworks.co.uk or call 01225 329342

DID YOU KNOW?

- Kippers are smoked herring; sardines are small herring.
- Herring sleep vertically, with the tips of their mouths just breaking the surface of the water.
- Their larvae take around three weeks to hatch, dependent on sea temperature.
- Herring feed off crustacea and juvenile sand eels.
- Herring roe is a delicacy, especially roe from the male, known as milt.

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BIODIVINE

The bidynamic Château Falfas estate is a magnificent exception to the mass of Bordeaux wine-makers drenching their lands with chemicals and turning out poor imitations of New World styles

BY MONTY WALDIN



The Château Falfas estate

Château Falfas in Bordeaux's unfashionable Côtes de Bourg is a model biodynamic estate. Its vibrant, smooth and energetic red wines are made from local grapes like Merlot, Cabernet Sauvignon, Cabernet Franc and Malbec. Owners John and Véronique Cochran bought Falfas and its 17th century chateau in 1988 and immediately converted it to biodynamic practices.

The Falfas vineyards cover more than 20 hectares (45 acres) on rolling hills. These face southwest near the market town of Bourg, and overlook the Gironde estuary on its way to the Atlantic.

The local soils are rich in both clay and limestone. The clay-rich topsoils give a powerful mouth-feel to Falfas's red wines, plus a deep colour; while the limestone subsoils underneath give the wines a beautiful fresh quality.

You can only make wines taste like this if the roots delve deep through the

topsoils and into the subsoils below. At Falfas they find vital minerals that are necessary not only for vine growth, but also to make the wines taste of minerals as well as fruit. Too many modern Bordeaux wines have tried to imitate Australia and Chile's fruit-bomb style of red wine. This is great up to a point, except the Chileans and Aussies can make these wines much better and more cheaply.

Herbicides are almost universally used in Bordeaux to save money on manual ploughing, which is much slower and more costly. However, herbicides cause the topsoil to harden as soil life (bacteria, fungi) is killed, and the soil closes up as all the vegetation is destroyed. When the topsoil is dead and resembles concrete it means that the vine roots must stay close to the surface to get enough oxygen, which they need to breathe.

The reality of shallow-rooting is borne out by the research of former French

government soil microbiologist Claude Bourguignon. This shows that most Bordeaux vines root only to a depth of 0.8 to 1.5 metres. They should root at depths of 20 metres or more.

Vine roots are also discouraged from rooting deeply by the use of water-soluble chemical fertilisers. If you kill the soil with herbicides you must then compensate with a chemical fertiliser as an artificial nutrient. Fertilisers spread as pellets are seen as being an easier short cut by conventional growers than making compost. And because most herbicide-spraying vineyards in Bordeaux use tractors rather than manure-producing horses, there is nothing to compost anyway. So it is a vicious circle. Vine roots should be like hunter-gatherers: keeping fit by searching for their food deep underground, not getting fat like lazy couch potatoes on a diet of liquid fertiliser. The biodynamic compost used

at Falfas does what lifeless chemical fertilisers can't: bring life in the form of worms, beneficial fungi and bacteria to the soil. This makes the soil more friable and raises its oxygen levels.

Also, with such shallow roots, there is another massive potential problem for growers who take the conventional route. Bordeaux's proximity to the Atlantic makes it one of France's wetter regions.

It stands to reason that if the vine roots are shallow they quickly suck up water when it rains. And it often rains in Bordeaux with the first full moon in September, when, traditionally, the grapes are in the final stage of ripening.

Grapes sucking up rain lose colour, flavour and, ultimately, alcohol, prompting emergency action in the winery: artificial enzymes to boost flagging colour; packet yeast for flavour enhancement; and sugar to boost alcohol.

Falfas avoids such drastic action in the winery, by using biodynamic 'horn manure' (a cow manure fermented over winter in soil inside a cow horn). This is applied during autumn and spring on the vineyard soil to help the vines root more deeply. It is sprayed in the afternoon when the sun is going down, passing the roots a message to 'go down' too.

The horn manure produces vines with thick roots. It encourages a symbiotic relationship between roots and fungi called mycorrhiza. This makes it easier for the vines to assimilate the nutrients they need from the soil and also to breathe. So you get thicker, more complex, and deeper plunging root systems.

Bordeaux's climate is fairly humid and cloudy: conditions fungal diseases like mildew and rot find ideal. Most growers spray systemic chemicals to prevent mildew and rot, and tend to pick early as they are so worried about losing the crop to disease. Falfas can pick later. Hence, its wines taste riper: its grapes have thicker skins. Such grapes are also more disease-resistant and give wines of more colour.

Why? In addition to applying horn manure, three or four times a year Falfas sprays its vines with biodynamic horn silica (a finely ground quartz meal kept in the soil inside a cow horn over summer). It does this in the morning, when the sun is rising. This sends a message to the vines to grow up and follow the light. The silica

acts like millions of tiny mirrors in the sky, maximising the heat and light of the sun to encourage riper grapes. This has the effect of scaring off fungal diseases, which hate warm, bright conditions.

At harvest time in September the Falfas grapes are hand-picked and the skins and juice ferment together in cement tanks. These are much better than stainless steel as temperature control is easier, which saves energy heating or cooling the vats in most years.

After a couple of weeks the yeast will have converted the grape sugar to alcohol. Then the red wines are run off from the grape skins. The skins are then pressed to extract a bit more wine. This is done in the traditional way with a wooden basket press and using manual labour to turn it – not a modern pneumatic press that relies on electricity. Falfas's press wine may only comprise less than 10 per cent of the estate's final blend, but it adds a remarkably elegant seasoning, like a sauce would do to a food dish.

The main Falfas red wine is aged mostly in large wooden oval-shaped vats. Such vats are more commonly found in Burgundy (for red wines) or Germany (for white wines) and are highly unusual in Bordeaux. They impart no oaky flavour to the wine, but their large surface area and the porous nature of the wood combine to help the wines soften up a bit before bottling in a process known as oxygenation (not to be confused with oxidation, which turns wines vinegary).

The top *Le Chevalier* bottling from the best vats ages up to 18 months in smaller oak barrels. Most barrels are replaced every three years in Bordeaux. Falfas can keep its barrels slightly longer as very little sulphur dioxide preservative (common in all red wines) is used, as the grapes are so balanced and healthy at picking. Barrel-aged wines, which need a lot of sulphur to stop them spoiling, are harder on the barrel staves as the sulphur destroys the wood.

Falfas also produces a bottling from younger vines called *Les Demoiselles de Falfas*, which is for early drinking. The vineyard has been certified biodynamic to the Demeter Biodynamic standard since 1989, and is a founder member of France's only biodynamic wine group, whose logo is Biodyvin.

RECOMMENDED WINES



Château Falfas, Côtes de Bourg Rouge AC

Consistently ripe, textured, crisp red whose mint and red cherry fruit softens for up to 10 years in the bottle.

Price: £8.90-£11.

Stockists: Adnams, Sole Bay Brewery, Southwold, Suffolk IP18 6JW (01502 727220; wines@adnams.co.uk; www.adnamswines.co.uk); Vintage Roots (0118 976 1999; www.vintagerootsorganics.co.uk).



Château Falfas Le Chevalier, Côtes de Bourg Rouge AC

Bold, ripe red made from Falfas's oldest Merlot and Cabernet Sauvignon vines. Needs opening and decanting a day before you drink it for its rich mix of plum-stone, blackcurrant and cedar flavours to shine. Vegan-suitable.

Price: £17.

Stockists: Great Western Wine Company, the Wine Warehouse, Wells Road, Bath, Avon BA2 3AP (01225 322800; post@greatwesternwine.co.uk; www.greatwesternwine.co.uk).



CHATEAU FALFAS CONTACT DETAILS

Château Falfas, 33710 Bayon, France; tel: +33 05 5764 8041; email: jvcochran@online.fr.

Sales from the chateau by appointment or direct by mail order.

Skin has a life of its own that most of us know nothing about. Getting in touch with its natural rhythms, rather than bullying it with creams and potions, is the most reliable path to a better complexion

BY PAT THOMAS

SAVING FACE

Flip through any woman's magazine or browse in any chemist and you will be confronted with a bewildering array of products that promise great skin all day every day. But perfect unchanging skin is the preserve of celebrities and models who inhabit a world of perpetually good lighting, professional make-up artists and PhotoShop picture manipulation.

In reality, skin is a mirror, reflecting and reacting to what you eat and drink and your exposure to environmental pollutants, allergens, cosmetic irritants and the elements. How well you sleep and the stresses you are under are also relevant to the way your skin looks from day to day. In real people it is in the nature of healthy, normal skin to change on an almost hourly basis. For instance, studies show that:

- production of new skin cells is highest at midnight and lowest at noon;
- oil production in the skin is twice as high at noon than it is at 2am;
- your skin is more likely to absorb what you put onto it at 4pm than at 8am;
- and you're more likely to have an allergic skin reaction in the morning than later in the day.

For women, skin also changes according to where they are in their menstrual cycle. Most observations of this phenomenon have been made in women with a 'normal' 28-day cycle that includes five days of menstrual bleeding. But even if your cycle is longer or shorter, chances are you will experience a similar pattern of skin changes throughout the month.

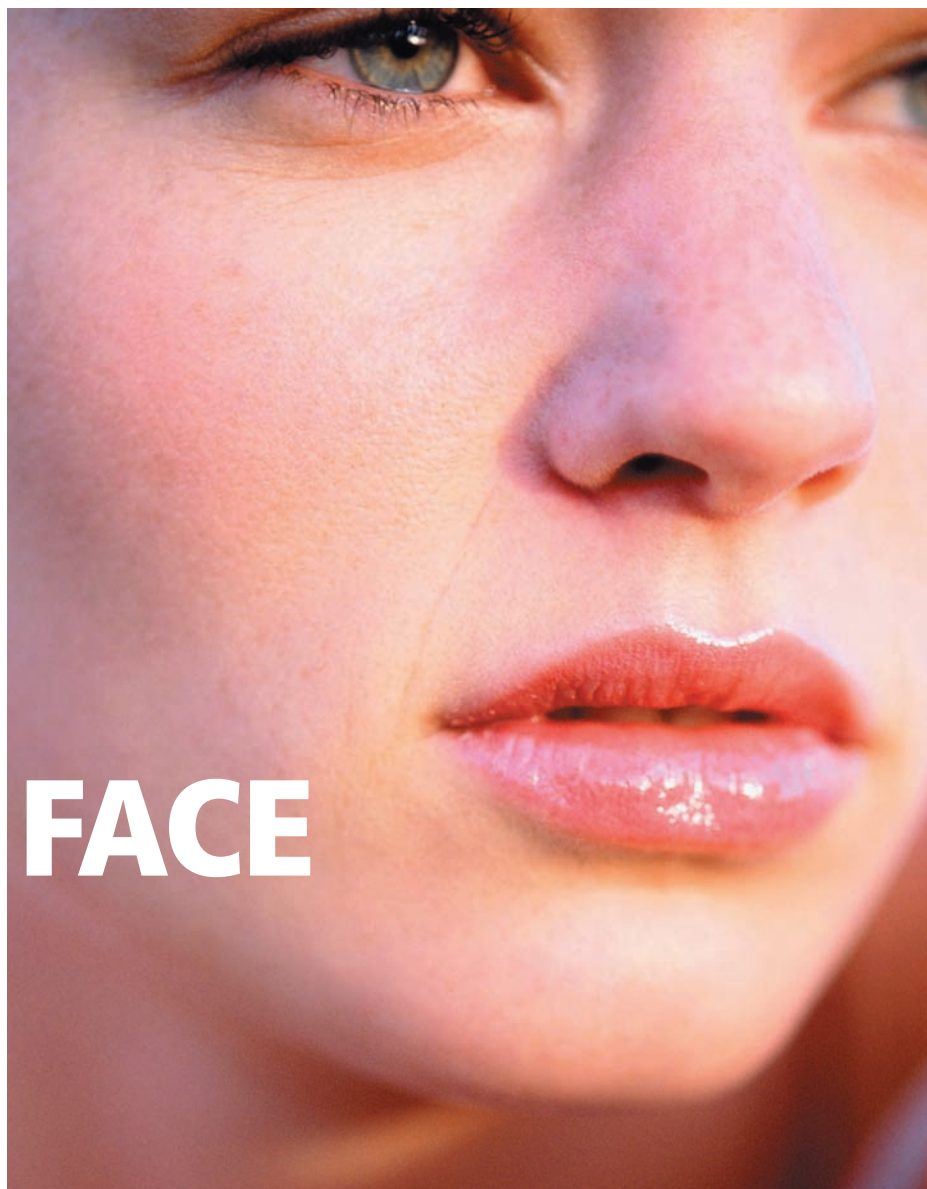
Days one to five: During your period, less blood circulates in the superficial layers of the skin, making you look paler. The temptation now is to slap on more products. Don't. Your skin retains less moisture and the skin barrier is less complete at this time, meaning it is more likely to react to topical irritants like soaps and detergents.

Days six to 13: Skin thickness begins to

increase in response to hormone changes that trigger water retention. Studies in healthy women show that the body is less efficient at clearing toxins during these days, and this may be reflected in your skin. Try drinking more water.

Ovulation: Around day 14 of a 28-day cycle, skin tone will be at its peak. During ovulation, skin micro-circulation begins to improve, which may account for the better colouring. Studies suggest women are perceived by others as being most attractive at this time.

Days 15 to 20: One benefit of increasing water retention in the skin at this stage is that your skin looks more refined and your pores smaller. After ovulation your body temperature rises slightly and stays higher until just before your period.



Hormonal changes mean that nerves in the skin take on more of the burden of controlling body temperature. This means skin colour may change more dramatically in response to external cold (which may make you look paler) or heat (which may increase colour).

Days 21 to 28: Oil secretions increase then drop off dramatically just before your period. Skin disorders like dermatitis can flare up and pimples can be worst around day 22. By day 25, skin is puffier and less elastic due to water retention. Your sleep quality is also reduced. Night-time variations in core body temperature trigger small bursts of brain activity that may briefly but regularly interrupt deep sleep. This carries on through the first few days of menstruation and may be reflected in more pronounced dark circles under the eyes.

Normal skin changes are not problems that need to be fixed, and there's no getting round the fact that if you want great skin there are no short cuts and no miracle products. Acknowledging this means you can stop obsessing over the most minute and transient shifts in skin tone and colour and adopt a more sensible approach to skincare that works from the inside out. Adjusting your lifestyle to include sleeping longer, eating better, drinking more water and exercising more at different times of the month can help mitigate some of the natural changes that take place at skin level. But ultimately, accepting and working with these changes may make the difference between being at war and making peace with the way you look. ■



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BOX-SCHEME BABY FOOD

Keen to have your little one avoid the over-processed, additive-packed diet of today's obesity-prone youth? Then give your weaning baby healthy eating habits for life by starting them off with nutritious food easily made at home **BY MATILDA LEE**

Breastfeeding provides all your baby's nutritional needs for up to the first six months of their life. As a newborn's digestive and immune system are still immature, continuous breastfeeding helps prevent food allergies, eczema, asthma and hay fever. While all babies are different, weaning from milk to solids usually begins between four and six months. As babies grow more rapidly in the first year than at any other time in their lives, they need a diet high in calories and nutrients.

Arguably the best way to provide nutritious meals for weaning babies is to make them yourself at home. According to Annabel Karmel, author of the *Complete Baby and Toddler Meal Planner*, by making your own baby food at home you can be sure that:

- only the best-quality, freshest ingredients are used – with no artificial additives;
- you save money, as home-made purées are much cheaper than buying commercial brands;
- nutrients such as vitamins remain in your baby's food; nutrients are lost in the processing of many pre-prepared baby foods;
- your baby is introduced to a wide range of foods: this is important in establishing a

varied and healthy diet; and

- your baby is introduced to at-home family meals, as you can prepare vegetables for your baby's purée alongside those you are preparing for the rest of the family – just leave out the seasoning.

BEGINNING WEANING: THE BEST FIRST FRESH FOODS FOR YOUR BABY

Fruits: Apple, pear, banana, peach, papaya and avocado

Vegetables: Carrot, pumpkin, swede, parsnip, butternut squash, sweet potato, green beans, cauliflower, peas and broccoli
These foods are easily digestible and are the least likely to create food sensitivity problems.

- Ensure that your fruit and vegetables are local (apart from the banana and papaya), seasonal and, if possible, organic. For convenience, join a weekly box scheme (see listings, page 91) or visit your nearest farmers' market.

HOW TO PREPARE:

- 1) Steam the vegetables or fruits until tender (takes between four and 10 minutes, depending on the ingredient). This retains much more of the vitamins than boiling.
- 2) Purée the fruit or vegetables in a mouli or a food processor. A mouli separates the food from the seeds and tough fibres, which are difficult for babies to digest. A food processor is convenient for larger quantities, but food may also need to be sieved afterwards to remove any seeds and skin.
- 3) Let the food cool and then serve.

Rather than preparing small amounts at a time, you can plan baby menus ahead and prepare enough for a few weeks' in a few hours.

- 1) Prepare as above, then put extra food into small pots or ice-cube trays and place in the freezer. Baby food can be stored for up to eight weeks in a freezer.
- 2) To serve one meal, remove the relevant amount from the freezer and leave to

defrost until heating over the stove. Let cool and serve.

TIPS

- Don't add sugar or salt to your baby's food. Salt is harmful to a baby's immature kidneys and sugar is habit-forming.
- Pressed for time? Foods such as mashed banana or avocado make delicious no-cook baby purées and can be made and eaten instantly.
- New foods can be introduced on consecutive days, unless there is a history of allergy in your family or you are concerned about your baby's reactions to certain foods. In which case it is advisable to introduce each new food separately and then leave three days before introducing another food. One by one, introduce your baby to the fruits and vegetables listed above. Then combine fruit and vegetable purées and gradually introduce other fruits and vegetables.

- Annabel Karmel's book, the *Complete Baby and Toddler Meal Planner* (Ebury Press, £12.99) includes more than 200 quick and healthy make-at-home recipes for weaning babies and toddlers.

READY-MADE ORGANIC ALTERNATIVES

If you don't have the inclination to make your own baby food, or are away from home and looking for a convenient alternative, try these organic, additive- and preservative-free products:

- Organico's Babynat baby-food line www.organico.co.uk
- All Good Stuff www.allgoodstuff.com
- Baby Organix baby-food range www.ecobabybasics.com; www.babyorganix.co.uk
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RECLAIMED WOOD

For aesthetic and ethical reasons, salvaged timber is the best

An astonishing 2.5 million tons of timber is ripped out of libraries, churches, hospitals, pubs and homes a year in the UK. Half of it is simply discarded or burnt. Approximately 10 per cent of it (around 300,000 tonnes) is tropical hardwood, mainly from old-growth forests. With much of this old reclaimed wood of a very high quality, this is a criminal waste of a precious resource.

Increasingly, the likes of Paul Durrant, of east London timber salvage firm Reclaimed, are saving this wood from the scrapheap, sorting and grading it, and then selling it on to homeowners who either want the beautiful aged look of wood from a 200-year-old tree or who have sufficient ethics to avoid a convenient but ultimately destructive trip to their local Homebase. *The Ecologist* dropped in on Paul to find out why reclaiming wood makes so much sense.

WHAT IS THE MAIN DIFFERENCE BETWEEN RECLAIMED AND NEW FLOORING?

TEXTURE AND CONSISTENCY OF THE WOOD

“New wood”, largely from fast-growing plantation forestry, looks and feels like plastic. There’s no substance to it. If you get a reclaimed oak floor, you can tell the difference straight away: the quality of the wood is so much better; the wood feels denser.’

MOISTURE CONTENT

‘Nowadays people are buying a lot of recently cut pine wood which isn’t allowed to dry sufficiently before being sold. When wood is green and wet like freshly cut wood it’s liable to warp as it dries. Old timber seasons over the years, so you know it has done all the moving it’s going to do.’

COLOUR

‘With old reclaimed wood you often get a deep rich orange tone, which, when you sand it and wax it, brings out the colour beautifully. What’s more, many such woods change colours over the years so you get a range of wonderful deep colours depending on where the wood’s been stored or used in a building. New wood colour in comparison is uniformly bland. Stripped, cut to perfect sizes and graded, new wood lacks the history of reclaimed wood. No surprise that everyone’s home looks increasingly similar nowadays.’

BUYING AND SELLING SECOND-HAND WOOD

1 If you’ve got wood to dispose of, contact your local authority. Some authorities separate waste timber and allow people to help themselves. See www.globaltrees.org/proj_wood.asp for more details. To find a recycling centre in your area, visit www.bremap.co.uk/bremap/search.jsp and simply enter your postcode into the search engine.

2 In some areas, there are local initiatives that pick up salvaged wood and sell it on. Visit www.woodrecycling.org.uk if you live in Brighton and Hove, www.lwrp.org.

uk/ if you’re a resident of east London and www.bwrp.org.uk if you live in Bristol. Or try www.letsrecycle.com/materials/wood.

3 Or you could offer unwanted timber that belongs to you direct to someone in your community by signing up to the Freecycle Network www.freecycle.org; see Reviews, page 66 for more details). If there isn’t a Freecycle group in your area why not start one up?

4 Architectural salvage network Salvo! lists many reclaimed wood companies at www.salvo.co.uk/. You can use the site to buy and sell single pieces of wood or even announce a demolition. It’s possible to find a dealer in reclaimed wood near you by doing a postcode search on the site, but the list is not comprehensive. If you want a comprehensive list, call Ruby at Salvo! on 020 8761 2316.

5 There is a downloadable national directory of reclaimed furniture suppliers at www.globaltrees.org/proj.asp?id=4.



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www.borndirect.com	
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ORGANISATIONS

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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
Llangloffan 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
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MILK PRODUCER

Classic Organic – flavoured milk.....	01691 650450
Daylesford Organic.....	01608 731 700
Rachel's Organic Dairy.....	01970 625805
Yeo Valley.....	01278 652 243

YOGHURT

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

FISH

**ORGANICO
0118 951 05118**

See advertisement on the outside back cover.

FLOUR

Dove's farm.....	01488 684880
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**FRUIT & VEGETABLES
(BOX SCHEMES)**



'I can't sign up to a box scheme because I'm never in to receive it.' Have you considered...

- 1 ...arranging a late delivery?
- 2 ...getting it delivered to a neighbour?
- 3 ...having it delivered to your local newsagent/ chip shop, etc?
- 4 ...arranging for the provider to hide it somewhere?

BEDFORDSHIRE

Bedford
David Catlin.....01525 861 452

BERKSHIRE

Reading
Ellis Organics0118 9722826
Organico.....0118 951 0518
Tolhurst Organic Produce.....0118 9843 428

BUCKINGHAMSHIRE

Wendover
Fieldfare Organic and Natural ...0845 601 3240
Buckingham
Right 2 Know01280 822 050

CAMBRIDGESHIRE

Cambridge
Waterland Organics01223 812 912
Royston
Guilden Gate Smallholding01763 243 960
Wisbech
Organic Connections International01945 773 374

CHESHIRE

Chester
Organicfair01244 400 158
Lymm
Cheshire Organics01925 758 575
Malpas
Oakcroft Organic Gardens01948 860 213
Northwich
Stockley Farm Organics01565 777 492
Sale
The O Zone0161 291 8862
Warrington
Northern Harvest0845 602 3309

CORNWALL

Saltash

A & N Health Foods01752 844 926
St Agnes
Tree Of Life Organics01872 552 661
St Austell
Cotna Organics01726 844 827
St Martins-by-Looe
Keveral Farmers.....01503 250 135
Truro
Hendra Farm Organics01872 572 301

CUMBRIA

Brampton
Eva Botanicals.....01697 741 906
Lady Jane's Tea Room07941 731 255
Grange over Sands
Howbarrow Organic Farm01539 536330

DERBYSHIRE

Ashbourne
Meynell Langley Organic Food...01332 824 815
New House Organic Farm01335 342 429
Adams, Nick.....01335 360 996
Chesterfield
The Organic Stores.....01244 881 209
Derby
Organic Pumpkin01332 370 254
Matlock
Beano's Wholefoods.....01629 57130
New Mills
The Organic Shop01663 747 550

DEVON

Barnstaple
Lugg Smallholding01598 710 558
Beaworthy
Earthstar, Little East Lake Farm...01409 221 417
Holsworthy Organics01409 221 417
Bideford
Marshford Organic Produce.....01271 322 855
Bovey Tracey

Yarner01364 661 503
Buckfastleigh
Riverford Organic Vegetables0845 600 2311
Crediton
Linscombe Farm01363 84291
Exeter
Shillingford Organics01392 832 729
RodandBens01392 833 833
Elder, D01392 860 856
Great Cummins Farm01647 61278
Iffracombe
West Hill Farm01271 815 477
Kingsbridge
Alan's Apple.....01548 852 308
Newton Abbot
Dartmoor Direct Co-Operative...01364 631 528
Woodland Organics01803 813 760
Nature's Round.....07810 127 376
Pyworthy
Ceridwen Herbs01409 254 450
Tavistock
Tamar Organics01822 834 887
Tiverton
Ms Kate Palmer01884 861 269

DORSET

Bournemouth
Bourne Organic.....01202 778 516
Blandford Forum
Gold Hill Organic Farm.....01258 861 413
Bridport
Bothen Hill Produce01308 424 271
Dorchester
Longmeadow Organic Vegetables....01300 341 779
Ferndown
Sturts Farm Community01202 870 572
Pulham
Cannings Court Organic Farm...01258 818 035
Wimborne
Long Crichel Organic
Walled Garden01258 830 295

DURHAM

Darlington
Acorn Dairy.....01325 466 999

ESSEX

Brentwood
Legg, RG.....01277 211 883
Halstead
Organic Choice01787 478 471
Ongar
Ashlyns Organic Farm01277 890 788
Fair Organics01277 890188

GLOUCESTERSHIRE

Cheltenham
Slipstream Organics01242 227 273
Dursley
Better For Organics01453 545 090
Lydney
La Bodega01594 844 841
Newnham on Severn
Camphill Village Trust.....01594 516 344
Tetbury
Bowldown Farms Ltd01666 890 224
Thornbury
Thornbury Organic Co-op.....01454 415 345
Wotton Under Edge
Whitfield Farm Organics.....0845 283 0232

GREATER MANCHESTER

Chorlton-cum-Hardy
Chorlton Wholefoods.....0161 881 6399
Mossley
Mossley Organic And Fine Foods01457 837 743
Stockport
Limited Resources0161 477 2040
Whalley Range
Glebelands Market Garden Ltd..0161 718 5328

**HAMPSHIRE AND
ISLE OF WIGHT**

Andover
Naturally Health Foods.....01264 332 375
Clanfield
Naturally Organic023 9236 0196
Heckfield
Park Farm Organics0118 932 6650
Lymington
Warborne Organic Farm.....01590 688 488
Southampton
Sunnyfields Organic023 80871408
Whitchurch
Laverstoke Park Produce01256 890 900
Harroway Organic Gardens.....01256 895 346

HEREFORDSHIRE

Bodenham
Butford Organics.....01568 797195
Hereford
Biosphere Organics01432 820 082
Green Acres Organic Growers...01568 797 045
Abundance Produce.....01981 540 181
Kingstone
Arkstone Mill Produce.....01981 251 135

HERTFORDSHIRE

Potters Bar
Everybody Organic Ltd.01707 651 243
Watford
Farm2door01923 490 526

KENT

Ash
Ivy House Farm01304 812 437
Belvedere
Regent Health.....01322 446 244
Canterbury
Brockman, AG & Co.01227 732 001
Ripple Farm Organics.....01227 730 898
Cobham
Luddlesdown Organic Farms Ltd.01474 813 376
Gravesend
Dabbs Place Organic Farm01474 815 393
Horsham
Simply Wild Food Company08456 586 141
Ightham
Church View Farm.....01732 886 680
Tunbridge Wells
Organic Health Shop, the01892 538 155
Wingham
Wingham Country Market01227 720 567

LANCASHIRE

Nelson
The Wholefood Depot Ltd01282 606 500
Lancaster
Growing With Grace01524 251 723
Ormskirk
Gielty, A&D01695 421 712
Preston
Growing with Nature.....01253 790 046
Flintoff, Libby01995 679 728

LEICESTERSHIRE

Barkby Thorpe
Picks Organic Farm Shop0116 2693 548
Countesthorpe
Bambury Organic Farm0116 247 8907
Loughborough
Manor Farm.....01509 646 413
Lutterworth
Naturally Good Food01455 556 878
Sapcote
Watts, DA01455 272 840
Thurmaston
Corner Plot Vegetables.....0116 2697 920

LINCOLNSHIRE

Barrow on Humber
Wheelbarrow Foods.....01469 530 721
Boston
Woodlands Farm.....01205 722 491
Grantham
Goodacre, JM & A01476 860 228
Spalding
Sadd, BM.....01945 440 388
Spilsby
Eden Farms01790 763 582

LONDON

EC2
The Organic Delivery Company ..020 7739 8181
E5
UK5 Organics.....020 8806 0721
N4
Just Organic.....020 7704 2566
N7
Bumblebee.....020 7607 1936
SE10
Greenwich Organics.....020 8488 6764
SE2
Abel & Cole.....020 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.....
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
Truuly 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
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
Realty 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
Goosemoorgans.....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
Beansies.....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
Armadale 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
Achnaich.....01471 855315
Turriff
Greenness Organics.....01888 544877

WALES

Anglesey
Foreman, Helen.....01407 742293
Bangor
Dimensions Health Store.....01248 351562
Brecon
The Ciliau.....01874 711224
Builth Wells
The Ciliau.....07887 656887
Caerphilly
Source, the.....029 2088 3236
Cardiff
Pulse Wholefoods.....029 2022 5873
Spice of Life.....029 20487146
Green Cuisine.....029 2049 8721
Clunderwen
Flynnon Farm.....01437 532 570
Deeside
Organic Stores.....01244 881 209
Haverford West
Sarra, Mr & T.....01437 762 323
Monmouth
Irma 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 PG01872 540 343
Nuncarrow Organic Farm.....01872 540 343

Tywardreath
Stonebridge Organics01726 813 858

CUMBRIA

Carlisle
Whiteholme Farm01697 748 058

Grange-Over-Sands
Howbarrow Organic Farm01539 536 330

DERBYSHIRE

Ashbourne
Nix Organix.....01335 360 996

DEVON

Exeter
The Organic Farmers Market01392 875 678

Holsworthy
Providence Farm Meats.....01409 254 421

Kingswear
Fountain Violet Farm01803 752 363

Okehampton
Fishleigh Estate.....01837 810 124

Umberleigh
Higher Hacknell Meat01769 560 909

DORSET

Beaminster
Chilthay 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 Puremeat01603 621 930

NORTHUMBERLAND

Hexham
Northumbrian Quality Meats01434 270 184

OXFORDSHIRE

Wantage
Real Farm Foods Ltd.01235 762 461

SOMERSET

Exmoor
Brown Cow Organics01749 890 298

Shepton Mallet
Hindon Organic Farm01643 705 244

Bath
Radford Mill Farm01761 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 Partnership01483 892167

SUSSEX, WEST

Billingshurst
Steepwood Farm.....01403 785 434

WARWICKSHIRE

Rugby
Greening, 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 Organics0159 785 1655

Higher Hacknell Farm.....0176 956 0909

Meatshop0122 857 7329

Natural Good Food.....01455 556878

Save the Bacon.....0160 469 6859

Sheepdrove Organic Farm0148 871 659

Swaddles0845 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

Marlo 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 Earth.....01904 632 896

Siesta.....01227 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

Equop0117 953 9991

FunkyGandhi.com07979 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 Coffins.....01440 788 886

FUNERALS

Arka.....01273 746 011

Celtic Casket.....01283 521 104

The Funeral Company Ltd01908 225 222

Green Endings020 7424 0345

The Natural Death Centre0871 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 Collection.....0870 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 Ltd01233 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 Lt.....01924 468 564

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

Caumie 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
Caumie Soaperie	0141 776 1218
Cioccolatina	01189473178
Comfort and Joy	01367 850278

Creightons Naturally Plc	01903 745611
Dolma	01115 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 Botanics	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

TOOTH PASTE

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

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

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.
lizatom@fish.co.uk
Tel: 01654 702718

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

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

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

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



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

Ecotricity	08000 326 100
Good Energy	0845 456 1640
Green Energy	0845 456 9550

Generation

Dulas Ltd	01654 705 000
Green Dragon Energy.....	01654 761 731
Rainbow Solar Trading	01983 533 129
Sustainable Energy Installations.....	01256 392 704
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 2000	01536 520 101
Lumin8	01233 666 000

Insulation

Construction Resources.....	020 7450 2211
Ecomerchant.....	01795 530 130
SEE AD ON PAGE 85	
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
Klobber Ltd.....	01934 853 224
Polarwall Ltd.....	01392 841 777
Second Nature	01768 486 285
Thermafleece	01768 486 285

HEATING

Ground Source

Dando Geothermal	01903 731 312
Earthwise Scotland Ltd.....	01330 833 915
Eco Heat Pumps	01142 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 Hare	0207 607 4433
Quattro Design, Bristol.....	01179 299 672
Quentin Alder, Bristol.....	01179 683 111

Building consultants

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

Building contractors

Ecorenovations	0161 442 0666
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Carpenters

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

Energy consultant

Encraft	08456 022 874
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Roofing specialist

Rawnsley Woodland Projects	01208 813 490
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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 22	
Hippo the Water Saver	01989 766 667

Filters

Aqua Vitae.....	01404 841 841
Aquasaver Ltd.....	01288 354 425
Capital Water Treatment	020 8649 9503
Earthy 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	
LIIL.....	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 85	

Rawnsley Woodland Products.....	01208 813 490
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Reclaimed Pine Online	01202 789 868
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Reclaimed Timber Specialists.....	020 8558 2811
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Victorian Wood Works.....	020 8534 1000
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Windows and doors

Ecomerchant.....	01795 530 130
SEE AD ON PAGE 85	
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
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 Bank0117 973 9339

FINANCIAL SERVICES

Ethical Investment Co-operative 0845 458 3127
 Gaeia0161 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 started 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 RENT

SICK OF LIVING WITH FOSSIL FUEL FUNDAMENTALISTS? Rent a spacious attic room in the Pennines under my Solar Panels. Brilliant views of stable 60 million year old Tectonic Plates supporting Kinder Gritstone at height of 740 feet approx. **Tel- 01457 872494 with warm water 24/7!**

FLAT OR HOUSE TO RENT WANTED IN LONDON

For the ad manager of the Ecologist. From the end of June 05. If it needs work doing on it – don't be shy! I am more interested in space, sunlight and character than "mod cons"
Call Zayda on 020 7351 3578 daytime

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?

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 Exchange.....020 7731 8316

COINS

- Oxfam.....0870 333 2700
- RNIB.....0845 766 9999

COMPUTERS

- DonatePC.....info@donatepc.org.uk
- Recycle It.....0870 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 Association01706 525 050

MOBILE PHONES

- Fonebak.....01708 683 400

OIL

- Actionsmart01656 648 899
- Oil Recycling Association.....01279 814 035

PAINT

- Community repaint020 8362 0752

PAPER

- British Recovered Paper Association01793 889 600

PLASTIC CUPS

- Remarkable.....020 8741 1234
- Save-a-cup.....01494 510 167

REFRIDGERATORS

- Fridge Recycling.....01925 715 400
- Ozone Friends020 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

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 International01458 274 957
- Project Trust01879 230 444
- Quest Overseas.....020 8673 3313
- Student Partnership Worldwide...020 7222 0138
- Trekforce.....020 7828 2275
- YSO (Volunteering Advice Line)...020 8780 7500
- WWOOF01273 476 286

ORGANIC MARKET GARDEN

in Cheshire offers opportunity to learn. Free accommodation for part-time or full-time, plus some money. Vegetarian and non-smokers only. Free Yoga lessons.

Tel: 01948 860213 after 9.30pm

HELP RESTORE THE CALEDONIAN FOREST

on a Trees for Life volunteer work week in the beautiful Scottish Glens this spring and autumn.

More information from: www.treesforlife.org.uk

Tel: 0845 458 3505



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



AND FINALLY...

IT IS FIVE PAST MIDNIGHT, BUT YOU ARE WELCOME

We interrupt our regular programming for a moral advisory...

My country's war on the natural world parallels its war on that other silent Other, namely people who live far enough away to have their own God, to avoid our products, to traffic about in robes and dark skin. For environmentalists, Shock and Awe also means Drill and Log. The Administration's macho disdain for the Kyoto Protocol flows right to the terror of Abu Ghraib prison.

This was one reason why it hit folks so hard when *The New York Times* and *New Yorker* magazine, our the US's liberal print media - failed to be emphatically against the war. In that time after 9/11 when Bush (and Blair) gassed up their fog-machines for the dazzle of war, peace activists were demoted to the status of nomadic comedians. At a peace march, which might be reported in a little box far back in the paper, an eccentric grandmother from Vermont would get the lead quotes, and the writer would sit back with passive derision.

This culminated in the corporate media's treatment of the huge peace marches around the world on 15 February 2003. Millions of us shouted in unison 'we want peace!' that day. The US president called us a 'control group with which I disagree'. Consumerism meets George Orwell. What was the press thinking, not to find this simply outrageous, and not then to go back and look a little harder for Saddam's radioactive scimitar hidden deep in his dark sand?

Even *The New Yorker*, which Americans depend on to be free of sentimental patriotism, got embedded with Bush. I remember a piece by the writer Larissa Macfarquhar which nonchalantly assassinated Michael Moore. His political beliefs were to her a clever career ploy borne of barely suppressed childhood neuroses. It was an ill-timed attack on a peace worker at precisely the moment when we needed him most, with so few progressive heroes still standing. Through this time it was as if, to journalists in this country, peace was not real.

Peace activism naturally becomes environmentalism, because protecting your children from bombs will also save the life of the earth within that bomb's impact radius. (Nothing is quite as super-toxic as war, and by that I even mean military exercises back home - in the form of fossil-fuel exhaust, terrain destruction, ammo storage.) Now writers in the liberal media, after their gulping *meae culpae*, no longer find dressing up in Bush drag all that wonderful. And sure enough, after war stopped being their favourite news, the earth began to vie for the front page. Specifically (here's big news), global warming seems to have pierced the corporate media bubble.



For the longest time, we pornographicised our own demise, in blockbusters like *Deep Impact* and *The Day After Tomorrow*. Now *The New Yorker's* three-parter 'Five Minutes After Midnight' is bringing radical climatic change into the mainstream, and you can feel the shift.

The writer is Elizabeth Kolbert. She has visited scientists and tribal peoples who are witnesses to the acceleration of warming in the north. Her report on the American-led death wish for the human species may come from deep-ice samples or from a prayer in the wind, but to the reader she is always a poised host. She holds her writer's voice, even if she's speaking up many years after the earth's voice was first heard giving us this message, a sustained howl of heat on the ice and the bleeding of melting water. Nevertheless, her mild astonishment in the piece, as a sophisticate who must consider what apocalypse really is snuck up and broke in me like a revelation.

While it remains true that advertising and its corporatised media still redirect reports away from peace, away from the earth, and toward its billionaire investors, there is no denying that in recent months a coming home of sorts has been underway. The earth has signed up a new group of ghost writers. They are not necessarily naturalists, but they came to this point of worrying and hope by way of our failed peace movement. We remember joining hands in great numbers, carrying language on signs, speaking out in song and rallying cry the words of peace. Somehow, a number of public writers, perhaps at a distance, were swept into an unexpected co-authoring with the earth. Now they pick up the science journals and take an interest in, say, the shifting of the breeding range of sub-Arctic water birds. Then they translate the intelligence, the statement, from those flocks, and they write to us. And in that message the earth also writes to the writer, perhaps saying, 'Welcome, it's very late, but welcome.'

PHOTOGRAPH BY FRED ASKEW

You know climate change is happening ...but what can you do to help?

The biggest difference you can make is to change where your electricity comes from.

But choose carefully.

At ecotricity, we spend more per customer on building new sources of renewable energy than every other green supplier put together.*

We're the only supplier that takes all the money you spend on electricity and invests it in building new sources of green energy. That's why we're the only supplier used and recommended by both WWF and the Soil Association.

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It's easy. We do all the hard work for you. You can switch your home straight away by calling 08000 326 100 or visiting our website at www.ecotricity.com

...and it won't cost a penny more!

We promise to match the price of conventional electricity in each region of the UK.

* In 2004, ecotricity spent over £900 per customer building new sources of green energy. Our nearest competitor spent less than £9.

For more information please see www.whichgreen.com

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

ecotricity

Call us free on 08000 326 100

www.ecotricity.com

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Sustainably-fished tinned white and yellow fin tuna, sardines, mackerel, anchovies and herring. Packed fresh, using only the fillet and kept in cold pressed, untreated organic vegetable oils.

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Winner of 4



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or e-mail: info@organico.co.uk. Direct mail suppliers: Graig Farm 01597 851 655,
Goodness Direct 0871 871 6611 www.organico.co.uk