

ENVIRONMENTAL MAGAZINE OF THE YEAR
MAY 2007
MONSANTO'S TOXIC LEGACY • LATEST IPCC REPORT • THE MAN WHO SAID NOTHING • SOCCER'S COLD WAR • TECHNOLOGY CREEP • SUPERMARKETS GOING GREEN?

ENVIRONMENTAL MAGAZINE OF THE YEAR

ECOLOGIST

SHUT UP

What we can learn from the master of silent protest

SUPERMARKET

Greenwash versus the Green wish-list

GOT PLASTIC?

The recycling hos of Addis Ababa

POVERTY TRAP

The hidden effects of climate change

SILENCED

WHO GAGGED THE MOST IMPORTANT WITNESS TO BRITAIN'S BIGGEST ENVIRONMENTAL CRIME?

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May 2007

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A special and long overdue investigation into the UK's most polluted landfill. **Jon Hughes** tells the frightening and perplexing, but ultimately inspiring, exclusive story of Douglas Gowan the silenced witness to the UK's biggest environmental disaster. **Pat Thomas** reports on the health implications of chemical mixes and asks whatever happened to the Precautionary Principle?

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72 How to be healthy
Healthy teeth and gums begin with a healthy diet

● One in every four households no longer has a table that everyone can eat around.

● Britons put in 36 million hours of free overtime each year, with one in three refusing to take all their holidays, fearing a backlog of work when they return.

● Parents are splashing out more than £100 a month on treats for their children to compensate for a lack of quality time with them.

● Three-quarters of Britain's 11- to 14-year-olds have a television in their bedroom, almost two-thirds a DVD player or video recorder, and a quarter have a computer in their room; 80 per cent have their own mobile phone.

● There is one acre of play space for children for every 80 acres of golf course in the UK. In the past eight years, playing fields have been lost at a rate of one a day.

● As many as 30 per cent of children never play outside without an adult watching over them.

● In 2005, around 359,000 children were prescribed Ritalin and 130,000 children were prescribed SSRI antidepressants.

Image: Getty Images



Happy Families?

Editorial

Whom, or what, do you admire?

'Tell me whom you admire, and I'll tell you who you are,' wrote Sainte-Beuve, a leading literary figure and member of the French Academie in the 19th century. What, we might ask, do his remarks have to say to our world of *Fame Academy* and *Pop Idol*?

Today we admire those for whom success has come quickly. Those with everything the billboards tell us we need. Those we know only through their flashy displays of limited talent. What little we snatch of them as people is the inappropriately public failings of their impossible-to-keep-private lives.

This might seem to have little to do with saving the environment – though it can't be long before we're pressing the red button to vote someone off *I'm a Celebrity Activist... get us all out of here*. Hardly a day goes by without someone using their international concert tour to tell us how to do our bit for Africa/recycling/climate change.

In truth, though, it's not about who's saying it. That's why all the attacks on Prince Charles' and Al Gore's lifestyles are misplaced. So what if those who aspire to a better world don't always attain the reach of their words? Do you? Do I? Does anyone? Are only the saintly allowed to suggest that the world needs new – higher – standards? Are only those goals that seem immediately achievable the ones that should be given consideration? Surely the important thing is to keep trying.

Take our cover story. It's shocking, and it matters. But substitute 'Shell' or 'Tesco' for 'Monsanto' and it could be argued that it's a tale told many times before. And most of us have stopped listening – if indeed we ever did.

What lifts the horrific story of Brofiscin Quarry to an inspiring modern epic is the bravery of its hero, Douglas Gowan, who continued to speak out about the injustice that he saw – even if it meant

exposing himself to threats and personal danger – when he should have been enjoying a peaceful retirement.

One man can make a difference. But only if he is prepared to stand up and be counted, and if he is brave enough to say the things that none of us want to hear, and face the facts that none of us want to face. And to see the value of doing these things until somebody, somewhere – in this case the *Ecologist* – takes notice.

How we choose to use words, or not, has a powerful effect on how we direct change. Perhaps that is why the story that resonated with me most in this issue is on page 28, about a man who in 1973 was so appalled by what he saw that he took a vow of silence and refused to travel by motorised transport – for 17 years. He changed himself, and in doing so changed others; a living example of Gandhi's maxim that if you want to see change, be it.

So as we welcome one more spring (a little earlier again), it's time to turn the clock unseasonally back, to a woman born 100 years ago this month. Rachel Carson launched the modern environmental movement with her book *Silent Spring*. Unable to refute her arguments against the damage wreaked by their chemicals, Monsanto and other multinationals resorted to attacking her sexuality.

But by focusing always on her struggles, we miss what is more important – her understanding of what we can gain from loving and knowing the natural world. In the 50 years since she wrote: 'The more clearly we can focus our attention on the wonders and realities of the universe around us, the less taste we shall have for destruction', her message has become no less urgent, or powerful.

Perhaps it's time to ask ourselves not whom we should admire, but what.

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Letters



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Email: letters@theecologist.org.
The Ecologist reserves the right to edit letters as necessary.

TOO MANY OF US

It was incredibly refreshing to read Jonathon Porritt's article about the problems caused by population. As someone who is studying Ecology at university, I am becoming increasingly aware that people are very rarely frank about the problems we face, and do not talk about them for fear of being politically incorrect. It's incredibly frustrating when you are trying to make a difference and get through to people. Thank God for Jonathon Porritt and the *Ecologist*!

Georgina Key, by email

EXPORT THE AFFLUENCE

Jonathon Porritt has a point when he cites population growth as a potential problem. No sensible person would argue with him about the need for provision of family planning services throughout the world. However, his idea that restricting immigration into the UK could help to solve a population problem is bizarre. It's as if he thinks we don't all live on the same planet and all use the same resources, however unfair the distribution may be.

If he examines the facts he presents, he should be able to draw the conclusion that the countries with stable or declining populations are those of the developed, affluent West. Perhaps he should look at ways to export this affluence, rather than keeping the poor at the gate. Not the affluence of big cars and wide screen TVs, but the affluence of good education, decent health care and, notably, provision for old age. Security in old age would reduce one of the major incentives to have large families, i.e. providing a support mechanism for parents in later life.

Some may say that we can never afford universal provision of basic needs: yet we seem to be able to afford wars at the drop of a hat.

Alan Durant, Hungary

DO IT YOURSELF

Your article on attempts to create the first artificial life-forms (Playing God, April 2007) reminds me of the story of the world's top scientists who succeed in their greatest project ever. The top man among them visits God and says to Him: 'Sorry, Lord, You've

become redundant – we are now able to create human beings, just like You did.' 'Fine,' says God, 'show me how you do it.' The scientist bends down and scoops up some earth. 'Stop,' says God. 'First create your own earth.'

Beata Bishop, by email

A CALL FOR RESPECT

I enjoyed reading Paul Kingsnorth's article about Teddy Goldsmith (March 2007). It's certainly true that Teddy treats people with respect and does everything to communicate well with others and raise their awareness.

I also read the article 'Road Rage', about the diabolical road-building programme in the UK. It's no wonder people are so upset about it! However, I'm not impressed that Jeremy Clarkson of BBC's *Top Gear* is their scapegoat

– euphemistically described as their 'symbolic hate figure'. I've seen Jeremy on BBC World. He unashamedly likes cars and likes driving them. Why should he have a pie thrown in his face, when he was in the process of receiving his honorary degree? Is that British diplomacy these days? And why was the 'event' photographed and exhibited in the *Ecologist*?

Isn't it important to treat everyone with respect and to do everything to communicate well with others and raise their awareness? La Fontaine warned people not to scapegoat, in his fable 'Les Animaux Malades de la Peste' (The Animals Sick of the Plague). Essential reading for us all.

**Chris Caillard,
Eastern Bay of Plenty, New Zealand**

BIODIESEL: DRINK THIS IN

Your article 'Biofuels Facts and Fiction' (March) contains many incorrect details regarding biodiesel, as well as lumping biodiesel together with ethanol.

Biodiesel is a new industry that, with the high price of diesel, is becoming economically viable. When people speak of biofuels it gets lumped in with ethanol, which is unfortunate, because biodiesel is a much better fuel. Biodiesel has a three-to-one energy balance; that is, for every one unit of energy put in, more than three come out. Biodiesel has a cloud point of around 0°C; this temperature is dependent on what the biodiesel is made from. Rapeseeds such as Canola have a much better cloud point. The cold filter plug point (the point at which the engine will not run) is around –8°C. Generally, biodiesel is blended with diesel, not only for the cloud point issue but mostly because original engine manufacturers do not really support it. In Yellowstone National Park [in Wyoming, USA] they use B20 (20 per cent biodiesel, 80 per cent diesel) without problems. The average January temp there is –13°C.

As far as rubber components go, all original engine manufacturers switched to synthetic rubber in 1994. As a side note, Ultra Low Sulphur Diesel (ULSD), which was mandated in all road fuel in October 2006, will also degrade natural rubber as well. I think this is

Ecologist poll

Would you welcome the introduction of personal carbon quotas if it meant that all your personal details were kept on file? See Comment, page 16

82

per cent
of you say you'd
stop using a bank
if you knew it
invested in
carbon-intensive
projects

Daily dilemmas

In each month's issue, we ask a common ethical question that many of us ponder in our day-to-day lives, and people can go to our website and offer their suggestions as to how to answer it. In a subsequent issue we will publish the most practical and engaging selections in the letters pages.

Would you support a rise in the standards of organic certification if it meant that smaller producers were unable to comply?

Go to www.theecologist.org to have your say.

a good thing as it will get old stinky polluting engines off the road, forcing people to upgrade to newer, cleaner engines. Diesel engines are much more efficient and pollute 30 per cent less than a comparable gas engine. My full-size Dodge pickup running on pure biodiesel pollutes less than a Toyota Prius hybrid. For every 525 litres of biodiesel, one tonne of greenhouse gases is reduced. Breathing the fumes from biodiesel significantly reduces carcinogens. Biodiesel is non-toxic – you can drink it; non-hazardous – you can throw lit matches at it; and if there is a spill it is biodegradable – a B20 blend will degrade twice as fast as straight diesel.

As far as ethanol being not the best, I cannot debate that; however, ethanol is a better additive than MTBE.

Many will talk of food versus fuel. In my opinion, farmers are being financially squeezed by the big agriculture corporations, driving many to sell land to developers or to Big Ag. Young farmers are not continuing in their fathers' footsteps. Do you think that Big Ag will operate with the environment in mind? I don't: it operates with profits in mind. This is one reason why our food comes from such great distances, contributing to global warming. I would rather pay more for food than see the land be turned into condos or a housing development.

In my industry, most farmers I speak with have off-farm jobs to support their agricultural lifestyle. How long will they do that for? Biofuels has the potential to reverse that trend. Biofuels is not the solution, but a stepping stone until a new and cleaner transportation energy source comes online.

**Gary Tomlinson
Dormston, Worcs**

Mark Anslow replies:
Biodiesel is indeed a 'better' solution than bio-ethanol, and that is why we were careful to distinguish between the two in each statement we made. However, it is worth observing that biodiesel still requires the use of powerful toxic chemicals, such as methanol, in its production. Methanol is not only made through the cracking of petrochemicals (made from crude oil) but is also highly toxic

and must be handled carefully.

Whilst diesel engines are more efficient in terms of energy produced per unit of fuel burned, they produce more airborne pollutants than petrol engines, including particulates, which have been linked to lung disease. There is little information available on the toxicity of biodiesel exhaust, but figures that we have seen indicate that it still contains significant amounts of nitrous oxides, which contribute to localised urban air pollution. It is easy to forget that biodiesel blends – which do indeed reduce the gelling point of the fuel – negate many of the benefits of biodiesel through the continued presence of the mineral diesel and its associated pollutants. Remember also that a litre of pure biodiesel contains less energy – and burns less efficiently – than a litre of mineral diesel, requiring more fuel to go the same distance.

In addition, producing biodiesel on the scales dictated by the EU Biofuels Directive requires growing hundreds of thousands of acres of intensively fertilised crops, such as oilseed rape, or rainforest-ravaging plantations, such as oil palms. When the devastation caused by these farming methods is taken into account – which it rarely is by those who deal simply with the refinery end of the supply chain – the fuel appears much less sustainable.

Your arguments over agricultural economics seem self-contradictory. On the

one hand, you seem to argue that food should be grown and sourced closer to where it is required – a position that the Ecologist has long supported. On the other, however, you promote biofuel crops as a way for farmers in the industrialised world to stay in business. One nation's economic policy can't easily promote both, hence the 'food vs fuel' debate. A farmer's choice of crop will be dictated by economics in the same way here as it will in the less industrialised world. If we allow subsidies on biofuel crops to continue, the USA and the UK will end up as fuel plantations, with any semblance of food security well and truly gone.

DRIVING REALITY CHECK

In Harriet Williams' article 'Biofuel – How green is my tank?' (March), the mpg figures quoted for the Toyota Prius are incorrect and significantly overstated.

The combined rural/urban figure quoted by Toyota is 65.7mpg and, as a Prius driver myself, I would strongly question even this claim, as my experience indicates that even with very careful driving, a more realistic figure is between 55 and 59mpg. The maximum mph on electricity is also 28mph and not the 42mph as stated in the article.

Stephen Tonry, by email

ERRATA

In the article 'Forests or Fuel?' (March 2007) the figures for carbon dioxide emissions from cut and burned down forests were mistakenly written as total carbon. Our apologies to Prof Righelato for this typographical error.

In 'Road Rage' (March) we mistakenly indicated that both the Mottram-Tintwistle bypass and the High and Low Newton bypass had been prevented by local opposition. This is not the case. The Newton bypass is halfway through being built and the fate of the Mottram-Tintwistle is still (at time of writing) hanging in the balance.



Some of the three billion disposable nappies that are destined for landfill in the UK every year

PACKAGING

MAKING THE POLLUTERS PAY

DISPOSABLE NAPPY MANUFACTURERS TARGETED

Where others have tried and failed, a prodigious push by babies and their time-poor parents has opened up a new front in the battle on waste. Faced with a growing mountain of disposable nappies, councils across the country have said enough is enough.

Three billion disposable nappies are thrown away every year, with 90 per cent ending up in landfill sites. Some local councils estimate that they are paying close to £1 million annually to deal with this tide of waste.

Now, the Local Government Association – the representative body of local government – has called for manufacturers to pay towards cleaning up the UK's growing 'nappy mountain'.

'It is high time that nappy manufacturers were made to take full responsibility for the life cycle of their products,' said Paul Bettison, Chairman of the LGA Environment Board. 'It's totally unacceptable that the council tax payer is picking up the bill for landfilling disposable nappies.'

He added: 'Councils are on the frontline in the fight against climate change and working hard to reduce the amount of waste sent to landfill but ultimately we must make sure less waste is produced in the first place. Reusable nappies are the only way to prevent the nappy mountain landfill problem.'

To find out more about real nappies visit, www.wen.org.uk

CLIMATE DENIAL 'SWINDLE' DEBATE

In response to Channel 4's documentary, *The Great Global Warming Swindle* the Ecologist contacted three leading climate scientists and invited them to respond to the allegations made in the film. Dr. Richard Betts, from the MET Office's Hadley Centre, Stephan Harrison, an Associate Professor at Exeter University and Richard Washington, from Keble College, Oxford, explain why selective editing and bad science made for compulsive viewing.

These can be seen at, www.theecologist.org.

MARKETING BAGS OF TROUBLE

Anya Hindmarch's new limited edition 'environmental' shopping bag – emblazoned with the words, 'I'm not a plastic bag' – sold out within hours of going on sale in early April, after being

seen on the arms of Kiera Knightley and Lily Allen.

But while it may not be a plastic bag, it is far from environmentally friendly. It has emerged that Hindmarch's 30,000 bags are made from non-organic, pesticide-grown cotton. This has angered organic producers from India, who have planned a protest for when the bags become available in Sainsbury's stores on 25th April.

Speaking on behalf of the protestors, Ken Gibson, author of *Hemp for Victory*, said that using non-organically grown cotton to make these bags 'keeps eroding India and it's use is destroying the planet.'

10 per cent of all pesticides produced in the world are used on cotton plantations.



WOOD FUEL FOREST FIRES

Britain could save the equivalent of 3.6 million barrels of oil each year by burning more wood, a new report by the Forestry Commission claims.

Managing woodlands more effectively could yield an extra two million tonnes of wood annually, which, when burnt in efficient boilers, would avoid some 400,000 tonnes of carbon emissions.

Woodfuel lends itself to what the report describes as 'local heat generation' – burning wood chippings or pellets to generate heat in communities close to where it is harvested.

PESTICIDES FERTILITY FEAR

A new study from Brunel University reveals that the cocktail of chemicals entering UK water is affecting not only the reproductive processes of fish, as

GREENWASH?

BARKING UP THE WRONG TREE

High street bank HSBC has pledged to plant one tree for every 20 customers who choose to receive their bank statements online.

The bank has set up an online 'virtual forest', where customers can dedicate and 'inscribe' a virtual tree with their message, and see trees belonging to other customers. For every 20 virtual trees planted, the bank will pay for one real tree to be planted.

HSBC has invested heavily in palm oil plantations, dams, mines and other carbon intensive projects.

previously thought, but also man.

The research followed the effects of oestrogenic chemicals in fathead minnows, finding that the negative effects on fertility, reproduction, and the infamous 'gender-bending' of many fish, are also possible in humans who drink this polluted water.

Study author Dr Jayne Brian said we should be very concerned as 'the existing EU legislation is based on the regulation of individual chemicals. This is not an accurate representation of real life. In reality, there is a cocktail of chemicals in our fresh water. We need to consider tougher safety margins to fully protect wildlife and humans.'

See *PCBs and the Precautionary Principle*, p43.

PEOPLE McIMAGE WORRIES

Fast-food giant McDonalds has launched a campaign to get British dictionary editors to change their definition of the 'McJob' – the Eighties phrase used to describe employment in the chain's outlets.

According to the OED, a McJob is 'an unstimulating, low-paid job with few prospects, esp. one created by the expansion of the

service sector'.

'We believe that it is out of date, out of touch with reality,' wrote David Fairhurst, McDonald's Chief People Officer in Northern Europe, in a letter seen by the *Financial Times*. He



continued: 'It's time the dictionary definition of "McJob" changed to reflect a job that is stimulating, rewarding and offers genuine opportunities for career progression and skills that last a lifetime.'

COMPETITON COMMISSION ACT OR DIE

If the Competition Commission fails to act to curb the power of Tesco, 'people will be justified in questioning exactly what the Commission is for,' says Andrew Simms, Director of the New Economics Foundation (NEF).

In a submission to the Competition Commission inquiry over the market share and tactics of the 'big four' supermarkets, the New Economics Foundation accuse the Commission of taking an 'over-simplistic view of

consumer interest', dealing with shoppers as if price were the only factor to be considered.

NEF also point a finger at the Commission for failing to interview either customers or suppliers, choosing to focus instead purely on the supermarkets themselves. 'The regulators are not counting the extra value that genuine local shops provide in terms of economic benefit and the social glue that holds communities together. This creates an in-built bias in favour of the large supermarkets who distort markets,' said Andrew Simms.

The report criticises Tesco's plea to the Commission to redefine its definition of a 'local' shop – from a 10 minute drive at present to a 30 minute drive. But it equally blames the Competition Commission for effectively endorsing the continued dominance of the 'big four'. 'The endgame could be Britain turning, in effect, into a one supermarket state,' said Simms.

NEF are calling for an independent 'retail monitor' to be established, which would ensure fair dealings between suppliers and retailers.



TIDE TURNS AGAINST TESCO

Shopkeepers in Finchley, North West London, are celebrating the local authority's decision not to allow a new Tesco Express store – less than a mile from another of its stores.

In what is being hailed as a landmark decision the council rejected the application on the grounds of Planning Policy 6, which was introduced by the government in 2005 with the aim of preserving town centres. Tesco appealed but the council's arguments that the store would 'damage the viability and vitality of the Town Centre' won the day with the planning inspector.

The decision has been hailed as 'a victory for local shopkeepers and shopping parades', representing a vital shift in attitudes within planning departments.

Robin Webster of Friends of the Earth said: 'Independent stores are closing at the rate of 2,000 a year and that is causing concern in communities. At last local authorities are picking up on that.'

In the past Tesco has used its financial muscle to overturn negative decisions but on this occasion they seem to have accepted defeat. A spokesman for Tesco said: 'It is a shame that Finchley won't benefit from our great value range of products and convenient opening hours.'

MARKETING

BREAST IS BEST 'VICTORY'

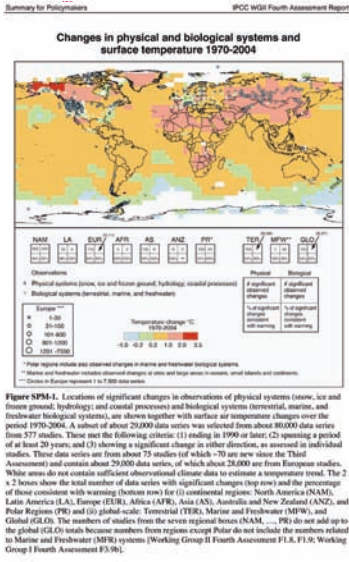
Formula milk manufacturers have been warned to comply with the law and stop making misleading claims about their products, or be prosecuted. In 1997 the makers were banned from claiming their products are 'closer than ever to breastmilk'; or that they offer other benefits, such as 'prebiotics support natural defences', and 'helps brain and eye development'. Following a campaign by Baby Milk Action (BMA) trading standards officers have been instructed to enforce the law.

Patti Runda, Policy Director at BMA, described the victory as 'major', but long overdue. 'In order to make wise decisions about infant feeding parents need accurate and independent information, not commercial promotion. A health or nutrition claim on any breastmilk substitute is inappropriate, highly promotional and misleading. The products inevitably appear better than breastfeeding – which has no expensive promotion campaign behind it,' she said.

For more information, www.babymilkaction.org

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The percentage increase in sales of vegetable seeds to households and corresponding fall in flower seeds, according to the Horticultural Trades Association



A map from the IPCC report on the human consequences of climate change

have distorted data, made unjustified extrapolations and attempted to stifle debate...'. *The Telegraph* allowed Bob Carter, a climate change denier from Australia, nearly 2000 words in which to regurgitate tired old arguments about solar activity and natural ice ages, and dismiss

CLIMATE CHANGE
IPCC
WHY WAS SUSTAINABLE DEVELOPMENT CRITIQUE IGNORED IN FAVOUR OF POLITICAL INTRIGUE?

The first IPCC report released in February caused a sensation. The second report, released in early April, caused what can only be described as a backlash.

The press wheeled out climate change deniers and lavished column inches upon them. Writing in *The Times*, John Short accused the IPCC of 'deliberate exaggerations', and foresaw a world 'held captive by powerful lobby groups that

the IPCC as 'sustaining a fiction' of man-made global warming. Even the greener broadsheets seemed more preoccupied with the political process than the report itself. Scientists were 'dismayed', according to *The Guardian*. Scientists and diplomats were 'haggling', said *The Independent*.

This media wrangling cast a shadow over a report that needs to be read to be believed. It is the most authoritative document ever produced on the likely impacts of climate change.

Starvation, stunted child development, and heart and lung disease are just some of the health risks we can expect if greenhouse gas emissions continue. Flash floods, coastal flooding and severe heat waves will dog Northern Europe.

But the report's most stark finding is that, as climate change progresses, it will 'very likely' hinder sustainable development, the very mechanism now hailed as the key to tackling the problem. As the full effects of climate change are felt, the population will become more concerned with survival and less with building regulations and tailpipe emissions.

A global body like the IPCC will always have political intrigues. To be distracted by them is a mistake. See *Meeting Dr Pachauri*, p22

STATISTICS

- 30 per cent** the proportion of plant and animal species at risk of extinction at a 2.5°C rise in temperature.
- 66 per cent chance** of malnutrition, diarrhoeal disease, and increase in cardio-respiratory disease.
- 30 per cent:** decreased crop yields in Asia by 2050.

COLONIALISM
LOGS FOR SALT

An area of pristine Congolese rainforest the size of the UK has been sold off to logging companies in exchange for gifts of tools, sugar and salt.

A report by Greenpeace International reveals that more than 150 contracts have been signed with 20 logging companies in the Democratic Republic of Congo (DRC), despite a World Bank ban on forestry in the area.

The timber companies secured access paths to the forest by promising local communities gifts of salt, machetes, bicycles and school buildings in return for exclusive logging rights.

Once access was gained, *The Guardian* revealed, the companies rode roughshod over local people, breaking their promises. Although they are obliged to employ some local people, the companies shipped in their own contractors and paid

those locals whom they did employ the minimum wage, less than 50 pence per day.

The export of African teak wood is prohibited from several tropical countries, but the DRC imposes no such restrictions. Greenpeace is calling on importers, such as Britain, and the World Bank to reject industrial logging and demand a land-use plan from the DRC.

ORGANIC FOOD
EU VOTES DOWN GM

The European Parliament has voted in favour of a 0.1 per cent limit on genetically modified material in food labelled 'organic'.

The proposals were welcomed by UK organic certifiers the Soil Association, which said that the EU had 'reached the right decision in line with what the people of Europe want.' However, MEPs are set to be overruled by EU farm ministers, who favour the current 0.9 per cent limit.

CLIMATE CHANGE
'BUSH PAID LIERS'

Professor Daniel Schrag, scientific adviser to Al Gore on his film *An Inconvenient Truth*, has spoken out on the struggle of being a climatologist in America.

'It's been very frustrating to be a climate scientist in the US over the last 10 years,' he told a group of Harvard graduates at a recent lecture. 'The Bush administration has essentially paid liers.'

'There are three types of



people who don't believe in climate change,' he continued. 'There are the honest sceptics, who are guarded because of scientific uncertainty; there are

those who deny global warming out of ignorance; and those who are simply liers.'

Professor Schrag was also guarded in his support for the recent Stern review of the economics of climate change.

'Climate change is the sort of thing we don't use economics to decide on,' he said. Pointing to the decisions to turn American car factories over to producing tanks in 1940, and to put a man on the moon a decade later, Schrag said that when a solution was decided upon, it would not be based on economics.

SUGAR BATTLE
NOT-SO-SWEET

A bitter court battle has broken out between Merisant Co. — the maker of artificial sweeteners Equal and NutraSweet — and McNeil Nutritionals, owner of Johnson & Johnson — makers of rival sweetener Splenda. At issue is the sugar coating given to

Splenda in marketing materials.

Merisant argues that McNeil is only the market leader because of an aggressive and misleading marketing campaign. In 2003, McNeil's advertising slogan changed from 'made from sugar, so it tastes like sugar...but it's not sugar' to 'made from sugar, tastes like sugar'. Merisant says that the taste of Splenda has nothing to do with the use of sugar in its chemical make-up, and that McNeil has capitalised on consumer confusion.

CONSUMER TEST NO 'C' IN RIBENA

Two fourteen-year-old schoolgirls in New Zealand have rumbled a multi-national drugs company's claims that its soft drink Ribena contains 'four times the vitamin C of oranges'.

Anna Devathan and Jenny Suo conducted an experiment on a number of fruit drinks, expecting GlaxoSmithKline's

GREENWASH?

TIN-POT FLIGHTS

Flights to Spain operated by First Choice and Thomas Cook are to have an on-board drink can recycling project. Why? Because '...there is potentially 140 tonnes of aluminium that could be recycled easily from on board UK airlines – equivalent to the weight of the fuselages of a Boeing 767 and a Boeing 747!'

Dermot Blastland, MD of First Choice, said: 'The UK aviation industry has an opportunity to make a real difference through this initiative. It's important that it shows its commitment to sustainability in every way it can.'

NOW THAT'S... PROGRESS

- 1** A German clothing manufacturer has launched a pair of 'digital lederhosen', complete with sewn-in MP3 player, mobile phone and mouthpiece.
- 2** A team of American scientists has developed a technique of turning animal fats into jet fuel. 'It's 100 per cent green,' said the lead scientist. Who said pigs couldn't fly?
- 3** German scientists have built a driverless car. It will race against other driverless cars on a 60 mile US Defence Department course in November.
- 4** British-based BAE Systems has been given \$26.5m by the US military to turn 20-year old jet fighters into robotic airborne targets. The drones will assist with 'live weapons' training.

Ribena to come out on top for vitamin C. Instead, the pair found that the drink contained only



trace amounts of the vitamin.

GSK now face a potential fine of NZ\$3 million for misleading advertising.

POLLUTION NAVAJO COAL FEAR

The Navajo nation are in the vanguard of what is anticipated to become a NIMBY battle over future power production in the US.

More than 150 new coal-fired power plants will come on stream before 2030, with one of the biggest outside the Navajo reserve in New Mexico.

The 'Desert Rock' plant, which would burn 5.5 million tons of coal a year and produce 1,500 megawatts of electricity, would add to the air pollution of an area where nearly 15 per cent of the population suffer from lung disease. The indigenous Diné people – now unable to see the

sunrise which their ancestors worshipped because of coal smog – are campaigning against the new power plant.

Coal is the most polluting of all fossil fuels. In 1999, the US produced nearly 1.8 billion tonnes of CO2 emissions from coal-fired power stations.

WAL-MART ORGANICS CUT

Supermarket empire Wal-Mart 'has backed off of aggressive plans to offer more organic food,' according to *Business Week*.

Just over a year ago, Wal-Mart pledged to double the number of organic food products in its stores to 400, whilst keeping their trademark low prices. Now, it has been revealed that the majority of Wal-Mart stores offer only 100 to 200 items.

Wal-Mart spokeswoman Karen Burk explained that the organic pledge had been misrepresented. What Wal-Mart had actually meant was that stores would carry 'up to' 400 organic products. Asked whether customers had learned to associate Wal-Mart with low price and high quality (organic) produce, the company's chief executive, Lee Scott, conceded: 'I think we went too far too fast.'



PARIS BIKES

The Champs Elysees will never be the same again. From July this year, 20,600 rental bikes will be made available across Paris for anyone to use.

After paying a nominal annual membership fee of €38 (about £25), a user may swipe their pre-pay or credit card at any of the city's 1,450 dedicated stations to release a bike. The first 30 minutes of use is free, after which the cyclist is charged on a gradually increasing scale, to encourage a quick return. Because personal details are stored when registering for the scheme, theft is kept to a minimum.



Lyon adopted a similar scheme two years ago, which has been a great success. 'It has completely transformed the landscape of Lyon – everywhere you see people on the bikes,' said Jean-Louis Touraine, the city's deputy mayor.

The Lyon scheme, called 'Cyclocity', is estimated to have saved around 3,000 tonnes of carbon dioxide and reduced traffic congestion by 4 per cent since it began.

Press for change - using the local media

The media is often mistrusted, but if you harness its power in a professional way, local newspapers and other media can help a campaign to get results, says **Rebecca Bole**

Using the local media is absolutely vital to the success of a campaign,' says Dana Gloger, reporter for the *Harlow Herald* newspaper, who has covered several successful local campaigns. 'It's great for people to know that they're not the only ones in that situation, that somebody else does care.' Local councillors and MPs pay close attention to the media in their constituencies. They need to keep informed on issues that concern their

electorate just as much as the national or global themes discussed in Westminster.

As Kevin Fitzgerald, of the Council for the Protection of Rural England (CPRE), points out, 'Thousands of people read the local papers, so they've got to keep their eye on them. They want to know what chance they stand in the next election.' Wandsworth Councillor Peter Dawson (Conservative) agrees. He says, 'A campaign using the media demonstrates a genuine commitment to engage. The media can be used in a constructive manner for all parties.'

CASES IN TYPE

The Manchester branch of Friends of the Earth got on their bikes

Manchester's FoE group launched a 'Love your Bike' campaign in 2006 to encourage people to ditch the car and commute by bike. They advertised on 22 billboards and 100 buses in the city centre, sent thousands of eye-catching postcards, and established a website. Following all this, says campaign coordinator Graeme Sherriff, 'We sent out specifically targeted press releases to different local newspapers, featuring real 'local' cyclists. That definitely helped to get our campaign in the press.'

The Northcote Road Action Group (NRAG) saved their local shops

This group in south-west London enlisted the support of neighbourhood celebrities such as Prunella Scales (who, ironically, has also been the face of Tesco advertising campaigns) to save the independent shops and market on this popular shopping

street. They used local media interviews, press releases and photo shoots to persuade Wandsworth Council to publish an action plan, which they hope will create a community trust to manage the street and preserve the unique character of its shops. Julia Matcham of the NRAG says: 'A group of us are determined to do our best to resist further erosion of the spirit of the road, a spirit that is owed to many interesting small enterprises run by creative individuals.'

From quarry to conservation area - thanks to SQAG

In Gloucestershire, the Shakemantle Quarry is now a Wildlife Conservation Area, following the Shakemantle Quarry Action Group's (SQAG) campaigning through local newspapers and radio to prevent further digging. Jim Lancaster of SQAG says: 'The local planning office monitors the local press, and the planners didn't want to refute our claims in print. They realised that they were on a losing wicket.'

GET THEM INTERESTED

'All of us who professionally use the media are the shapers of society. We can vulgarise that society. We can brutalise it. Or we can help lift it onto a higher level.' - William Bernbach (1911-82), former US advertising executive.

To involve the media in your campaign:

- Know what goals you want to achieve, and who your target audience is.
- Be sure of your facts and figures.
- Approach local figures of influence, such as the Mayor or celebrities, for their support - the press love this.
- Find out the correct contact person and address them by name.
- Write a press release. Keep it short and lively to grab attention from the start.
- Quotes are useful, especially from known figures. Journalists will reproduce quotes faithfully, but may edit the rest of the press release.
- Omit jargon - it alienates the reader.
- Make sure information is supplied to the press in a clear, timely way. Know their deadlines - ring the news desk.
- Be available. 'If the journalist can't get in touch with you when they need to, you will miss vital opportunities,' says Kevin Fitzgerald of the CPRE.
- Identify 'hooks' - human interest stories, key dates and decisions, your successes, threats or opportunities, with relevant local facts and figures.
- Give plenty of notice of coming events.
- Build rapport with local journalists, who may often be glad of your help in explaining the finer points of an issue.
- Watch the quality of your writing. 'If you use sloppy English, you lose all credibility,' says SQAG's Jim Lancaster.
- For TV and radio, preparation is key. Know how long an interview will be, will it be live or recorded, who else will be interviewed and the line of questioning.
- Decide what you want to say, and say it first - then even if you say nothing else, you'll have made your point.
- Practise, with a friend role-playing the 'interviewer'; tape it and play it back to hear how you can improve.
- Include a link (eg campaign website) to encourage people to get involved.

This **Income** Fund takes care of performance and the planet - it's happening at **Henderson**



Henderson Global Care Income Fund

- This Sustainable and Responsible Investment fund has outperformed the FTSE All-Share index over 1, 3 and 10 years.*
- The Fund has a current income yield of 3.6%.**
- The Fund generates outperformance by investing in companies providing solutions to global challenges and effectively managing their corporate responsibilities.
- The Fund takes a bottom up, stock picking approach to investment, looking for returns over the long-term - two to four years.
- The Fund Manager George Latham is AA rated by Citywire.

Cumulative Fund Performance as at 31 December 2006*

% Change over	1Yrs	3Yrs	10Yrs
Henderson Global Care Income Fund	+24.1	+67.7	+151.9
Sector Average	+17.9	+64.9	+138.3
Henderson outperformance	+6.2	+2.8	+13.6

Discrete Year Performance (%) as at 31 December 2006*

	Dec 06 Dec 05	Dec 05 Dec 04	Dec 04 Dec 03	Dec 03 Dec 02	Dec 02 Dec 01
Henderson Global Care Income Fund	+14.9	+16.7	+12.8	+17.2	-11.3

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FINANCE

Quietly conquering the climate

Nick Robins weighs up banking giant Barclays' environmental statements

John Varley is a busy man. Chief executive of Barclays since 2004, Varley has worked hard to boost the fortunes of Britain's third largest bank, taking profits from £4.5 billion to more than £7 billion last year. Yet all this appears to have been just a warm-up act for his latest venture, a merger with Amsterdam's ABN Amro. Well aware of the raw financial logic of 'eat or be eaten', this £40 billion deal would take Barclays from 15th to fourth in the pecking order of global banks, finally escaping the clutches of acquisitive rivals such as the Bank of America. For someone who married into one of the Quaker dynasties that formed the foundations of today's Barclays, doing the deal with the Dutch would certainly secure the future of the family firm.

This hoped for mega-merger is not all that is preoccupying Varley, however. Climate change is also assuming ever-greater importance in his eyes, and in a recent statement he declared: 'My test is that our children should look back at what I and Barclays did in 2007 and beyond, and be able to say, "They recognised the immensity of the challenge, they evaluated it sensibly and they were amongst the leaders who, by their actions and influence, really made a positive difference".'

In terms of evaluating the climate crisis 'sensibly', the normally dry-as-dust analysts who put together Barclays' annual Equity Gilt Study tell it straight in their latest edition. For them, our fossil fuel-based energy system is simply 'incompatible with survival'.

Building on Sir Nicholas Stern's savage characterisation of climate change as a 'catastrophic market failure', the report almost gets lyrical when it describes the market as an 'idiot savant, oblivious of any factors – however looming and obvious – outside the narrow focus of its pecuniary obsession'. The only way out of this hazardous myopia is through 'the imposition of a clear and credible regulatory framework'. With refreshing directness, this Barclays report concludes that the solution is to 'progressively price dirtier hydrocarbon fuels out of the market', eventually resulting in 'an almost

total switch in the existing and future energy infrastructure' away from fossil fuels.

The scale of this carbon restructuring clearly has immense implications for universal banks such as Barclays, which offer financial services to all parts of the economy. Starting with the 'white collar' emissions from its branch network, Barclays has expanded its use of green electricity from three per cent to 50 per cent and gone 'carbon neutral' in the UK. The bank is also working to support its customers' move to a low-carbon economy – for example, by providing finance for Europe's growing renewable energy sector. According to the Carbon Disclosure Project, which rates the climate change reporting and performance of the world's largest companies, Barclays is one of the elite group of 50 Climate Leaders – interestingly, along with ABN Amro, its current merger target.

Impressive as this all may be, these internal actions are only a prelude to the central task of driving down the carbon emissions associated with Barclays' core business of lending and investing. If Varley is in any doubt about the public's rapidly rising expectations of carbon performance in this area, the steady trickle of red postcards into his in-tray from Christian Aid supporters should serve as a signal of things to come. As part of its new campaign to link the climate change and global justice agendas, Christian Aid has exposed the millions of tonnes of carbon dioxide (CO₂) that are currently missing from the balance sheets of Britain's biggest companies.

Looking at the major UK banks, Christian Aid found that none report the carbon associated with their lending and investment portfolios, and estimated that, compared with HSBC and RBS, Barclays had the highest emissions of CO₂ for each pound of commercial lending. Working out exactly how the emissions associated with a loan to a new gas-fired power station, for example, should be shared between a bank and its client, is a complex task. But this

difficulty does not negate the urgent necessity of doing so. Just as manufacturers of electronic products now have a legal obligation to deal with the waste products at the end of their useful life, so banks wishing to prosper in a carbon-constrained world will need to take responsibility for the emissions linked to their loans. To its credit, Barclays has declared that its intention is 'over time, to calculate and publish details of the CO₂ emissions from lending activity', adding that 'were the Government to introduce a mandatory, meaningful and practical approach to the reporting of carbon emissions, it is something we would support'.

But Barclays' carbon footprint doesn't stop there. Its fund management arm, Barclays Global Investors (BGI), is the world's largest investor, with more than £900 billion in equities and bonds. Based in San Francisco, BGI has a suitably West Coast strapline: 'Quietly conquering the world of finance'. Curiously for a company that is so committed to tackling climate change, BGI is absent from the list of 284 investors – together worth some \$41 trillion – who supported this year's request from the Carbon Disclosure Project for better climate reporting.

Much of BGI's assets are managed in index-tracking funds, so it is unable to sell its shareholdings in companies. The size of its holdings means, however, that it could exert huge influence on these companies for climate change action. For example, it is the largest single shareholder in ExxonMobil, with around four per cent of the stock. The best way to test how this leverage is being applied is to examine its voting record. Here, BGI's corporate governance policy states: 'We do not generally support proposals on social issues that lack a demonstrable economic benefit for shareholders'.

Until recently, investors could not see how their fund managers were voting their shares. Now, following Enron and other scandals, all

The size of BGI's shareholdings means that it could exert huge influence on companies to take action on climate change

mutual funds (unit trusts) in the USA have to disclose their voting records on the Securities and Exchange Commission (SEC) website. Using the SEC's EDGAR database, it's easy to see how Barclays has been deploying its voting power. In the 2006 voting season, BGI voted against environmental proposals at Exxon, as well as at ConocoPhillips (where it has around six per cent of the stock), and at ChevronTexaco (three per cent). At the US energy producer, Dominion Resources, where it has a three per cent stake, BGI also voted against a resolution that called on management to report on and reduce its greenhouse gas emissions; the resolution went on to gain an impressive 22.6 per cent of the vote – and the carbon-conscious investors had vowed to raise the issue again at the company in 2007, although this has now been withdrawn.

With Barclays' own analysts providing a compelling investment case for fossil fuel phase-down, the argument that investor activism on climate change does not provide 'demonstrable economic benefit for shareholders' starts to look a trifle thin. The world's pension funds – many of whom are BGI's clients – have looked into a future of a climatically-disrupted world and seen a disaster in the making. Coalescing in groups such as the Investor Network on Climate Risk in the USA, these mastodons of the financial world are finally putting their weight behind carbon regulation and corporate restructuring. This year, US investors have placed 10 companies – including ConocoPhillips, Dominion Resources and ExxonMobil – on a high-profile 'climate watch' list, making votes on these resolutions an important test of investor responsibility.

According to Martin Van Der Weyer, one of Barclays' most perceptive historians, 'companies are not, and have never been, machines for making money'. The risk with the proposed ABN Amro merger is not just that it will waste billions, as some City analysts fear, but that it will divert attention from the imperative of climate change. The task for John Varley and his team is to demonstrate that they will dedicate as much attention to the carbon reduction potential of the deal as they do to its supposed financial synergies. For, in the words of the Barclays' own Equity Gilt Study, the years ahead are set to be dominated by the shift away from fossil fuels – and if this energy revolution doesn't happen, 'nothing else will'. **E**

Nick Robins is author of *The Corporation that Changed the World* (Pluto Press, £15.99)

ENVIRONMENTALLY UNFRIENDLY

Innocent but guilty

I've just returned from working in Dubai, which might well be the most environmentally unfriendly, ethically unsound location on earth. The problem is, I had a good time. This means I am now suffering from a psychological complaint that I'm not sure already exists – but if it doesn't, then I'm inventing it. It's called eco guilt.

I enjoyed snowboarding on the largest indoor ski slope in the world. A marvel of 21st-century technology, where the practical problems of importing snow to recreate Austrian skiing conditions in the Arabian desert have been overcome by inventing a machine that makes snow. The mountain has finally come to Mohammed. However, the energy needed to do this probably emits enough CO₂ to be solely responsible for the melting of the polar ice cap.

I loved staying in the all-expenses-paid luxury of a five-star hotel, the building and running of which must represent a minor ecological disaster in itself. Cut flowers, fruit, meat, the Filipino staff, even me, have all been flown in and embroiled in unethical business practices and global warming, so as to maintain a corporate theme park founded on the wealth created by exhausting precious fossil fuels. I even overlooked the absurdly cynical card in the hotel bathroom, informing me that the hotel encourages guests to re-use their towels because, 'We care about the environment and are committed to undertaking practices that preserve natural resources'. Not so much greenwash as taking the pee.

On my nights off I even enjoyed hanging out in the local bar, frequented by prostitutes, its star cabaret act a Filipino, dwarf, AC/DC cover band, whose version of *Highway*



To Hell came pretty close to the original – some feat, considering the size of their instruments.

Now back in London, close to the relative ethical safety of my local organic wholefood shop, recycling bins and my energy-efficient light bulbs, I feel like someone who's had unprotected

sex with a total stranger whilst on holiday. Sure, I enjoyed it at the time but now feel guilty and worried and am looking to offset the guilt of the entire experience.

The problem is that I have always been suspicious of conventional offsetting projects. Their ecological claims vary so wildly that I question their very scientific validity and regard them merely as a means either for big businesses to look environmentally friendly, or for financially well-off individuals to offset their eco guilt. Moreover, I've always thought that if anyone is environmentally conscious enough to offset, then they should bloody well plant some trees themselves and, instead of investing in wind farms, they should be made to run around in fields, flapping their arms.

Maybe what I'm looking for is a scheme designed specifically to offset guilt rather than the size of one's carbon footprint. If you had a good time in unethical circumstances, you must pay for it by having a bad time in a more ethical way. So, for example, for every night in a seedy bar in downtown Dubai, you have to spend a day having a picnic by the Princess Diana Memorial

Fountain watching Cliff Richard in concert. Make the punishment fit the crime.

Anyway, my diary informs me that very soon I am due to perform for a few days in Wolverhampton. Not so much offsetting as penance. **E**

I feel like someone who's had unprotected sex with a stranger on holiday. I enjoyed it, but now feel worried and want to offset the guilt

Jeff Innocent is a stand-up comedian

CCTV: a four-letter acronym that is supposed to make us feel safe, secure, watched-over. Or maybe just watched?

Technology is moving fast. Gone are the days when CCTV meant a grainy black-and-white image of a car park on a video tape that might or might not have been rewinding at the crucial moment. Today, the UK's battery of more than four million CCTV cameras – one for every 14 citizens – records digital images that can be compressed and stored forever. A new report from the Royal Academy of Engineering coins the Huxley-esque phrase 'Google spacetime' – a technology of the not-too-distant future where face and 'gait' recognition software will be able to determine the whereabouts of any given person at any given time and location, from endless digital reels of CCTV footage. It is a frightening vision, but is on the cusp of becoming reality.

No-one denies that security is important. But technologies developed for one purpose can very easily become subverted for another. 'Technology creep', as it is known, is beginning to cause concern in wider circles. In 2005, the Editor-in-Chief of trade magazine *Wireless Week*, Rhonda Wickham, expressed her concerns over the new wireless tag introduced into American passports. The US Government had assured citizens that the new 'RFID' identity chips would contain 'anti-skimming technologies' that would reduce the chance of criminals using radio scanning equipment to 'grab' people's identities and photos from their passports when they passed within range. 'Reduce the chance from what?' Wickham asked. 'Criminals love a challenge if the payoff is there.'

'Technology creep' is now starting to affect environmentalists in ways that are far from clear-cut. Last August, a local council trialled a scheme using RFID chips to track the amount of waste being placed in household bins – a precursor to a 'pay-as-you-throw' tariff. The press releases sent round were from enthusiastic environmental organisations, anxious for journalists to laud their new approach to encouraging recycling. The headlines that ended up on the newsstands showed where public interest really lay. 'Bin Brother's Watching You!' screamed the *Daily Star*, warning of the 'councils able to "spy" on households and identify those where the amount of rubbish is larger than normal'. Rent-a-quotes trotted out comparisons to the Stasi and KGB;

enthusiastic columnists began to speculate that it was possible for the council to determine the contents of your bin; worried householders peered from behind their net curtains to check whether next door was fly-tipping into their wheelie; and waste campaigners held their heads in their hands.

The episode was a perfect example of technology creep – RFID, a system originally devised for the Russian secret service in 1940s and which had entered easily into the security sector, ended up being used to trespass on the hallowed ground of the household. But it gave rise to an interesting dilemma. Which would you rather have: a real fiscal incentive towards recycling and waste reduction, or the freedom to throw out your trash without Biffa Waste Services



SOCIAL ECOLOGY

Creepy technology

Be 'safe', or be free? The spurious security offered by the Government's use of technology comes at a high price, warns
Mark Anslow

quietly uploading data on your dirty habits?

The questions are not set to become any easier. Shortly before Christmas, Environment Secretary David Miliband announced that he was in favour of personal carbon credit cards – digital ration books with a carbon 'allowance' that would be debited with every purchase made. It was a bold statement, and many wondered how it could be done. After all, the Government's experiences with a central NHS computer scheme (which has been estimated to cost between £18 billion and £31 billion), a Child Support Agency database (£800 million) and preliminary plans for identity cards (anything from £5.4 billion to £18 billion) had already become a tabloid headline-writer's dream.

The answer came in an interview with *The Guardian*. The model for the carbon credit card, Miliband said, was the Tesco Clubcard: 'Twenty years ago, if I had said eight million people

would have a Tesco loyalty card, no one would have believed me,' he said. 'Bold thinking is required because the world is in a dangerous place.'

A dangerous place indeed. But perhaps not quite as dangerous as the implications of adopting the Tesco model as the prototype for carbon trading. It is easy to speculate how technology might be allowed to 'creep':

The year is 2012. The Government, financially overstretched and faced with still-rising carbon dioxide emissions, realises that something more drastic must be done. Prime Minister Miliband remembers that he was once Environment Secretary. He dusts off an old Defra dossier and realises that personal carbon credit cards might be a vote winner. With only a few coppers rattling around in the public purse, the Private Finance Initiative is the only option. But who to call on? Who will shoulder such risk?

By 2012, 30 million people could have Tesco Clubcards. It would be easy to roll them out to the whole population. Of course, 'all your data is confidential', we would be assured. But it will be stored alongside your purchase information, which Tesco already uses to target advertising and promotions to its customers. And of course, whilst your identity may not be publicly available, your carbon use will be (transparency regulations, the Government will tell you).

And, because Tesco already offers insurance, banking, internet, clothes, food, mortgages and petrol, adding comprehensive information about your energy use will allow a complete image of you to be built. Your carbon credits will be spent when you take your one flight abroad (destination logged – just to check how much carbon is emitted), where and when you drive your car (your new Sat-Nav actually works as a radio 'tag') and how and when you use energy inside your home (just to check whether you are burdening the grid at times of 'peak-load'). Personal privacy would have become a thing of the past, sacrificed on the altar of security and convenience.

Throughout this, environmentalists will have been drumming on the table to force the process along, convinced that a world where this data is stored will be a better one. What we may be clamouring for, however, is a situation where Big Brother is not just watching us, but sitting in our front rooms taking notes. We must be careful what we wish for. **E**

Mark Anslow is a reporter at the *Ecologist*

NATURE AND HUMANITY

Signs of the times

Spring has a more powerful meaning for us than any other season. **Sue Clifford** and **Angela King** remind us to celebrate and renew our connection to nature at this most fertile time of year

The return of the warming sun has been welcomed with great relief in these latitudes through the ages. As the world turns on its leaning axis, the sun drives the circling year; and for Europe and much of the northern hemisphere, May is the month of renewal.

The first day of May has long been considered the most auspicious moment of the year. Its arrival heralded summer, warmth, fecundity, good food, easier living and optimism, celebrated in ten thousand ways. Even now, in some parts of England, May kings and queens are crowned for the day and normal rules are suspended – the world is turned upside down. Robin Hood plays are performed in all sorts of places far from Sherwood. Morris dancers greet the dawn on May Hill in Gloucestershire. In Padstow (Cornwall) and Minehead (Somerset), 'obby 'osses rule the eve and the day, following more or less unbroken traditions from who knows where or when – for similar beasts are trotted out right across Europe. And in England, the 64ft-high striped maypole attracts its once-a-year dances at Offenham, Worcestershire, as does another striking maypole at Barwick-in-Elmet, Yorkshire.

What does our own era have to offer? We have 'bank holidays' (could we not give them a more fitting name?) and traffic jams. Tradition itself needs renewal. Why not stay at home, go for a walk, join or start a local festival. May is the busiest of months: the time of cheese rolling in Gloucestershire, the start of well dressings in the limestone areas of Derbyshire, beating or riding of the parish bounds, May fairs, Garland Days and, at the end of the month, Arbor Day (Shropshire), Grovely Rights Day (Great Wishford, Wiltshire) and Oak Apple Day (Worcester).

Another festival comes as mayflies emerge from their aquatic larvae to form dancing swarms over the river. To lean over a bridge and see hundreds of these delicate creatures, lifting and dropping in the sunlight over a

slow-flowing stream in mid to late May, is a poignant spring spectacle.

Note that even over our small islands the sunrise is experienced at different times, depending on where you are. For example, on 4 May, the sun rises over Lowestoft (Suffolk) at 4.15am and over Penzance (Cornwall) at 4.52am – a little reminder that the globe is turning. On 4 May in 2003, the parish wildlife project around Launceston in Cornwall listed the players at dawn-song in the Kensey Valley. The blackbird and the robin were the early birds, waking others in the dark (3.52am). The gathering momentum welcomed cockerel, wren (4.07am and getting light), blackcap, woodpigeon, jay, magpie, chaffinch, crow, mistle thrush, chiffchaff, great spotted woodpecker, green woodpecker, blue tit and great tit (4.38am).

You don't have to be able to identify their song or know who's who, simply to hear the birds flaunt themselves, assert their territorial claims. Their joy is one of the wonders of the natural world and spring is the moment of crescendo. We should be ashamed, as well as worried, that we have four million fewer blackbirds than 25 years ago; only half the song thrushes we had then, and half the yellowhammers. Indeed, the RSPB reported in 1999 that we had lost 27 million birds in a quarter of a century.

Consider also this old seasonal couplet: 'Oak before ash, we're in for a splash / Ash before oak, we're in for a soak'. The UK Phenology Network (observing nature's calendar) has noted that for 160 years the ash managed to beat the oak three years out of 10, but in the past 30 years it has done so only 10 per cent of the time. The oak, which liberates its leaves according to the rising temperature, is

just one more indicator of warming climate.

In this world of climate change, May is now becoming the new June. In 2005, buds were bursting and plants flowering some 11 days ahead of 2001. It seems that we have at last recouped the 11 days 'lost' to the calendar correction in 1752 in Britain (Pope Gregory had decreed the change in 1582 to help the calendar catch up with the sun).

Viewed in another way, climate change is but a symptom of our deeper malaise, of which we have to address the cause. We have to face our deteriorating relationship with nature and reinvent a philosophy and create a new mutuality between culture and nature.

We should start from where we are, and get to know something of nature intimately: not as tickers and twitchers or recyclers and energy-savers, but as walkers and dreamers, gardeners and makers. We need to understand what wild things need in order to survive. They need our respect in their own right, and our futures are intimately bound with theirs.

Welcome the swifts back and offer them a little share in your real estate – access under the eaves. Buy asparagus only during its short, sweet season and from as nearby as possible. Support local customs, invent new-rooted events, bring people together in the community orchard to celebrate the business of the bees. Build in humanity, imagination and understanding that can roll around the seasons, reconnecting us with the land and with colourful, scented and flying things. **E**

We should start where we are, get to know something of nature intimately... as walkers, dreamers, gardeners and makers

Sue Clifford & Angela King are the co-founders of Common Ground. Their most recent book is *England in Particular* (Hodder & Stoughton, £30)



If I...

...had written the EU's 50th birthday 'Berlin Declaration'

says **Dr Caroline Lucas MEP**, I'd have placed sustainability at the heart of its aims-

Love it or loathe it, the European Union (EU) celebrates its 50th anniversary this month. Of course, it has changed almost unrecognisably over the course of the past half-century, with a body of legislation and treaty arrangements far beyond the scope of those adopted – or even imagined – at its formation back in 1957.

With the current German presidency trying to revitalise ratification of the ill-fated EU Constitution, and looking forward to the challenges ahead with an anniversary 'progress report' – the Berlin Declaration – that was published on 25 March, now seems the perfect time to examine the successes and failures of the EU, and to look forward. And, specifically, to ask what exactly is the EU for, and how does it need to be radically reformed to meet the new challenges of the next 50 years?

If I were president of the EU, what would my 'Berlin Declaration' contain? Before answering that question, it's necessary to look at the history, the ideals and the reality of the EU.

The Treaty of Rome, adopted back in 1957, was essentially a free-trade agreement between six countries at the heart of western Europe – Belgium, France, Italy, Luxembourg,

the Netherlands and West Germany – together forming the European Economic Community, informally called the Common Market. New members queued up to join (often after fraught political debate domestically), including Britain, which in 1973 became the 10th member state. Currently the EU has 27 members, with more set to join in the next few years.

The 'big idea' behind the fledgling EU of half a century ago was to bring peace to western Europe. It worked – the economies of the EU, and especially France, Germany, Italy and the UK, are so intertwined as to make war between them almost inconceivable.

But this worthy prize has come at a cost. The EU in its current form is unwieldy, undemocratic and remote from its citizens. It remains focused on free trade goals, which are no longer enough to sustain public support for the EU: from some quarters this actively increases opposition to it. A 2006 'Eurobarometer' poll, for example, found that less than 40 per cent of UK citizens polled thought we had benefited from EU membership.

Launching the ill-fated EU Constitution project, the 2001 Laeken summit envisaged an 'audit' of the EU's role, a debate about what the Union was for, a review of how to make its work more democratic and transparent, and an analysis of which EU competencies (or areas of responsibility) should be 'returned' to member states, and which should properly remain at EU level – in short, a project to reconnect the EU with the people it claims to represent. But the Constitution process failed to address these questions – and thus missed its chance to make the EU more relevant,

democratic or accountable. It also enshrined neo-liberal economics and a new militarism as constitutional objectives.

Public debate about the EU often fails to focus on the right problems, tending to be based on opposing camps arguing for more or less integration. Rarely do we hear the prior question

asked: 'What is the EU actually for?'. It is vital we address this

question urgently – doing so could revitalise EU institutions and reinspire the public enthusiasm that has been eroded by the EU's moves towards 'economism': the idea that the overriding goals of European integration are economic and that its progress should be

measured in terms of economic growth and the removal of internal trade barriers alone.

My Berlin Declaration tries to ask – and answer – this very question, recognising the achievements of the EU's first half-century and describing the political and institutional changes required to deliver a truly sustainable Europe for the next.

Yes, the EU needs to become more democratic and accountable, less bureaucratic and remote; but it also needs to have a compelling vision of its role and purpose. We need an EU that can effectively confront the major challenges we face: notably climate change, the threat to democracy from multinational business, the global inequality and injustices that are leading to rising poverty and migration, and the rise of violent fundamentalisms around the world.

Placing sustainability at the heart of the EU's aims will require root-and-branch institutional reform if we are to address these interrelated challenges. More decision-making power must be transferred from the appointed Commission to the directly-elected European Parliament, the Council of Ministers must be far more transparent in its decision-making process and the Commission should become more akin to an EU civil service. The principle of subsidiarity – that decisions should be taken at the most local level appropriate – must be enshrined into its rules of engagement.

But institutional reform is not enough. If we are to achieve this, the EU will have to redefine its policy priorities, and replace its objectives of greater free trade and international competitiveness with a vision of a Europe of strong and self-reliant local economies. This means tackling the institutional contradictions summed up by the incompatibility of its own stated agendas.

In 2000, for example, the EU adopted the Lisbon strategy, to be 'the most competitive and dynamic knowledge-driven economy in the world' by 2010. It is increasingly clear that this is currently being implemented in a way that is incompatible with another stated goal of the EU, adopted in Gothenburg just a year later – to be the most 'sustainable' economy in the world. And make no mistake: current structures prioritise the Lisbon agenda over its Gothenburg counterpart: the EU's aggressive championing of economic globalisation, via ever-greater international competitiveness, inevitably takes place at the expense of social and environmental justice.

The EU's half-century is a symbolic

We need an EU that can confront climate change, the threat to democracy from multinationals, and global inequalities and injustices

turning point for the Union, and a consensus is emerging that it must undergo serious reform – both from the point of view of stemming civic disengagement with the project, and enabling an EU of 27 nations to make decisions as effectively as could the Union of 12, around which the current institutions were designed in 1992.

It is vital we seize the moment to promote more radical reform needed to deliver a truly sustainable EU – and not repeat the mistakes that led the abortive EU Constitution to be such a wasted opportunity.

The Berlin Declaration is an attempt to do precisely this, but is unlikely to succeed. Governments in different EU countries view it quite differently, with some – Germany, for example – advocating a text that will kickstart the ratification process of the ill-fated Constitution. Others – the UK, for example – wish to see a declaration that looks back over the EU's past achievements, rather than forward. German officials have been lobbied to include or exclude almost every nation's pet favourite achievement or political bugbear, such as the single European currency or the Common Agricultural Policy.

The discussion isn't entirely academic. Some have suggested that at some point in the future, the Berlin Declaration could be appended to a newly-styled Constitution. And 2009 has been set as the deadline for a new treaty. With this in mind, it becomes more urgent than ever that we get it right.

In 1957 the geo-politics of Europe was unrecognisable by today's standards. Western Europe was still paying the social and economic price of war but was undergoing regeneration at a huge pace. The continent was ideologically – and physically – divided between the communist East and the capitalist West. The EU was born of that context and has, admittedly, notched up some social and environmental achievements along the way.

But the next 50 years will be quite different. We face new threats now – climate change, principally – and the EU must be reinvented accordingly if we are to have any hope of tackling them. It's vital that our leaders don't miss this golden opportunity to do so. **E**

Dr Caroline Lucas is the Green Party MEP for South-East England.

Dr Lucas' Alternative Berlin Declaration can be read in full at: www.carolinelucasmep.org.uk/publications/pdfs_and_word/AltBerlinDec_Mar07.pdf

CASSANDRA

Is the world going mad?

It's the sort of question apt to crop up when a disgruntled citizen is outraged by some barmy act of government; but increasingly I find it has ominous clinical overtones. We seem to be on a high road to many kinds of trouble; yet, in every case, the powers that be seem bent on doing the opposite of what is so urgently required.

At one level we see a world gasping for the sanity of peace, whilst governments spend vast sums on preparations for bigger wars; while, in the light of global warnings about global warming and the impending exhaustion of oil supplies, more motorways and bigger airports are projected. The whole machine continues as though there is no tomorrow or that such suicidal economics will sustain us for ever.

At all levels, the signs of mental misbalance multiply. Our high-flown, fly-blown Prime Minister bewails the need for stronger community ties, yet he sanctions moves to close thousands of local Post Offices; to enable giant store chains to muscle in on village life and destroy family-run shops; to merge police forces and fire brigade service into bigger units; and to make our so-called 'local' government into larger and more remote units.

My Wiltshire village is beset with problems of drugs, binge drinking, petty and not-so-petty crime, litter, dog-fouling, graffiti, obesity and everyday problems of wretchedly unhealthy diets, depression and family breakdown. Doubtless it is a similar tale in your neighbourhood. All the signs point to a need for the reformation and restoration of local community life, its powers, relationships, resources and pride. Yet all official arrangements continue to



We have produced breeding grounds of moral and spiritual cancer at all levels of society, with a bigger percentage of crooks at the top

move in the opposite direction.

Recently, in the early hours, I had a visit from a burglar. He made off with a TV gadget, some pet food and a birthday gift of a bottle of rare cognac. The police later arrested the burglar and recovered some of my property – not, alas, the cognac – and the man is now

behind bars, where I will try to visit him: not to recover the £200 he has cost me in repairing windows he wrecked to break in, but to see if he can be helped.

Reports in *The Daily Telegraph* advocate the cane to check criminality.

Apart from making the problem worse, this misconceives it, for at heart it is a matter of repairing human relationships. After the family, the community is the first line of defence of the integrity of the individual against the dark forces of power beyond.

Those dark forces have now largely destroyed much of family and community life, leaving the individual isolated, alienated, manipulated, morally deflated and defeated. The marvel is not that antisocial behaviour has become so common, but that there is not much more of it. We have produced breeding grounds of moral and spiritual cancer at every level of society, with a bigger percentage of crooks at the higher levels than at the lower. And the lower levels indicate that the works of society itself are malfunctioning and producing a growing class of psychic cripples, filling our prisons and hospitals to bursting point and beyond. This has not prevented some earnest bureaucrats – who must surely be deaf, dumb, blind and devoid of social sensibility or historical perspective – from proposing the abolition of our district councils in favour of even larger units.

Whom the gods would destroy they first make mad. **E**



GLOBALISATION

Football's cold war

Football used to be a sport. A great one. Exciting, all-consuming – heck, we played, talked, lived and breathed it. Now it's another commodity, traded among the super-rich. And, laments **Jon Hughes**, the Yanks have bought 'my' club

I'm a red. Have been ever since watching Liverpool win their first FA cup in 1965. Aged four. Apparently. In our house, the legendary manager Bill Shankly – the first man after Mao to have a little red book – had more influence than God. Cut me and... well, you get the meaning. Morning, noon and night, I played football. Any time, any place, anywhere. I was OK.

At primary and junior school we obsessed about football. Live games on television were a rarity, so the only information we had came from Dad, or someone else's, whose own knowledge came from going – or, more often than not, the match report in the (now sadly demised) pink 'un (a Saturday evening footie supplement published by local papers). Talk revolved not around players' pay packets and transfers, but who played well and who was a player. Your first match was a rite of passage.

The only way to really connect with the club was to go – by public transport – then, for the majority, stand for two hours singing and shouting your head off, before heading home, the same laborious way, by bus. Communing. In 1971, 9d – or 15 new P, as it was called then (a precursor to decimalisation) – would get you into the boys' pen. It was what it said on the tin. Not that you stayed there. You scaled the fence to be with the 'men' on the Kop.

A really big adventure involved coming all over wobbly, when you'd be sympathetically tossed over the heads of the crowd and out onto the edge of the pitch. As a teenager, football took me across the country, to see places and meet people I otherwise wouldn't have

The country wasn't so homogenised then. There were clear differences between Burnley and Bolton that belied their proximity to each

other and boasted their heritage, sometimes in a rough-hewn manner. Same in the North-East and Midlands. London was another country. I recall getting off the bus one night and a woman asking the result. She was glad of the draw because it meant 'I won't get beaten tonight'. It was a bit of a catchphrase then. Not the family game they try to pretend it is today.

Throughout the tumultuous Seventies and Eighties, as the City was left staggering by unemployment, and the nation was stunned by the deaths of fans at Heysel, Belgium (in 1985) and Hillsborough, Sheffield (1989), this family-run club (along with Everton) did more than anything else to hold it together, in a way not yet fully recognised.

Yet, with one Yank, all that has gone.

Like Manchester United, Aston Villa and (soon to be) Arsenal, Liverpool FC has been bought by American sports entrepreneurs. These guys – they always play the regular guy – have come across the pond, banging on about how they've always

loved soccer (a giveaway, that, calling football 'soccer'), love and

respect the traditions of the club. You can always smell a rat when you have to tell someone that Shanks ain't a urinal but a legend.

The only things these guys love are greenbacks and kudos. Both are interrelated in the world of sports branding. It's all about being fittest, being first, being the best. Ever since the Olympics, sport has been used to symbolise a country's virility and status, and as such is a significant political symbol.

What we are witnessing now is the chest-beating that emerged over the space race. The premiership has become the Apollo mission; the Cold War is being played out on the pitches of England. It is no simple coincidence that the Yanks have started to colonise football since

Roman Abramovic landed at Chelsea – if he wasn't Putin's man he'd have been banged up or poloniumed by now. To see the pesky Rusky using his bottomless pockets with the aim of building the greatest team in Europe must have stuck in the American craw. You can imagine Bush saying, 'We can't have this; a Russian building a world-beating team!' So the seventh cavalry rides over the white cliffs. Let battle commence.

This is the thin end of the wedge. Funding local football clubs to win hearts and minds is a tactic used by Tesco to win planning permission. Now, because of football's worldwide marketing potential, English clubs are being used to win hearts and minds on a grander scale.

The new owners will spend whatever is necessary to be top dog. And they aren't going to hang around for long playing minnow teams or developing young players. We might appreciate Liverpool v Reading, Man Utd v Sheffield out of tradition, but it don't have the reach or penetration these guys are looking for. These guys – Glazer, Hicks, Gillett, Lerner *et al* – come from a culture where they brand their rounders league the world series although no one else, anywhere in the world plays.

So as night follows day they will start to agitate for a European super-league and our current league system, starved of cash, will be left floundering. With this foreign ownership, money will haemorrhage away from the sport, the locale and the country. The premiership will become even more of a procession than it is already, with the top four places being fought over by the top four clubs and the rest playing for fifth or survival.

This selling of the sporting equivalent of our crown jewels will leave us all the poorer. Along with everything else, foreign ownership reduces the tax take. So the love affair is over for me. I'm taking my ball and my cherished memories and going home. Which is exactly what these guys will do when the going gets tough. **E**

Some people believe football is a matter of life and death... I can assure you it is much, much more important than that

– Bill Shankly, Liverpool manager 1959-1974

Jon Hughes is Deputy Editor of the Ecologist

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Q&A

Meeting Dr Pachauri

This month, the IPCC released further challenging data from its Fourth Assessment Report, predicting that the most devastating effects of climate change will be felt by those with the least resources to adapt – the world's poor. To learn more about the IPCC and the beliefs of the man in charge, *Ecologist* reporter **Anna DaCosta** speaks with alternative energy expert Dr Rajendra K Pachauri, its chairman since 2002

Earlier in the year, data from the Fourth Assessment Report on climate change, produced by the Intergovernmental Panel on Climate Change (IPCC) concluded that there was overwhelming evidence that human activities were responsible for global warming. It also concluded that 11 of the past 12 years rank among the 12 warmest on record since 1850; that global average temperature will likely increase by a further 1.8°C to 4.0°C; and that sea levels will rise by anything from 28cm to 43cm this century.

This report brought the IPCC, a UN-backed scientific body that has been analysing and reporting on climate change data since 1990, into wider public consciousness and sparked heated political and scientific debate. To the average person its conclusions may have seemed startling. But within the environmental community there have been increasingly vocal criticisms that the IPCC has succumbed to political pressure to water down its conclusions.

Even though its reports are widely cited in most debates related to climate change and are generally considered authoritative, most of us know very little about the organisation that is driving the world's climate change agenda, how it operates and what if any philosophical underpinning it has.

Ecologist As the impacts of climate change worsen here in India, and in other developing nations, do you feel that there is increasing danger of anger and violence towards members of the 'developed world'? How can the threat of such fissions be minimised?

Dr Rajendra Pachauri Well, what I quote very often is something that Kenneth Boulding, a very distinguished economist, said almost a quarter-century ago. He said

that 200 years ago, the difference between the poorest and the richest nations in the world was perhaps no more than one is to five in terms of average income levels, but today it's one is to 50 – and he was talking about this about a quarter of a century ago. If you look at the situation in 2007 it's even worse.

So, you know, we really cannot allow islands of prosperity to become more and more prosperous while this ocean of poverty all around us just keeps sinking lower and lower. It's not even in the interests of the developed countries, because we are not only talking about anger, we are talking about the possibility of people planting seeds of terrorism, of extreme actions, of conflict and violence, all of which have an impact everywhere in the world today.

It is in the interests of human society to take the problem of poverty seriously, and I don't think it's a question of giving handouts to people who are deprived, but genuinely creating the means by which employment can be generated, income is produced, wealth can be generated, and by essentially establishing a society that has the capacity to help itself. I think we need to start doing that with a sense of urgency.

E How did you come to be so keenly involved in work on climate change and sustainable development?

RP Well, for me it was a natural transition. I worked for a number of years on energy issues, and then I got into climate change in 1988 – in fact a bit earlier, because I realised the science behind it was so compelling, and the fact that what we were doing in the energy sector was leading us to really a pretty grave situation. I decided to study much more and learn much more about the subject, and naturally developed a passion for it, because this is an

issue that affects the very future of humanity; indeed all living beings, not just humanity.

E What do you see as the role of the IPCC?

RP The IPCC has established a credibility and a tradition that is quite unique. It's really an organisation that has been able to mobilise the best scientific talent from all over the world, and to bring to the attention of scientists, policy makers and other stakeholders, every aspect of the assessment of climate change. Its uniqueness lies in the fact that we're able to get the best scientists and experts from all over the world, who really devote their time and effort – essentially as a labour of love – and create these reports, which are really a set of defining documents on every aspect of climate change. So I think the IPCC has established its relevance, and it has been very effective in shaping the UN Framework Convention on Climate Change, which was certainly benefited by the First Assessment Report of the IPCC.

Then the Second Assessment Report helped shape the negotiations for the Kyoto protocol. And I think the Third Assessment Report had a major influence in moving the negotiating process in the direction of looking at impacts and adaptation. The Fourth Assessment Report (which is to be published in full in December), I think, will have an important influence on determining the future of any treaties or agreements that come into existence for the period beyond 2012 (second commitment period of the Kyoto protocol).

E David Miliband, the UK's Secretary of State for the Environment, has described 2007 as a key year for climate change. Do you agree?

RP Yes, I do, because first, the Fourth Assessment Report is coming out, and it's also a fact that awareness on climate change is

really at an all-time high. It's never been at this level in the past. So a combination of these factors really makes 2007 a very special year as far as climate change is concerned. And I hope with the discussions that will take place, 2007 will mark a turning point in actions related to climate change.

E Can we expect any surprises from the forthcoming IPCC report?

RP I don't know if I should call them surprises but certainly the science has become much stronger, and I think some of our observations, our analysis, as well as our projections, will strengthen whatever were the findings of the Third Assessment Report and the previous reports. So I would say that not only will the Fourth Assessment Report provide a confirmation of the findings of the earlier reports, but perhaps will take them several steps further, which I hope will provide a strong influence on thinking and actions in the field of climate change as a result.

E Sceptics of the work of the IPCC see the science as being interfered with by politicians, and as a result being far more conservative and doctored than it would otherwise be.

RP The short answer is that political interference is something that is not part of the functioning of the IPCC. We get reviews from governments, we get reviews from experts, and these are considered by the authors; but the ultimate decision on what to take on board and what to reject and in what manner is entirely in the hands of the scientists, the authors. And this is a fairly large number, so it's not an individual who decides. The authors work as teams; and whatever decision is taken, is taken by the teams.

E But the governments are present at some stage of the forming of the report?

RP No. The governments are there essentially to approve of the 'Summary For Policy Makers', but as far as the full 1,000-page report is concerned, on which the summary for policy makers is based, that's something that is not discussed by governments at all. But the summary is meant to be a policy-relevant document, and they go through every single word. And the authors are present, and ultimately,

it is the authors who have the last say.

Let's say, when a government says, 'Look, you're making a wild statement about the fact that precipitation will change in a particular place'. The author is present, the author says, 'Look, these are the sources from which we have been able to get these findings, this is what this scientist has written, this is what that scientist has written...' and that's it, the governments have to accept it.

E Do you think you think the science might be voiced in a stronger manner if there was less interference from governments around the world?

RP There's no tampering at all, I want to clarify that. No government can tamper with any part of the report. It's a very transparent process, it happens openly, and there is no single government that is allowed sway over all the other governments that are present. We are very careful that any statement that we make is solidly backed up by peer-reviewed

**'The problem has...
been caused by one
set of people, yet the
worst impacts will be
felt by the innocent'**



literature, and that's the basis on which we function. Some may say that we are being conservative, but my response to that would be that we are being scientifically sound. We won't make wild statements that have no scientific basis. That's for others to make if they want to do that. But we want to make sure that whatever findings we have are based on solid science, on peer-reviewed literature, and that's our strength.

E So, therefore, would you say the reports really reflect a consensus?

RP The reports reflect a scientific consensus. It's not a political consensus.

E How much of the talk at governmental level about climate change do you feel truly translates into action, and how do you try to ensure that that occurs?

RP I believe that we are at a stage where we can really start influencing public opinion in the direction of action. All these things don't happen overnight. You really have to work at them. And what's very interesting is the fact that you may see almost imperceptible progress for a few years, and it might even cause a certain amount of dismay and frustration, but then you find that you are really making an impact on people's thinking and their beliefs, and then suddenly things start moving and they reach a point where they actually escalate.

My belief is that we are more or less at that point, but it's also true that we've wasted far too much time in taking action, and we just have to work much harder now. Come to think of it, the Framework Convention on Climate Change was agreed on in 1992, and the Kyoto Protocol only got ratified and came into existence in early 2006. That's a huge delay, considering the fact that the global community seemed very serious and very highly motivated on doing something about the problem in 1992, but it took all of 15 years, roughly, to really get something going on the basis of a legal agreement.

E How positive are you that human ingenuity will overcome the problem of climate change? After all, such rapid changes in global temperature are known

to have brought about mass extinctions in the past.

RP: Human ingenuity certainly can make a lot of difference, but only if it's combined with human values that move us in the right direction. This world today has technological capabilities that are astounding, that really can turn anything around. But all of this will only be employed if we have the ethical, the logical, the human aspects of what should drive some of these actions. That's what we really need to create. If we can do that, then certainly technological or economic capabilities do give us an opportunity to turn things around very rapidly, and there technology would certainly play an extremely important role.

E: It seems to me that the simplest way to reduce emissions is behavioural – for example, flying less, and changing the way that we consume energy. Yet this sometimes receives less attention than technological solutions such as the injection of sulphates into the atmosphere. Surely the first and most achievable step is to change the way in which people consume?

RP: Absolutely. I would say it certainly has relevance for us, and it certainly has relevance for the rest of the world. You mentioned specifically the case of flying less, and of using other forms of energy-efficient public transport. We need to provide the means by which people can exercise these choices, and today unfortunately, and for the past several decades, most societies have not been investing enough in these options.

Take the case of North America. Not too many people use the railway system over there for passenger transport and the example I always give is that of flying between Washington DC and New York. By the time you get to the airport, go through security check and all the hassles associated with it and then fly to an airport, which is in any case remote from the centre of town at your destination, you've probably taken about four or five hours for a journey that, if you had a good train system, would probably take no more than two hours, from city centre to city centre.

And I suppose, when it comes to air travel internationally, that what would really help is to use modern telecommunications far more efficiently. I mean, it should be possible to hold meetings across long distances by video. My own institute has an excellent video facility,

and we invested in this because we realised that this could provide the means for reducing transportation physically.

I think we need governments to realise their responsibility. And I'm not saying that governments have to put down the money themselves, but they have to create a framework, create the means by which public/private partnerships, for instance, can result in better transport modes and choices being made available. If we were to do that then certainly you'd find a shift.

E: Do you feel that reliance on biofuels is a dangerous solution, given the inevitable food/fuel conflicts that are likely to occur as patterns of water distribution become increasingly disrupted?

RP: We have to be very careful about the choice of biofuels. I'm totally against biofuels that are grown on land and under conditions where food crops would really thrive. I think biofuels

'The impacts of climate change need to make us sit up and ask, are we acting as ethical beings?'

represent an opportunity in those areas or under those conditions where you really don't compete with the production of food crops.

It's for this reason that we at TERI [the Tata Energy Research Institute, of which Dr Pachauri is the Director General] are working in land areas and under conditions of rainfall where you really can't grow any other crops. And we're working with farmers, so that the choices that they exercise are really based on a clear comparison of what they can do with other crops – both food and cash crops – versus those that are grown for biofuels.

So I believe that this should be the guiding principle, and if we follow it, then there really won't be any dent on food security as a result of the use of biofuels. But I'm afraid this has not been followed by a number of countries. In most countries you see either corn being used for ethanol, or other forms of edible oils being converted to fuels. I'm reasonably certain that that's not a sustainable solution; we have to move away from that.

E: What about carbon offsets?

RP: I'm not a great fan of carbon offsets. It may give you some sense of achievement, but very often these carbon offsets – let's say, which take care of air travel – are a very small part of the emissions that each one of us is responsible for. I would much rather use compact fluorescent lamps and solar water heating. But I believe that in some sense these carbon offsets, particularly in conferences and all, are a very small part of the solution, and they probably give you a sense of excessive glory, which I don't think is justified.

E: What do you feel is the role of Western countries in providing aid or support to countries such as India, as they attempt to tackle climate change? Is aid welcome, and in what form?

RP: To be quite honest, the developed countries have really not been serious about development assistance. Even those countries that have provided, say, close to 0.7 per cent of the GDP, or GNP, something that the global community has been advocating for a long period of time, have not necessarily provided this aid in the form and the manner in which developing countries would benefit from.

So I think we need to get serious. First, we have to be serious about providing a level of assistance that really does make a difference, that does in some sense correct the inequities of history. Let's face it, a large part of the developed world has prospered, essentially, on account of colonialism or, in some cases, on account of slavery. Now, both of these are conditions that the modern world finds totally reprehensible; and I think there is a certain moral obligation on the part of the developed countries, to help the developing countries of the world.

This is also in their own self interest, in the self-interest of the developed countries. We are living on a very small spaceship, Earth, and whatever we do is going to affect us, will come back and revisit us over a period of time, and therefore if we allow dire poverty to exist in any part of the world, it must necessarily have implications for other parts of the world.

The other thing we need to do, assuming we have the right quantum of development assistance, is to ensure that it's used, really to meet the needs of the people that it's supposed to help. I mean, typically what happens is that you get equipment, you get supplies, you get consulting services from countries that are

providing this aid, and much of it therefore really flows back to the donor country. That has to change. I mean, we have to be genuine, we have to be honest, and we certainly have to be far more serious about development assistance. And I think if one can bring about these changes, then certainly it can help the developing countries in terms of doing things that are sustainable; it can help remove the problem of poverty, and it certainly would provide additionality in countries that just don't have the resources to do things on their own.

E You have spoken recently about the need for spirituality in relation to, or in our approach to, dealing with climate change. Could you expand on this?

RP There are some impacts of climate change that really can't be quantified in economic terms. I think we have to realise that a large part of the natural resources that exists on this planet is something that is priceless, something that is of infinite value, and it's also something where we may not be able to see tangible benefits in preserving or conserving those resources, but they are very much a part of the overall scheme of nature. It is such an integrated and interrelated system that if you damage one part of it then over a period of time the rest of it will also collapse, and I think that's where we have to understand the value of preserving and conserving what we have inherited as the wealth of nature.

In the case of climate change particularly, there are equity aspects to consider, given the fact that the problem has largely been caused by one set of people in society, and yet the worst implications and impacts are going to be felt by very innocent people who are certainly not responsible for having caused the problem in the first place.

So I think that there's a huge ethical dimension that we can't avoid, and I would say that the impacts of climate change – which take place across space, and will also take place across time – really need to make us sit up and ask ourselves, are we acting as ethical beings? Are we really acting with a spiritual and righteous motivation, and doing the right thing? And if we're not, to correct the ways by which we are causing these problems to those who certainly don't deserve to become the victims of climate change. **E**

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BEHIND THE LABEL: Maybelline Superstay 16-hour lip colour

What goes on your lips can go into your mouth – and it may be far from palatable. **Pat Thomas** investigates

Go ahead and try to fight it. Lipstick is just iconically female. Big girls use it to enhance their allure; little girls often make their first forays into womanhood by sitting in front of the mirror, imitating the way their mothers paint their lips. Marketing men consider lipstick a 'gateway' product for tweens and teens – a purchase to open the floodgates of a lifetime of cosmetic spending.

Social scientists say that changes in

lip colour

indicate attraction. When we desire one another our lips redden. Lipstick mimics that flush of attraction and, while it's always been attractive, it's almost always been toxic. Ancient Egyptians stained their lips with henna, which can be a skin irritant, but they also used other dyes and mineral-based clays that sometimes contained mercury. Talk about the kiss of death...

Lipstick has such a deep place in our psyches that stock-market traders use it as an indicator of economic trends. Rising lipstick sales, the theory goes, indicate a downturn in the market – a notion based on the idea that consumers turn to cheap and cheerful indulgences when they're feeling uncertain. It has proved a relatively reliable indicator; for instance, in the months after the September 11 terrorist attacks, lipstick sales doubled.

It's hard to take such thinking seriously, especially since lipstick is also one of the most shoplifted items on the make-up counter and since other data also suggest that around

42 per cent of women buy cosmetics that they never use – a habit that suggests both obsession and depression, traits that may not necessarily be linked with the economy.

What is clear is that lipsticks are money in the bank. In the UK we spend more than £1 billion on cosmetics each year and lipstick is our favourite indulgence. Around 80 per cent of British women regularly wear lip colour and reapply it during the day. Brits are also Europe's biggest users: each year, we buy nearly enough lipstick and glosses to supply every man, woman and child in the country with a tube or pot. UK spending on cosmetics as a whole is greater

than elsewhere in Europe and according to market analysts Mintel, the annual amount of money spent by women in the UK on cosmetics has risen by 40 per cent in the past five years.

Maybelline (owned by cosmetics giant L'Oréal) is the world's best-selling make-up brand and commands nearly eight per cent of a global market worth \$230 billion a year.

LABELLING LOOPHOLES

The list of ingredients in a lipstick is often complex and long. It brings some of the problems of cosmetics labels into sharp focus. Labelling laws allow manufacturers to forgo putting ingredients on small packages like lipsticks. For products in a range of shades, all colouring agents used across the range may be listed if they are preceded by the words 'may contain' and the symbols '+/-'. This streamlines labelling but as a result, most women never know what goes into their lipsticks.

They also highlight the problems of lack of long-term safety testing. This product was

INGREDIENTS

Lip colour contains:

Isododecane, Trimethylsiloxysilicate, Nylon 611/dimethicone copolymer, Distearidimonium hectorite, Lauroyl lysine, Propylene carbonate, Alumina, Parfum/fragrance, Calcium sodium borosilicate, Calcium aluminium borosilicate, Silica [+/- may contain Mica, CI 77891/Titanium dioxide, CI 77492, CI 77499, CI 77491/Iron oxides, CI 15850/Red 7, CI 15985/Yellow 6 lake, CI 19140/Yellow 5 lake, CI 15850/Red 7 lake, CI 45410/Red 28 lake, CI 77820/Silver, CI 42090/Blue 1 lake, CI 12085/Red 36, CI 77163/Bismuth oxychloride, CI 75470/Carmine, CI 45380/Red 22 lake, CI 77000/Aluminium powder, CI 77480/Gold]

Shine and glide contains:

Trimethylpentaphenyltrisiloxane, Bisdiglycerol polyacryladipate-2, Phenyl methyl siloxane, Ozokerite, Cera alba/beeswax, Tocopheryl acetate, Alumina, Calcium aluminium borosilicate, silica, Cera microcristallina/Microcrystalline wax, Calcium sodium borosilicate, Parfum/fragrance [may contain +/- CI 77492, CI 77499, CI 77491/Iron oxides, Mica, CI 77891/Titanium dioxide, CI 12085/Red 36, CI 15850/Red 7, CI 77163/Bismuth oxychloride, CI 15985/Yellow 6 lake, CI 77820/Silver, CI 77000/Aluminium powder, CI 45410/Red 28 lake, CI 45380/Red 22 lake, CI 19140/Yellow 5 lake, CI 42090/Blue 1 lake, CI 77480/Gold, CI 75470/Carmine]

particularly frustrating to research because a staggering number of its ingredients have never been assessed for safety by the industry's self-appointed and self-funded 'watchdog', the Cosmetics Ingredient Review. Not only have they not been tested as single ingredients, they have also never been tested for how safe they are in combinations of chemicals with foods, sweeteners, preservatives, food colourings and all the other man-made chemicals that go in our mouths on a daily basis.

Mainstream lipsticks are composed of synthetic oils and petroleum-derived waxes. But as with all cosmetics, promises of unique functional ingredients drive sales forward. The addition of UV filters, moisturisers and 'wet

WHAT THEY GLOSS OVER

Isododecane*

Solvent, dispersing agent, emollient

Prolonged skin contact may irritate and cause dermatitis. If swallowed, can cause nausea. Penetration enhancer, so brings more toxic ingredients in the mix to enter the bloodstream.

Trimethylsiloxysilicate*

Film former

Silicone-derived resin that seals the colour to the lips. Potential skin irritant.

Nylon 6,6/dimethicone copolymer*

Gelling agent, film former

Can irritate eyes, skin and airways. A related substance, nylon-6, is considered carcinogenic. Makes the formulation feel 'dry' going on and then forms a film that seals the colour to the lips. Nylon requires high energy to produce, and its production involves the precursors benzene (a known human carcinogen) and hydrogen cyanide gas (which is extremely poisonous). The manufacturing of nylon releases volatile organic compounds (VOCs), nitrogen oxides and ammonia into the atmosphere.

Propylene carbonate*

Solvent, plasticiser

Derived from propylene glycol, skin irritant. A component of lithium batteries that helps to improve conductivity.

Parfum

Fragrance

Synthetic fragrances are toxic to the central nervous system, causing anxiety, depression, hyperactivity, irritability and other behavioural problems. Up to 90 per cent of fragrance chemicals are petroleum derivatives that can enter the body through inhalation, skin, or ingestion, and go directly to the brain.

Fragrances in cosmetics can cause allergic reactions and are a major trigger for asthma.

Alumina*, CI 77000/Aluminium powder

Opacifier, pigment

Also known as aluminium oxide. Alumina adds a glitter effect to the colour; CI 77000 is a red pigment. Irritant. Aluminium is also considered toxic, carcinogenic and mutagenic. It is a neurotoxin associated with brain disorders such as Alzheimer's disease.

Bis-diglyceryl polyacyladipate-2

Emollient

Synthetic substitute for lanolin. Sometimes misleadingly listed as 'bis-diglyceryl polyacyladipate-2 (vegetable oil)' – it is not simply vegetable oil but is instead a highly synthesised adulterated vegetable-based oil. Adipic acid, a main constituent of this compound, is irritant to the skin, eyes, mucous membranes and upper respiratory tract when applied, inhaled or ingested. Adipic acid production is also one of the largest potential sources of industrial nitrous

oxide (N₂O) emissions. N₂O is a potent greenhouse gas.

Cera Microcristallina, Ozokerite

Mineral waxes

Often misleadingly listed as 'natural' ingredients, these waxes are derived from petroleum and can be irritating and drying to the skin.

Iron oxides, mica

Add colour, luminescence

Persistent and bioaccumulative properties. Mica if ingested poses potential gastrointestinal or liver toxicity hazards.

Dyes

Add colour

Many coal tar derivatives are suspected carcinogens, and most artificial colorants have not yet been tested for cancer risk. Cosmetic colours can cause hives, skin irritation and photosensitivity and in the longer term are linked with chromosome damage and reproductive mutations. Bismuth compounds (e.g. CI 77163/Bismuth oxychloride) are toxic and known to cause intellectual impairment, memory loss, confusion, loss of coordination and tremors. Carmine (CI 75470) has been linked to hyperactivity in children.

* Indicates the ingredient has not been assessed for safety by the industry's own Cosmetics Ingredient Review board.

look' ingredients keep women impulse-buying even when they already have a drawer full of perfectly usable lipsticks.

HEALTH PROBLEMS

What goes on your mouth can also go in your mouth. When a woman wears lipstick, she may swallow a little of it, but it can also be absorbed through the lining of the mouth and it is estimated that a woman may ingest more than four pounds of lipstick in her lifetime.

In recent years, longer-lasting colour has become the Holy Grail of lipstick formulation. Achieving this means adding a variety of plastics, nylon and silicones that effectively glue the colour to the lips. Some of these synthetic ingredients may cause an irritation of the lips called cheilitis.

Synthetic colours (generally indicated by the prefix 'CI'), especially coal tar dyes such as

the ones in Superstay, are common allergens and are also carcinogenic. The fragrance component of a lipstick can be neurotoxic and cause photosensitivity and dermatitis.

In 2004, the Environmental Working Group survey Skin Deep examined 711 lipstick products and found that 28 per cent contained ingredients associated with cancer risk, such as butylated hydroxytoluene (BHT), nylon-6, ferric red (iron) oxide, polyethylene, and titanium dioxide. Nylon compounds, red iron oxide and titanium dioxide are present in Maybelline's Superstay, though the titanium dioxide and iron oxide are not in the dry/powdered form that is considered most toxic.

In 2005, a more worrying bit of information came out during the annual meeting of the American College of Rheumatology in San Diego, California. Scientists there revealed that women with a family history of the

autoimmune disease lupus had a greater risk of developing the disease if they regularly wore lipstick (and used hair dye). Women who used lipstick three days a week had a 40 per cent increased risk of developing lupus, and the risk increased with years of lipstick use.

Lupus is nine times more common in women and the finger of blame is usually pointed at their 'hormones'. But many of the cosmetic chemicals that women are exposed to on a daily basis are hormone mimics.

The important point of this research is that women with a family history of lupus are at the visible end of the spectrum in terms of adverse effects. It is possible that other women may experience chronic sub-clinical immune problems with daily exposure to the ingredients in lipsticks – but until somebody does the necessary research this will, frustratingly, remain in the realm of speculation. **E**

The man who said nothing

On the surface there is nothing extraordinary about John Francis. Nothing to indicate a modern pilgrim or eco-warrior in the making. The son of West Indian immigrants brought up in North Philadelphia, he never even heard the word 'environment' until he was a grown man living in California. And yet his silent 17-year walking pilgrimage was a living thing. An external journey that became an internal one that took him from youth to manhood as well as from a state of wondering and indecision to deeply held convictions about our kinship with all life and about social and environmental justice.

In a world where most of us feel we have to shout to be heard, he made a difference by keeping quiet. **Jonathan Rowe** gets to know his neighbour, the man they call the Planetwalker.

We would see him almost every day, a large man pushing a stroller along the road near our house. We had just moved here – to the northern California coast, about an hour north of San Francisco. It was winter, with its drizzle and fog. Still the man walked, with a long easy gait that flowed through his entire body, as though he was carried forward by his own momentum as much as by muscular exertion.

This was John Francis, I discovered, and he had walked quite a ways. The story has been told often in the US media of late. In the early 1970s he was living out here, amidst the rolling ranchlands and postcard beaches. Two oil tankers collided in the fog near the Golden Gate Bridge. Eight hundred and forty gallons of crude oil poured into San Francisco Bay and spread up the coast. People flocked to the beaches to help. Birds died in John's hands as he tried to rescue them from the ooze.

It was an event that changed lives, a kind of environmental 9/11. That there is a National Seashore here today, instead of the freeway and development that were planned, is a result largely of that spill. But at the time John heard the same inner arguments most of us do. He was busy, he had a band to manage, a life to

live. He could change his life, make different choices, but don't we need systemic change? What difference could one person really make?

Then something else happened, something more personal. A close friend died when his boat overturned in the Pacific. The resistance between the thought and the act appeared now as so much self-justifying noise. 'I realised that if there was something worth doing I'd better do it now,' John recalled, 'because there was no guarantee there would be a tomorrow.'

John stopped using motorised transport of all kinds, inconvenience and all. He walked everywhere. San Francisco, which is around 40 miles away, would take two or three days. He found to his surprise that many people took this as a challenge, almost an affront. He was trying to guilt-trip them, they said. Couldn't he do more good if he rode to San Francisco and got there faster?

Some people even said that he was helping people who drove gas-guzzlers. By not using gas, he was making gas cheaper for them. John found himself arguing all the time with the people he met on his treks. The inner conflict had become an outer one.

On his 27th birthday, to quiet the contentious voices inside and out, he stopped talking. First it was one day, to give himself a break. That day turned into 17 years. During this time John walked across the USA and much of South America, carrying little more than a backpack and a banjo. He worked as a boatbuilder and did odd jobs. Along the way, he managed to get an undergraduate degree and then a PhD in environmental science. He taught a graduate seminar and gave lectures in mime.

The Coast Guard hired him to rewrite the nation's oil spill regulations in the wake of the Exxon Valdez disaster. John gave it a try, but he is not one for a desk job in Washington. He came back to Point Reyes Station – by way of South America – with a wife, Mattie. Then came Sam, who was in the stroller John was pushing when we first saw them on the road.

SPEAKING SOFTLY

John speaks now, in a gentle soothing, voice that has perhaps an echo of his father's native Antigua by way of north Philadelphia. There is still a quiet that surrounds him, a calm and measured pace. Somehow he seems to be taking his time even when he is in a hurry. When you talk with John you find yourself slowing down a bit, your voice falling into stride with his.

He uses cars and planes now, too. During his years on the road he used to check in with himself regularly and ask whether the silence still served a real function, or whether it had become a ritual, or even a hook on which to hang his pride. He never asked that of the walking. But then, outside a prison in South America, it struck him that he had become a 'prisoner of planet walking', as he once put it. 'Sometimes we are in a prison that only we have the key for.'

So now he drives, and flies – a great deal, in fact. He



'I start to feel
that each step
taken is part
of an invisible
journey, for
which there
is no map and
few road signs.
I am not sure I
am prepared,
and the
discomfort
both frightens
and excites me'

- extract from
Planetwalker

Man who said nothing

‘Change yourself, and you start to bring others along with you. This is how we are going to change the world’



is in great demand. A few years ago he self-published a memoir, *Planetwalker*, which has had an impact far beyond its actual distribution. There has been a steady current of media articles. A Hollywood producer has an option. The Sierra Club [the leading environmental group in the USA] has engaged him to make talks and walks around the country. The speech requests are non-stop.

At one level, *Planetwalker* is a meditative, on-the-road journal, in the American tradition of *Blue Highways* and *Zen and the Art of Motorcycle Maintenance*. But indirectly, it touches our brooding concerns about the overheating of the atmosphere: both physical and socio-political. We know – many of us at least – that we are going to have to take big steps. We know that no manner of ‘policy’ can work if we aren’t working with it.

We are weary of the tendentious noise of politics, the canine attacks, and wish people would just shut up (including, often, ourselves). John is the man who did these things – who went where we couldn’t quite bring ourselves to go. He shut his mouth and lived his calling instead. His story is an inspiration, yes; but it grips us with just a bit of the fascination of the accused.

SLOWING DOWN

John and I are friends. So are our sons. We chat often when we pick them up at preschool, and at other times around town. There is nothing unusual about this. Here in Point Reyes Station, just about everyone is John’s friend, it seems. When he walks along the main street, he has something to say to virtually everyone he encounters – not just a ‘hello’ but an actual conversation.

In a way this is John’s business – encountering people, being involved with them. Though he is becoming a symbol of environmental concern, he doesn’t talk that much about ‘the environment’ as such. I never have

heard him rail about global warming or pesticides, or hold forth on legislation that ought to be passed.

People sometimes find this puzzling. ‘What does he actually stand for?’, a friend asked not long ago. She’s lived here for several years and can’t quite figure John out. It can take a while. Unlike many environmentalists, John dwells mainly in the particular. His approach to global warming and other problems is to relate to this one person, this one particular thing. He is less interested in the problem than in the people behind it – which means not just the corporations but ourselves as well.

I asked John once what his walking and silence had accomplished. He said that people had to change in order to deal with him. Invite John to dinner, and you had to be prepared to put him up for the night, or maybe two or three. You had to make arrangements in advance, and then without talking. When you dealt with John you entered his time zone; your clock slowed down to his.

This included the US government. When the Coast Guard hired him for the oil spill regulation project, it had to wait two months for him to bike down to the nation’s capital from Vermont (it makes one ponder what would happen if the government and corporations had to wait for all of us). When he got to DC, a car hit his bike at an intersection. The paramedic in the ambulance didn’t know what to do with this strange man who insisted on walking to the hospital (he was talking by then).

‘Well, honey,’ she said, ‘if you would just suspend your principles for five minutes we can drive your butt to the hospital.’ She was exasperated, of course. But that encounter will linger in her memory. Who knows what might trigger it, and cause her to think: ‘That crazy guy, maybe he was on to something.’

This is John’s theory of social change. Change yourself, and you start to bring others along with you. The result is symbiotic, and self-reinforcing. ‘The community kind of changed with me to enable me to

do this,' John told a gathering at our community centre a few years ago. 'It started to teach me how change happens in a non-confrontational way. This is how we are going to change the world.'

MANUFACTURED ISOLATION

There is a corollary to this view, which is that real change starts with individuals, one on one. 'The environment is really about how we treat each other,' John says. 'The physical environment and the problems we see in it are a manifestation of how we treat one another.'

When I first heard this I thought it was a little sappy. But the more I think about it, the more I see the point. For one thing, a great deal of what is called 'consumption' today actually is a symptom of social isolation – manufactured isolation. The American suburbs, which are isolation farms, were touted by Herbert Hoover in the 1920s as a way to get Americans to shop more.

For this and other reasons, we are beset by emotional hungers for which consumption – sometimes literally, in the form of food – has become a conditioned and illusory response (some 25 per cent of Americans told a *USA Today* poll that they have no one they can confide in). The healing of the natural ecology will require the healing of the social ecology. Research has confirmed what most of us knew all along – namely, that happy lives are rich in human interaction, more than in stuff.

When John was walking and not talking, he encountered people in ways we rarely do today, swaddled as we are in the multiple cocoons of cars, iPods and all the ways money and technology insulate us from others. John walked naked, so to speak. He didn't even have the clothing of speech, which is as much a means of deflection and defence as it is of communication.

The result was the intimacy and authenticity of the unspoken. Perhaps it was akin to what people experienced long ago, when they had to send letters over long distances and then wait endless days for a reply. The bond grew in the wordless space.

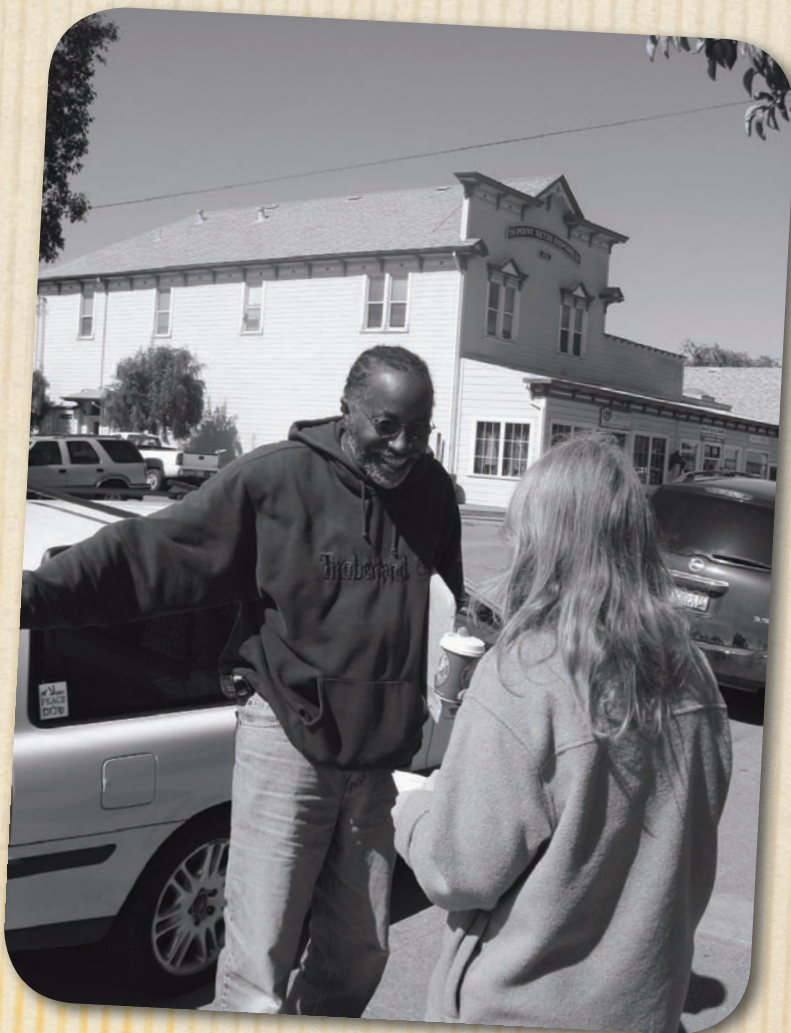
One friend walked 20 miles to meet John halfway on his return from another city. 'It was a gesture of friendship,' he recalled later. His father would drive halfway across the country to meet him in Montana or South Dakota. (He and John's mother thought he might have joined a cult. But one aunt observed, 'He seems to do better when he doesn't ride in cars or talk.')

It is an intimacy that is almost impossible today with the constant chatter of email and cell phones. 'It's hard for some people to understand how not speaking can actually enhance communication,' John told a local paper here. 'It's a stretch for the Western mind because [in that view] there has to be a listener for there to be communication. But I found that how you actually live on the planet, not how you say you live on the planet, is a form of communication.'

Environmentalism today is talk-heavy and science-heavy. We need the science, sure. But look at the



'The physical environment and the problems in it are a manifestation of how we treat one another'



Man who said nothing

climate change debate. It has turned into a battle of experts to which the rest of us are spectators – another version of the consumer marketplace. Yet does anyone really need a scientist to tell them that pouring gunk into the sky is going to have bad consequences of some kind, and that we had better clean up our acts? If they do, the evidence is not likely to convince them anyway.

To expect science to lead is like expecting intellect to lead; it is like trying to grow crops by the cold light of the moon. There is a need for the emotive energies that arise from the action itself. 'It's when you commit yourself to do something,' John says, 'it's when you take that first step, and come off the sense of being an observer, and become a participant, that you start to change the world. You do one thing, and other things come of it. Then you start thinking.'

A HOPEFUL MAN

John's life is about to change again. As I mentioned, a Hollywood producer has taken an option on John's story. Options are the proverbial dime a dozen, but this one is serious. *Variety*, the entertainment industry rag, reported that a prominent scriptwriter is at work. Big-name actors have been mentioned, Will Smith for one.

This leaves me ambivalent, to say the least. I am glad for John and the platform he could get. Still, this is Hollywood. What will it do to a story that is minor notes

where the big screen wants major ones? Doesn't anyone there grasp the contradiction in casting a big-name star to a role like this? And what does it say about our culture that we need a star to validate a story such as this in the first place? Is nothing permitted to be real until Hollywood pays someone millions of dollars to make a fictional portrayal of it?

I worry that by blowing its peculiar air into this story, Hollywood will diminish it. And I'll admit it, I worry about losing John, too. I watch him a bit these days – watch for signs of drift into the celebrity orbit, and of looking past the folks in town to the bigger things ahead. So far I haven't seen it; if anyone is grounded enough to resist those seductions it's him. He still has time for everyone on main street, still seems unrushed even though he has much more to do.

John Francis is by nature a hopeful man. Maybe it's from the years of walking, but he tends to trust the road ahead. One local put his impact this way: 'People feel the issues are so large and grand that an individual can't make a difference. Lots of people feel their stories are over. John represents the individual who believes his story is not over.' **E**

Jonathan Rowe is a Fellow at the Tomales Bay Institute and is a contributing editor at *The Washington Monthly* and *YES!* magazines



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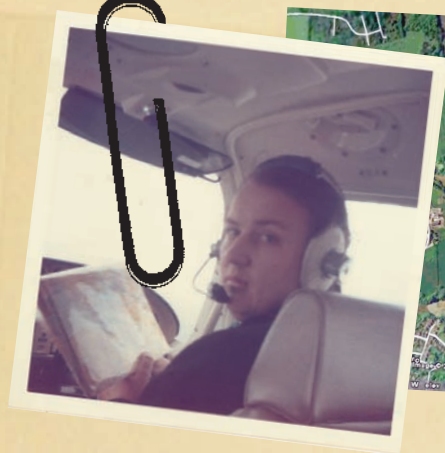
WHOSE RULES RULE? 07

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BURYING THE TRUTH

What does Douglas Gowan know that everyone else wants to keep hidden? For 40 years the story of Brofiscin Quarry - now the most polluted place in the UK - has been suppressed. Documents have been mysteriously lost, witnesses silenced, scientific data ignored. But like the periodic explosions that issue from the depth of the quarry, the truth has a way of blowing up in our faces. **Jon Hughes** and **Pat Thomas** report

Brofiscin today:
In 1967 the quarry
- from the treeline
in the far distance
- was 30 to 40
metres deep



Photo: Jeff Morgan

Witness protection schemes are normally the preserve of supergrasses or *The Sopranos*, not people who volunteer evidence in response to a public appeal from a government agency. But that is the position 64-year-old Douglas Gowan finds himself in, having spent the past six months living under police protection.

Since volunteering his evidence to the Environment Agency in early 2006 this retired corporate finance director has been subject to death threats, threatening callers to his door and numerous attempted break-ins. Consequently, at the turn of April his protection officers began to talk of placing him under witness protection.

Palpably Gowan knows something that someone, somewhere, wants suppressed. His misfortune is to be the sole surviving eyewitness who is prepared to speak out about Monsanto's cavalier disposal of a number of highly toxic chemicals, including polychlorinated biphenyls (PCBs), in at least two Welsh quarries in the late Sixties and early Seventies.

If his evidence continues to be ignored, Monsanto could escape its liability for

dumping thousands of tonnes of highly toxic wastes when they knew that this material posed a long-term lethal threat to public health and the environment.

It's certainly not the retirement Gowan planned when he returned to England from the USA in 1999. First he had a bad accident that left him disabled, and which has now led to another connection with Monsanto – high levels of PCBs have been found in his body

'The events of 1967 reveal one of the biggest environmental crimes ever to have occurred in the UK'

tissues. Then, having decided to settle in a small village outside Norwich, it has become anything but the idyll he had hoped it would.

Here was a place he had purposefully identified as somewhere he could receive medical help while indulging his passion for classical music – and, indeed, he launched a series of classical concert seasons that have been a resounding success.

His life seemed increasingly rewarding

until late in 2005 when he took a trip down memory lane via an internet search engine. He typed in 'Brofiscin', the name of a quarry in the Taff region of South Wales, and came across an appeal from the Environment Agency for people with historical knowledge of the quarry to come forward.

Gowan knows more than most about this quarry. He'd first gone there in 1967, two years after it had become a landfill site primarily taking chemical wastes from the nearby Monsanto chemical plant in Newport.

His evidence is compelling and is contained in his contemporaneous sworn affidavit to the District Registry of the High Court in Cardiff and his report into pollution at the site. Gowan swore his affidavit on behalf of farmers in the area, having spent six years investigating the pollution of the quarries, initially on behalf of the National Farmers' Union (NFU) and latterly as an expert pollution consultant retained by the NFU and instructed by Geldards, now one of the country's leading regional firms of solicitors.

Yet the Environment Agency and its consultants, world-renowned environmental engineers, Atkins, are refusing to consider it.

The question that has to be asked is: why? The answer lies in events that unfolded

over a seven-year period between 1967 and 1973, as the 'summer of love' began to morph into the 'winter of discontent'. The times they were a-changing. Business and unions were involved in an increasingly acrimonious showdown. Inflation was rife. Unemployment was rising. Both the Labour and the Tory governments struggled to reconcile the demise of traditional industries with the promise of the white heat of technology, of which PCBs were an integral part. Simultaneously they were addressing the increasingly evident problem of environmental pollution caused by industry, which led to The Control of Pollution Act 1974, to protect air and water.

Into the midst of this political and social turmoil arrived the 24-year-old Gowan, who in 1967 took up the post of Assistant Parliamentary Secretary at the National Farmers Union. The only way to understand the ordeal he is living through today is to revisit events then, as they reveal one of the biggest environmental crimes ever to have occurred in the UK. A crime that no one, seemingly, wants to prosecute.

Mystery deaths

In 1967 Gowan's brief was to offer the union's members (in those days there were 180,000 of them) advice on legal and financial issues relating to environmental concerns – an increasingly hot topic at the time – when he got the call from the Glamorgan NFU.

Farmers in the area around Brofiscin and Maendy quarries near Pontypridd were reporting mysterious deaths and abortions among their livestock. Arriving at Brofiscin Farm to investigate, the owner Gwilym Miles took him into a field where he was shown a stricken cow – one of a prize-winning herd of 60. The cow was listless, flaccid, and unable to stand. Gowan was then taken to a barn where he was shown an aborted calf – it had no ears, no tail and one leg was a stump.

The local vet confirmed to Gowan that it was one of several similar deaths among the herd and that an autopsy had shown that the dead cattle all had lethargy, and inflammation of the stomach lining and liver. This was confirmed by the Ministry vet and led to the local abattoir in Cardiff monitoring cattle from the farm, with a view to condemning those showing such symptoms.

At nearby Maendy Quarry similar deaths and abortions had been occurring in sheep, having also initially shown a loss of muscle

control. All were baffled as to what was causing the deaths – it was beyond their experience. While reported symptoms were the same, there was no clear pattern of deaths to indicate disease or mass fatality to suggest one-off poisoning.

Shocked by what he had seen, something else struck Gowan – the sickly, sweet smell in the air. He was also alarmed by the foaming yellow and purple liquid he could see streaming from the quarry into the ditches and streams and across the land. After consultations at the NFU he was given the go-ahead by the Union to investigate further. He was to concentrate on Brofiscin Quarry and the surrounding area due to the regular cattle deaths, abortions and reproductive problems being experienced on Miles' farm.

The quarries at Brofiscin and Maendy had become landfill sites in 1965 and 1966

respectively. Planning permission for Brofiscin had been granted against the advice of the local Llantrisant council's planners, Gowan was to learn, and the go-ahead was only given with a series of conditions to preclude the dumping of wastes that could interfere with the watercourses or groundwater, or the environment. Throughout the Fifties, protection of the increasingly abused waterways had been a political hot potato, which led, in 1963, to the passing of The Rivers (Prevention of Pollution) Act 1961.

Monsanto fell foul of this new legislation. The company's Newport plant had been routinely dumping chemical wastes into the River Severn and public waterways and sewers. Internal memos from Monsanto record that at least 3.4lb of PCB wastes were daily being dumped into the sewers. Criticised

A DANGEROUS MIX?

Exactly what lies at the bottom of Brofiscin quarry is a mystery, but surveys into its contents have turned up an unholy mix of substances including:

- Acrylic polyester • Aldehyde
- Aluminium • Arsenic • Barium-, calcium- and zinc-based petroleum additives • Butynol • Calcium carbide sweepings
- Calcium chloride • Chromium VI • Cleaning solvents (including xylol, butanols, white spirits, styrene and methylene chlorides) • Copper • Distillation residues (containing aniline and surfactants) • Dry matter products • Ethylene dichloride • Explosives (various)
- Formaldehyde • Iron • Lead • Lime slurry
- Magnesium • Manganese • Organophosphorous compounds • Phenols • Plastic manufacturing wastes
- Polychlorinated biphenyls (PCBs)
- Residues of high molecular chlorinated hydrocarbons • Resins (various)
- Rubbers (various) • Sodium
- Sulphur • Tar • Trichloroethylene
- Vanadium • Wood chippings • Zinc

Most chemical safety tests set standards for single substances. Yet in our society, human exposure to chemicals, be it environmental or occupational, is rarely limited to a single chemical; rather,

people are exposed to a myriad of chemicals throughout their lifetime. Unfortunately, not only is there a lack of knowledge concerning the dangers of these real-life mixtures, and how they might interact in biological systems, there is also limited technology to help scientists understand how these mixtures behave in the body and in the environment.

Such chemicals can have an additive effect, which means each chemical exposure simply adds its own toxicity to the mix (essentially $1+1=2$). Or they can have a synergistic effect where the combined effect is larger than the sum of the effects of each chemical alone (in which case $1+1=3$). Or they can have a potentiating effect where a chemical that is normally thought to be benign or inert appears to increase the effect that another chemical (thus $0+1=3$).

We know what chemicals went into Brofiscin, but we do not know what entirely new chemical compounds may have formed as a result. The admixture has never been studied and indeed may never be studied. As a result Brofiscin is the most contaminated place in Britain in part because of the tonnage of chemicals so carelessly dumped there, but also because of the unknown chemicals that are forming from those mixtures.

Silenced

in the press, and beset by a parallel situation looming large at its now infamous US plant in Anniston, Alabama, Monsanto looked for a new way to deal with its burgeoning waste problem. This was a case of swings and roundabouts for the global company; as its problems at home intensified it ramped up production of PCBs in the UK.

It sought out and employed a local Bridgend haulage company Industrial Waste Disposal South Wales Ltd (IWD) to clear its wastes. IWD, with Monsanto's assistance, identified the sites at Brofiscin and Maendy, secured planning permission and swung into operation. Despite both quarries being permeable – Brofiscin is limestone and Maendy sandstone – neither was lined nor capped against rainfall. Problems soon materialised.

Within months, the owner of Brofiscin, a reclusive spinster known only as Miss Morgan, told Gowan that she started to receive complaints from villagers in nearby Grosfaen about the strong phenolic smell coming from the quarry. In 1967, when the cattle deaths began to occur, Gwilym Miles had also complained to her of fiery coloured liquids entering the stream on his land. Gowan ascertained that the fresh water shrimp in the stream were dead or dying.

Complaints to the council from the public led it to threaten to withdraw IWD's permission to continue using Brofiscin as a landfill site. It is understood by Gowan that they were persuaded to shelve such action when IWD informed them that there was to be a planned 'asset sale', which meant that the company

would cease trading and therefore dumping. However, IWD was bought in 1968 as a going concern by Purle Brothers (Holdings) Ltd, which meant the opposite happened – wastes from Monsanto's Newport plant continued to be dumped in the quarries until 1972.

Evidence ignored

Suspecting what was deliberately being released from the quarry onto Miles' land by overflow, and later through manmade trenches was one thing, Gowan still had to prove it. In 1968 he instructed civil engineers Pick Everard Keay and Gimson, and the ICI lab at Brixham to undertake tests. To confirm the source, samples were taken of surface liquids in the quarry, at the natural and man-made

'There was an attempt to bribe him. When that failed, he was badly beaten, suffering broken ribs'

outflows onto Miles' fields, and at wells and springs on the farm.

ICI's analysis identified the presence of PCBs and numerous other carcinogenic chemicals, (see A Dangerous Mix?, p47). By late autumn 1968, a number of the Aroclors (the trade name for PCBs) had been identified: 1254, 1260 and 1242, of which we now know 1254 is the most lethal to public health and the food chain. The results were shared with Monsanto's UK scientist Herbert Vodden and Purle's chemist Henry Pullen, who confirmed to Gowan that the PCBs were

manufactured at Monsanto's Newport plant.

Little was publicly known about the adverse effects of PCBs at this time, and what was known had been discovered by Monsanto and kept secret (see PCBs Health Effects, p53). Company papers subsequently released in America show that for more than 30 years Monsanto had sat on lab tests results that showed PCBs were fatal to rats and other animals, causing exactly the symptoms and deaths that been seen in the Brofiscin cattle. Vodden, as Monsanto's chief UK chemist should have known this, but if he did the information wasn't shared with Gowan, who was left to find the link himself.

Gowan, having initiated sampling both on a regular basis, to identify the nature of the problem, and a crisis basis in response to livestock deaths and heavy rains, when the problems became more evident, became a regular visitor to the site.

Consequently he witnessed trucks and tankers bearing both IWD/Purle and Monsanto logos dumping sands, slurry, liquids and tars as well as packages of resin cake, crystalline solids and open drums into the quarry. Sporadically he witnessed night-time dumping.

Gowan shared his interim results with the CEO and chairman of Purle Brothers, Tony Morgan, and voiced his suspicion that the livestock deaths were being caused by what was being dumped in the quarry. Morgan expressed concern but seemingly considered it more of an operational problem, directing Gowan to Purle's counsel Richard Hawkins.

Furthermore investigative reports and sediment, stream, milk and surface water and animal tissue samples were shared with the Water Research Centre, the Government Chemist, the Ministry of Agriculture, Fisheries and Food, and their Veterinary Investigation Unit, as well as with the Royal Veterinary College, the Glamorgan River Authority and the Welsh Office.

Gowan was in constant, almost daily contact,

Monsanto documents: the chemical company was forced to release thousands of internal documents to the US courts when prosecuted over Anniston. These revealed that they knew the dangers of PCBs; knew in 1969 that landfill was the worst way of disposing of PCB wastes; and in that they clearly accepted that liability for problems related to production and disposal of PCBs in the US and UK would have to be borne by them

CONFIDENTIAL

Date: October 2, 1969

Monsanto

FROM NAME & ADDRESS: R. E. Keller - St. Louis Organic Research - South Second Street

This note summarizes work we have done to date on the detection of PCB's in environmental materials. The attached table covers a total of 167 samples which have been analyzed.

PCB's typical of our Aroclor products have been found in -

water and sediment from nine US rivers, one UK

April 17, 1970

ENVIRONMENTAL MATERIALS ANALYZED
BY MONSANTO FOR PCB'S

J. Mason
H. S. Bergen
J. E. Springgate
R. E. Keller

with toxicology experts around the world, including world-renowned forensic toxicologist Professor EGC Clarke at the Royal Veterinary College and Dr Gil Veith at the National Water Quality Laboratories in Duluth.

Both these experts were supplied with frozen tissue samples from the dead cattle as analysis had found no known cause of death. Veith and ICI found high levels of PCBs in the tissue but could not specify which type. No recognised poisons were found. Clarke ran a series of experiments where he fed mice Brofiscin stream water; the result was that around 60 per cent died and the rest fell ill. Autopsies revealed tumours in the liver. Again, these reports were openly shared but no action was taken to remediate the quarry.

Privately however, Purle and Monsanto seemed to be concerned. Maendy Quarry is bisected by a road and having filled one half, dumping was soon due to begin on the other. Purle advised Gowan that before that began, the new site would be lined to prevent leaching of its contents into the environment.

This unnerved Gowan. If Purle and Monsanto felt that the sandstone Maendy quarry required lining – at no little expense – to stop percolation, then he considered that meant they must know that what was being dumped in the limestone Brofiscin quarry was a hazard to the environment.

Get Gowan

In March 1969 Purle were dumping into the site on a daily basis and in wet but not stormy weather Gowan's tests found that about 500 gallons per hour of foaming yellow discharge with an average biological oxygen demand of 2400 parts per million (ppm). BOD provides a snapshot of the quality of a body of water – generally 10 ppm is considered very polluted. Phenols at 20ppm and PCBs at about 5ppm, but sometimes at levels of 50ppm, were present in the water being released onto Miles' land and through the ditches and streams that served it. PCBs at five parts per million is today recognised as the lethal dose.

In his final consultant's report – replete with technical attachments detailing his expert analysis and opinion – delivered to Geldards, the NFU, Country Landowner's Association, Ministry of Agriculture (MAFF), Department of Environment, Welsh Office, Rothamstead Research Centre, Water Research Centre and Government Chemist in January 1973, Gowan recorded finding up to 11 contaminants in the water, including PCBs

at 15-20ppm. The Environment Agency Wales has told Gowan it has been unable to locate any of these documents.

As evidence mounted regarding the dangers of PCBs, Purle and Monsanto remained unmoved, employing the tactic of 'sound science' that is all too prevalent today over climate change. As long as there was no conclusive proof and no direct identification of the single killer ingredient, reasonable doubt remained to justify continued use of the dump. The situation changed when the *Sunday Times* Insight team launched an investigation into environmental pollution and journalist Peter Pringle started to visit the site with Gowan. The public health and environmental catastrophe that was unfolding in Anniston, where Monsanto had flushed its PCB wastes into the public waterways and dumped it in unprotected holes in the ground, had awakened interest.

Pringle's reports caused heightened public anxiety and led to a pause in the dumping in 1970. Purle halted operations to allow the regrading of the quarry floor and the construction of an earth dam, to contain the polluted water. The operation was unsuccessful. The quarry floor is around four metres above the water table, which meant any liquids would soon be forced out through underground streams and springs and simply back to the surface in wet weather. The dam only served to force the water onto Miles' land.

The publicity also drove Monsanto out into the open. They began to conduct their own tests at their Ruabon lab under the direction of Vodden. The company was also in discussion with the government, the Welsh Agency and MAFF Veterinary Investigators about the situation at Brofiscin and it was reported in *The Times* that they held local public meetings to address community concerns.

The flooding of Miles' land continued; in dry weather through the underground springs and aquifers and in wet weather overland. Indeed from the end of 1970 and through 1971 ditches were dug onto Miles' land with increasing regularity by quarry operatives to enable dumping to continue.

Such was the accumulation of surface water that trucks and tankers were otherwise unable to traverse the site and deliver their loads. On one visit the quarry floor gave way beneath Gowan and he sank up to his waste in a toxic soup. He received burns and skin irritation that required hospital treatment.

Having already moved his cattle to rented



The young Gowan in the late Sixties with the sampling equipment used during his lengthy investigations at Brofiscin Quarry

fields on the advice of Gowan, Miles was eventually forced to reduce his herd by 50 per cent due to the ongoing pollution.

As Gowan pressed his clients' case in late 1971, the issue of remediation became clouded by a potential merger between Purle Brothers and the multinational conglomerate, Redland. This was a complex business deal involving the merchant bank, Close Brothers, and other City interests.

Whatever the reason, efforts to silence Gowan were redoubled. On site he was verbally and physically intimidated by Purle employees and on occasion his sampling equipment vandalised. There was an attempt to bribe him. When that failed he was badly beaten, suffering broken ribs, and told mysteriously, "Tony sent us". Both these incidents were reported to the police – and the results of the beating were witnessed that night and the next day by the late Peter Cadbury, and other friends, and the late Brynmor John MP. No-one was ever arrested or charged with any assault in connection with this attack.

Toward the end of 1971, on three occasions, channels were again cut between the quarry and Miles' land and millions of gallons of contaminated water released. Despite still suffering from broken ribs, Gowan went to the site and witnessed one of these events himself; flow measurements, samples and photographs were all taken indicating that one and half million gallons of liquid wastes

Silenced

had been released during this one incident.

Despite his protestations, Purle representatives seemed unrepentant and refused to consider remediation. Then, in early 1972, the company performed a volte face and called a site meeting. Present were Morgan and Hawkins of Purle, Vodden of Monsanto, Gowan, Robin Geldard CBE; the Welsh Office; the Glamorgan River Authority; and representatives of the Department of Environment and MAFF. Monsanto and Purle admitted the site was a real problem and unveiled a three phase remediation plan to make it safe. The companies accepted 50/50 liability for the cost.

What was proposed included the immediate erection of stock proof fencing around the perimeter and a gate to prevent public access and ensure security and the immediate grading of the quarry surface. They also proposed digging a catchment trench around the perimeter to catch any runoff, and then pump the runoff weekly to a tanker that would take away these surface discharges. The tanker would remove the contaminated liquid to an appropriate place, which was not identified. It was also suggested that Monsanto and Purle would dig a compartmented lagoon to provide an aerobic treatment system, using aerators, following on primary settlement and filtration, with the final liquids and settled solids again being tankered away.

Costly then, and even more costly now. Two days later Gowan was invited to attend Purle's solicitors Freshfields where he was provided with a letter of agreement that stated what remediation would be done before the end of the year.

Broken promises

It never was, and Gowan was dispatched to America by Geldards to seek further evidence. Here amongst other experts he met one of Monsanto's chief scientists, Dr William Papageorge, who was known as the company's 'PCB Czar'. Dr Papageorge provided him with information that showed Monsanto had long been aware of the hazards of PCBs, and had conducted tests on rats in 1953 that

either killed them or affected their reproduction. He also admitted to Gowan that he knew that cows could be badly affected by PCBs, and the milk supply could be contaminated, as Monsanto had experienced this problem with cows in Ohio which had ingested feed that had become contaminated after being stored in a silo painted with a PCB-based paint that contained the company's Aroclor-1254.

Dr Papageorge expressed concern over Brofiscin. He told Gowan that between 60,000 and 80,000 tonnes of PCB contaminated wastes had probably been sent there, with other Monsanto chemical wastes being sent to Maendy. He also confirmed to Gowan that many of

Professor of Toxicology at Guelph University in Ontario, Canada, who told Gowan that PCBs were capable of toxicity at low levels of exposure on a cumulative basis. In other words, cows or sheep ingesting regular amounts from a stream.

By the time Gowan returned to the UK in 1973, Brofiscin had been filled, dumping ceased and the quarry site covered with spoil and topsoil. However, Miles and others had launched a High Court action against IWD and Purle for damages and to enforce the remediation plan, for which Gowan made his sworn affidavit. Since the arguments continued over who knew what when, Gowan continued his research.



The Monsanto chemical plant in Newport today: In the Sixties wastes were routinely dumped into the public waterways and sewers

the PCBs produced in the UK contained dibenzofurans and dioxins and pentachlorophenol, and thus would probably be carcinogenic.

How much Purle knew about what they had been dumping is unclear. In a press statement issued in 2006, Monsanto said all their contractors were aware of what they were dealing with and how they should be handled. Yet internal memos released in the Anniston court cases reveal that in 1971 they were still actively trying to diminish the backlash against PCBs and establish ways to boost the brand, and had NOT advised users of PCBs and contractors of the hazards. These documents also show that in 1969 Monsanto knew landfill was the worst form of disposal for such wastes.

Gowan also met Dr Nicholas Platonow,

There was to be a twist in the tail, however, which illustrates the atmosphere in which Gowan had been conducting his investigations. Miles and the other plaintiffs settled out of court – receiving payments of several thousand pounds – in bizarre circumstances. They were persuaded to do so having been convinced that Gowan was lying. They had good cause to believe the accusation. Hawkins, on behalf of Purle, had launched a libel action against Gowan saying he had deliberately falsified his reports into pollution at Brofiscin.

Gowan, who was now living in America, was wholly unaware of these proceedings but his absence from the English court outraged the Judge, especially as Hawkins said he had personally served the papers on Gowan at his Dolphin Square, London home. In his absence, damages of £50,000 – a bankrupting figure – were awarded against him.

He was only made aware of this ruinous situation when enforcement was attempted in America in a Chicago court. Challenged by the US judge, he swiftly cleared his name by proving he had sold his flat in London by the time the papers were alleged to have been served and, on that day, as his passport clearly showed, he was in China on business.

The US judge batted the case back to the original UK court, exonerating Gowan in the process. This could be seen as a crude attempt not only to undermine Gowan's report into pollution and get his affidavit struck from the record, but also to stop him operating as an environment expert in America.

Expert testimony used in this attempt to ruin Gowan came from Industrial Bio-Test Laboratories in America – a company used to perform chemical and toxicology analysis by both the US government and Monsanto. It was shut down in 1978 when exposed for doctoring reports in favour of the chemical industry, and its directors were jailed in 1984.

Other pressures were being brought to bear too. On three occasions Monsanto dispatched the late Sir Richard Doll to meet with Gowan. A scientific luminary of the day, who has latterly been exposed as publicly stating chemical compounds such as Agent Orange were safe while secretly being in the pay of Monsanto, Doll told Gowan that PCBs were safe and that Gowan didn't know what he was talking about.

In 1973, Peter Thomas, MP, the then Secretary of State for Wales, echoed Hawkins' charge. From the safety of the House of Commons he libelled Gowan, telling the chamber there was no public health hazard at Brofiscin and Maendy and no danger of any contamination of public water supplies. He had been misled by Gowan, he said, whom he accused of exaggerating his reports. In fact Peter Thomas had never met Gowan, spoken to him, or corresponded with him, or vice versa. A government report into Brofiscin released in 1975 contained none of Gowan's reports or evidence, or that of his notable colleagues.

Despite everything, including the banning of PCB production in America, the UK government actively promoted such industry here until in 1977 when they reluctantly began to follow suit. Complete cessation did not occur until 1986.

Brofiscin erupts

In 2003 Brofiscin quarry suddenly erupted, disgorging an acrid pall over the area, and discoloured water into the environment, for weeks. Faced with widespread public anxiety about what was buried in the quarry, the Environment Agency launched an investigation and thus the appeal for information that Gowan responded to. An expert witness in most people's book, he was welcomed with open arms by its chairman Sir John Harman.

Aside from his consultant's report and eyewitness accounts, Gowan has another expertise for which the Agency had reason to be grateful. During his 30 years in business in the US, for about 10 years Gowan was a trustee in the US Bankruptcy Courts (USBC),

and well versed in Chapter 11 reorganization cases, so knows their workings inside out.

This was an unexpected boon as Monsanto spin-off, Solutia Inc, are voluntarily in the USBC seeking protective restructuring, as any claims for liability stemming from chemical legacy liabilities, such as at Brofiscin and Maendy, should fall on them. These are incredibly complex proceedings and have been ongoing since 2003.

From papers presented to the USBC (Southern District) New York, Solutia Inc's liabilities and assets are currently in a negative condition, and in order to trigger the indemnification by Monsanto, a claim would be essential. There is, however, no record of such a claim being lodged by the Environment Agency. Were huge claims now to materialise and succeed – and they could run into hundreds of millions if not billions of pounds – it would most likely send both companies into liquidation.

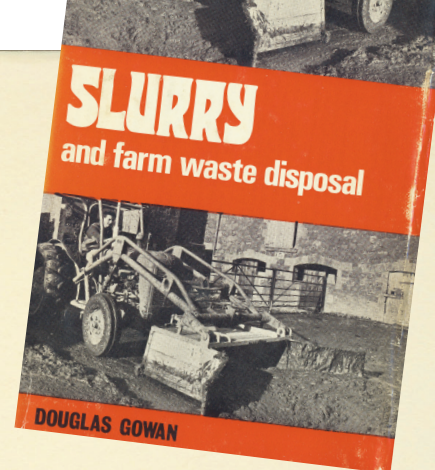
To date, the latest investigation into

‘£20m has been set aside to remediate the quarries. A peculiar use of public money for an area that is “safe”’

Brofiscin has cost £800,000. Any remediation is estimated at £100m. This figure could be dwarfed by associated civil actions relating to public health and planning. Monsanto has paid out approaching \$1 billion to cover the ongoing cost of remediation at Anniston and settle civil claims by victims of the pollution, and more cases are outstanding. Solutia Inc will escape this outcome, as will Monsanto, if they can keep Gowan out of court – as without him there to be cross-examined, his witness statements become largely worthless.

Brofiscin and Maendy are but the tip of the iceberg. At least five other landfill sites across Wales and in the north of England accepted wastes from the Newport plant. Some are believed to have been operated by Purle and Redland and are on permeable rock; as if it was hoped the evidence would slowly disappear into the earth.

Gowan agreed with the Agency to hand over all his relevant documents, return to Brofiscin with Agency officers to identify what occurred where, prepare a new witness



Gowan became a recognised expert on pollution, authoring this book, first published in 1972

statement and advise on preparing the case for the USBC on a pro-bono basis. This plan floundered when Gowan fell ill. By the time he was back on his feet, he found he'd become persona non gratia.

Then a number of inexplicable events occurred. His appointed contact, John Harrison, announced out of the blue that he was going on extended leave and that the case was being passed to Agency lawyer Natasha Lewis and her boss, Graham Hillier. Although in possession of Gowan's evidentiary proofs, Hillier has yet to speak with the man who only months before had been considered something of a godsend.

Gowan's evidence was then released to Monsanto and Tony Morgan. That's when he started to receive threatening phone calls and menacing callers at his home, and experiencing break-ins that left him fearful for his personal safety. 'You won't live to testify'; 'You're the last surviving witness' he was told; 'Don't you feel vulnerable?' he was asked.

Perplexingly, however, the Agency also withheld his evidence from Rhondda Cynon Taf Council, who would be the primary plaintiff in the claim against Solutia Inc – as confirmed in a statement from Baroness Young on behalf of the Agency – saying that to pass them on would be an infringement of Gowan's rights under the Data Protection Act.

The Agency also told Gowan, by letter, that there was no corroborating evidence and that all the people named in his testimony were probably deceased. Logic alone suggested to Gowan, 64 two weeks ago, that this was untrue and he began some amateur sleuthing. He found six to be alive and well, most notably Tony Morgan, former Purle and Redland Director, who holds a number of honorary positions today; Richard Hawkins, Purle's former counsel, who continues to practice as an environmental lawyer; Robin Geldard, who

Silenced

is retired; Peter Pringle who is living in New York; Sir Colin Corness, former CEO of Redland, and Herbert Vodden, also retired.

Four of these men were at the 1972 site meeting when joint liability for remediation was agreed in writing. This is of course a critical document in proving the case against Solutia Inc and Monsanto. Gowan alerted the Agency but got no response and seemingly no action. Morgan refused to comment other than through his solicitors. Only Pringle would speak to the *Ecologist*, and expressed bewilderment at the treatment Gowan was receiving. He stood by his Insight stories.

The Agency has instructed Atkins not to accept or review Gowan's evidence. Atkins is scheduled to deliver their final report, absent this information, in May.

Further confusion reigns over basic facts. Since the *Ecologist* pressed the question of lodging a claim in the USBC, the Agency's response has changed. First Hillier released a statement saying rights had been asserted against Solutia UK. When challenged on the basis that the USBC has no jurisdiction over Solutia UK, a wholly-owned subsidiary of Solutia Inc protected against liability for Brofiscin and Maendy, the EA have changed their story. The latest is that an open-ended reservation of rights for Brofiscin and any other claims as yet known or unknown has been lodged with the USBC against Solutia Inc. As has been said, this is not reflected in the statement of liabilities Solutia Inc has lodged with the court.

They also say that there is no pressing deadline by which to lodge a claim, although the US press has reported the judge aims to wind up proceedings within months, having become exasperated with Solutia Inc over the four years they have been before her. It is an outcome Solutia Inc executives believe will happen. At the time of going to press the Agency had not received a court date for the hearing of their submissions.

The official line – given by Hillier in the press, by Carwyn Jones, minister of state for the environment at the Welsh Assembly and Baroness Barbara Young, chief executive of the Environment Agency, in written statements, and by Lord Rooker, the Defra minister responsible in answer to an oral question to Countess Mar – is that the water at Brofiscin is safe and that dumping only took place towards the west end of the quarry and covers the area the size of a 'swimming pool'.

Claims that defy logic on three counts.

First, in a preliminary report dated 2005, the Agency's own consultants, Atkins said: 'Pollution of controlled water is occurring... The waste and ground water have recently been shown to contain significant quantities of poisonous, noxious and polluting material... and additional entry (into the environment) will therefore take place'.

Secondly, that they have an eye-witness account that testifies otherwise. The picture on page 46 shows the current state of the quarry – the west end lies in the far distance beyond the black line. When landfilling first began the quarry was up to 40 metres deep with one point of access (from the north eastern end). It is impossible for dumping to have taken place at the west end without the rest of the quarry floor being filled, which means about 20 metres of fill and waste has been dumped across the quarry floor that is evidently waterlogged. (On the 4 April the Agency changed its story yet again and now admits that 1.26 hectares, or 84 per cent, of the quarry, is contaminated and not as previously stated the area the size of a swimming pool.)

Finally, the Welsh Assembly has set aside £20m to cover the cost of remediation at the quarries. A peculiar use of public money for an area that is 'safe'.

Groundhog day

The statements also show a frightening misunderstanding about the nature of PCBs in the environment. They are not safe and do not become safe over time; they are long-living and their effect on human and animal health is cumulative. As a consequence their impact might not be immediately felt. However, such was the concern about this impact that in 1979 their production was outlawed in the US and by the UK government in 1986. In other words the threat had been recognized and action taken to protect the public and governments of the day from legal actions for compensation stemming from their continued use.

Yet again, as in the Seventies, it seems strenuous efforts are being made to suppress Gowan's evidence, which inescapably says we are sitting on an environmental health time bomb, which could erupt at any time.

Inaction against Monsanto leaves not only the public purse exposed, but more importantly public health. The implications are staggering. Could the political imperative



Photo: Jeff Morgan

Polluted water: the watercourses from the quarries run orange to this day, as Gowan also witnessed back in the Sixties

be to keep the wheels on the 'knowledge economy'? For the past five years the government has actively promoted and planned future growth around this new tech revolution which includes GM crops, nanotechnology and smart materials.

PCBs were smart materials. Monsanto released them into the environment knowing them to be a danger to public health and the environment. If we are not to go forward recklessly then people like Gowan have to be heard and lessons learned. Otherwise no amount of regulation can safeguard against that happening again.

Gowan has high levels of PCB in his blood – 30 times above the average – and suffers immune system suppression and muscular seizures that immobilise him. He is registered disabled. He told the *Ecologist* that he was recently threatened by telephone with having his benefits stopped if he continued to speak out. His unwelcome caller claimed to be representing the Treasury and Environment Agency.

Gowan has shown immense courage in the face of staggering intimidation and efforts to have his expert testimony scrubbed from the record. He is being besieged and harassed for doing what he considers to be his civic duty. He deserves better.

We all do.

The health effects of PCBs

Between 1960 and 1977 Monsanto's Newport plant produced several types of PCBs - around 209 in total - that are persistent and ubiquitous and toxic. And, for many, debilitating.

At the time, when the dumping of waste from Monsanto's Newport plant in the quarries at Brofiscin and Maendy took place, companies like Monsanto, and other producers such as Dow in South Wales and General Electric and Westinghouse in the US were stating publicly that PCBs were safe and that there was not enough data to confirm or deny their toxicity. But their own internal studies, as well as those by independent scientists, said otherwise.

In fact PCBs are the most widely studied environmental contaminants and their toxicity was well known from very early on in their production. But their usefulness in industry made them too profitable to withdraw from the market until manufacturers were forced to do so by overwhelming evidence of their environmental persistence and toxicity to living things. Like all volatile chemicals they are also light, mobile and unseen. They move around the world quickly and settle in the fatty tissues of living organisms.

When PCB production ceased in Anniston, Alabama in 1977, two years prior to an all out ban in the US, Monsanto shifted the bulk of its production to Newport, in Wales. The Newport plant was responsible for around 12.5-15 per cent of Monsanto's global PCB production, and supplied 100 per cent of all the PCBs used in the UK.

Making these chemicals required a lot of other highly toxic chemicals. The known additives in PCB mixtures include: dichlorobenzene, pentachlorophenol, naphthalene, furans, mercury, dioxins and tetrachlorobenzene. In addition the process of producing PCBs produces a great deal of waste - around 20 per cent are lost in the process. This waste needs to be disposed of and the cheapest option for Monsanto was to fill the disused quarries at Brofiscin and Maendy. As the main article on page 46 suggests, little care was taken in preparing these porous sites for the toxic sludge that was to be dumped in them.

In Wales the first indication of toxicity was

the dead and deformed cows on the farm sited below the landfill. The animals left standing exhibited lethargy, flaccidity and loss of muscular control - all symptoms of PCB exposure documented in scientific studies. The health effects in humans living near Brofiscin and Maendy have never been documented or studied. But that hardly matters. The scientific data on the toxicity of PCBs in humans is longstanding and overwhelming and began with studies on those who were occupationally exposed in the Thirties.

Early data showed that workplace exposure resulted in a painful, disfiguring type of acne called chloracne. Not long after, animal experiments began to show that PCB exposure, even at very low levels, was associated with permanent liver damage and even liver failure. Researchers at the time speculated that both the acne and liver damage suggested that PCBs were systemic poisons. As the science became more

'The data on the toxicity of PCBs in humans dates back to studies undertaken in the Thirties'

sophisticated, other effects have emerged.

Significant public poisonings have taken place either through industrial accidents or occupational exposure. In 1968 some 1300 residents of Kyushu, Japan were poisoned by rice bran oil (yusho) containing PCBs (and studies on people poisoned in this incident have yielded enormous amounts of data). In Anniston, Alabama, Fox River, Wisconsin and around America's Great Lakes area, Monsanto plants discharging into local waterways have poisoned the land, killed wildlife and threatened the long-term health of people in the surrounding communities.

Damage at all levels

Study of exposed humans has, in particular, yielded startling data about the way PCBs

interact with many key physiological systems, especially hormones. What is more, there appears to be evidence that the effects caused by PCBs may be interrelated as alterations in one system, such as the endocrine (or hormone) system, can trigger changes elsewhere such as the nervous system.

Depressed immunity, diabetes and arthritis

Humans exposed to PCBs, in concentrations as low as parts per billion have a greater incidence of all kinds of infections, especially those of the respiratory tract and skin. Exposure in children - for instance via breastmilk - can result in a much higher incidence of middle ear infection, coughs and chest infections, as well as greater susceptibility to childhood diseases such as chickenpox and measles. Such infections are not just a minor irritation since people with poor immunity also show an increased susceptibility to cancer. This is particularly true in PCB exposed individuals with Epstein Barr infection.

In adults PCB exposure can trigger immune mediated diseases such as diabetes and arthritis. In one study of pregnant women, those who had diabetes also had 30 per cent higher levels of PCBs in their blood. Exposure to Agent Orange (the defoliant used in the Vietnam War that contained PCBs) has also been linked to a higher rate of diabetes in Vietnam veterans. High exposures such as those in the yusho incident can result in a three- to four-fold increased risk in developing arthritis.

Cancer

The US Environmental Protection Agency (EPA) and the International Agency for Research on Cancer and the National Toxicology Program have classified PCBs as 'probable human carcinogens'. The evidence in animal studies is overwhelming, though different PCBs have greater or lesser cancer causing potential. In exposed workers liver cancer and malignant melanoma (a type of skin cancer) are much more common than in

DATE April 29, 1970
SUBJECT Aroclors - 3 Generation Rat Reproduction and Fish Toxicity
REFERENCE
TO R.E. Kelly, M.D./E.P. Wheeler

A visit to Industrial Bio-Test Laboratories, Inc., April 28, 1970 revealed the following progress to date of this study:

The first litters of F₁ were OK for 1242. However, the females for F₂B (second time around) failed to become pregnant at the 100 ppm level. The other two levels were OK. Only 1 female had pups which are now 12 days old. As a matter of fact only 2 or 3 of the 16 females are pregnant and they haven't delivered as yet. It is planned to remate these females for 1 week to see what will develop.

Regarding the fish toxicity studies (catfish and bluegills) the time scheduled will be 2 to 3 weeks behind because doses which were believed to be OK produced 100% kill.

the general population. What has yet to be assessed fully is the way different mixtures of PCBs – such as those found at Brofiscin – may potentiate each other and thus increase cancer risk. The greatest cancer risk appears to be from those PCBs that accumulate in the food chain, for instance in fish and other animals. Nine years after the yusho incident there was a nine-fold increase in liver cancer deaths amongst exposed men and three-fold amongst women

Hormone disruption

PCBs interfere with both oestrogen (the 'female' hormone) and androgen (the 'male' hormone) in the body and can therefore have a number of reproductive effects. After studying the children of Taiwanese mothers who were poisoned in 1979 by the large-scale ingestion of rice oil contaminated with PCBs and dibenzofurans, Chinese researchers found that the sperm of the teenagers exposed prenatally showed abnormalities such as reduced motility and an inability to penetrate eggs. On average, the exposed youths were also 2.7 cm shorter than controls and sexually mature at an earlier age.

During pregnancy, progesterone relaxes the uterine muscle, allowing it to expand to accommodate a growing baby. If the level of progesterone (which is vital in early pregnancy) is too low, there is an increased risk of miscarriage in the first 10 weeks.

Exposure to PCBs is thought to increase the risk of miscarriage by accelerating the breakdown of progesterone in the liver, thus making less available to the body. Taiwanese women exposed to PCBs through contaminated rice oil were found to have double the rate of abnormal menstrual bleeding and nearly three times the risk of delivering a stillborn baby.

PCBs also interfere with the action of glucocorticoids, steroid hormones in the same

class as oestrogen, progesterone and testosterone. Glucocorticoids help regulate embryo development, stress responses, immune function, bone metabolism and central nervous system activity, blood glucose levels, blood vessel function, and lung and skin development. They are also responsible for 'switching-on' genes that may suppress cancer.

Hypothyroidism

PCBs have been found to be similar in structure to thyroid hormones and exposure can trick the body into taking up PCBs in preference to naturally produced hormones. The problem is particularly acute with childhood exposures. Reduced thyroid function is associated with a host of other problems including difficulty controlling weight, infertility, heart disease, depression and lethargy. In newborns it can cause severe mental and growth retardation.

Infertility and reproductive disorders

PCBs inhibit the action of testosterone and because of this have been linked to reduced sperm mobility in exposed men. They have also been shown to alter the ratio of male to female births, trigger early puberty in girls and lengthen the menstrual cycle in women. Exposure is also linked with a nearly fourfold increased risk of endometriosis. Women working in industries that expose them to PCBs have shorter pregnancies and give birth to babies on average 153g lower in weight. Low birth weight is a risk factor for early death and lifelong conditions such as heart disease and diabetes.

Reduced IQ in children

Exposure in the womb to PCBs, for instance if the mother has a diet high in contaminated fish, has been linked with lower IQ and behavioural problems that persist at least to age 11. IQ, of course, is a very general measurement.

Nevertheless, it has implications for the way we educate and medicate our children. While some would argue that small decreases in intelligence are

unlikely to be important, consider the knock-on effect of a general lowering of IQ by just 5 points. Extrapolated to the entire population this would mean millions of people would drop below the threshold of average intelligence and be labelled learning impaired.

Some would say, in a world where diagnoses of learning and behavioural problems has reached epidemic levels, this is already happening.

Heart disease and high blood pressure

The body stores PCBs in fat and studies show that occupational exposure to PCBs significantly increases blood fat levels and as a result raises the risk of heart disease. In Japanese yusho victims levels of blood fats known as triglycerides increased by a staggering 43 per cent in men and women.

Increased blood fat levels are a risk factor of cardiovascular disease. In Anniston residents eating fish contaminated with PCBs was related to a 30 per cent higher rate of hypertension (high blood pressure). Higher rates of hypertension have also been reported in people exposed to PCBs through their work.



Top: A Monsanto document from 1970 detailing the lethal effects of PCBs in the environment; above chloracne, a condition caused by contact with PCBs

PCBs and the Precautionary Principle

The list of mistakes made in the name of 'progress' is long and getting longer, leaving a host of problems in their wake. Isn't it time we heeded history, says **Pat Thomas**

PCBs were chemicals that we made because we could. Manufactured from the waste products of the crude oil refining process and a range of chlorinated chemicals, these oily, syrupy liquids had a multitude of uses and have been described as being as near perfect as any industrial chemical can be.

PCBs conduct heat but not electricity and they are not water soluble. As such they proved indispensable as insulators, lubricants and coolants for every type of machinery – even those that came into contact with human and animal foods. They were also mixed into plastics and rubbers, inks, paints, dyes, adhesives and paper. Some were mixed in with pesticides and sprayed onto food crops. PCBs were also a component part of the Vietnam War defoliant Agent Orange.

While Monsanto was not the only manufacturer of PCBs, the company did own the patent on these chemicals. This means that it was ultimately responsible for either producing or granting production licences for all but a small fraction of 1.3 million tonnes of PCBs produced since 1929. Of these 66,500 tonnes were produced in the United Kingdom by Monsanto in Newport.

Other major producing countries were the US (648,000 tonnes), the former USSR and Russia (180,000 tonnes), West Germany (160,000 tonnes), France (134,000 tonnes), Japan (56,000 tonnes), Italy (31,000 tonnes), Spain (29,000 tonnes) and Italy (24,000 tonnes) and Czechoslovakia, (21,000 tonnes). Besides this, other countries, such as Hungary and China also produced PCB's, but there is little information about the total output. PCB manufacture ceased completely in the UK in 1986 and in the US in 1979. Within the European community, France, West Germany, Italy and Spain continued to manufacture PCBs between 1980 and 1983 and only in France and Spain did production continue into 1984.

Banned but not forgotten

In 2004 PCBs, were amongst the 12 highly toxic chemicals targeted for elimination by the Stockholm Convention on Persistent Organic Pollutants. According to the United

Nations Environment Program (UNEP), worldwide production of PCBs was probably far in excess of the official figures quoted above – probably 1.5 million tonnes (not including production in the Soviet Union, which did not fully cease until 1993 and for which figures are unreliable).

Although production is now banned under the Stockholm Convention, PCBs continue to pose a risk to human health and the environment because of the wide array of PCB-containing electrical equipment still in use – it is estimated that 66 per cent of all PCBs ever manufactured are still in service somewhere in the world.

The Convention gives governments until 2025 to phase out 'in place equipment' as long as that equipment is maintained in a way that prevents leaks. It also grants another three

'If anything ever illustrated how utterly lacking in forethought we can be, PCBs must surely be it'

years to ensure the environmentally sound management of PCB-contaminated wastes.

Nevertheless accidents do happen and carelessness is common; PCBs have been, and continue to be discharged into soils, rivers, lakes and oceans. Some of these releases are due to accidents, the repair and decommissioning of equipment, the demolition of buildings and the continued existence of poorly sealed landfills and waste drums.

PCBs are also released into the atmosphere through deliberate dumping and incinerating of waste from manufacturing facilities, through chemical spills and the incineration of PCB-containing materials including wood, tyres, medical waste and sewage sludge and the refining of petroleum. The ship-breaking industry in India and Bangladesh continues to be a major source of PCBs to the Indian Ocean (PCB-containing paint was widely used on the bottom of merchant ships).

Today there are tonnes of stockpiled PCBs and PCB-containing waste and equipment

being held at temporary storage sites, all around the globe, particularly in developing countries. No one has yet come up with a safe solution for how to deal with this waste.

What precaution?

What this means is that avoiding them is impossible. In the heyday of their use, no one could see that a secretary using carbonless copy paper in the 1970s in Texas might have contributed to the death of a golden eagle in California or the poisoning of a penguin in Antarctica. But mostly PCB's were used in the unseen industrial cogs that prop up the modern machinery of life: capacitors, transformers, heat exchangers, hydraulic fluids. The paint on the inside of an animal feed troughs or storage silos. The coolant inside a deep fat fryer. The tyres on the lorry that delivers goods across continents.

Because of our careless embrace of them, there is no place on earth where they can't be found and no person who is not contaminated. This is Monsanto's big ugly and lasting chemical footprint on the planet and its people.

Humans are forever celebrating their cleverness. But if anything ever illustrated how utterly stupid, greedy and lacking in ethics and forethought we can be, PCBs must surely be it. For all our bleating about the importance of the Precautionary Principle, it's tempting to ask when are we actually going to start seriously applying this common sense approach to regulation? The list of our mistakes is long – and getting longer. It includes X-rays, benzene, asbestos, lead, mercury, diethylstilboestrol, antibiotics, animal growth promoters, tributyl tin, halocarbons and MTBE. All solved a single problem in the short term; all left a multitude of long-term problems in their wake.

It's too late to apply precaution to PCBs. We can't significantly limit people's exposure to them, we can't stop them from accumulating up the food chain. We can only live with the damage caused by allowing this long-running uncontrolled global experiment in human health and ecology to run unabated. The question is, has the lesson actually been learned this time?

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Reuse Recycle, Revitalise

Sorting out one problem can help to diminish others. **Joanna Stavropoulou** reports on the women of Addis Ababa who are cleaning up their community and their lives

Addis Ababa, Ethiopia's capital, is a city with all the problems of the underdeveloped world. Eighty per cent of its houses do not have electricity or running water, while at the same time it is plagued by the developed world's biggest problem – pollution.

In the city named Africa's capital because the African Union's headquarters are here, the most visible form of pollution is the plastic bag. Cheap, thin plastic bags are everywhere: in the rivers, on the streets and in the treetops. When they clog the waterways they create bacteria-infected cesspits that further contaminate the already unclean water. As they litter the ground and are buried under layers of mud during the rainy season, they leach further toxic waste into the soil.

Almost as abundant are the city's destitute

women – not surprising, in a country whose per capita income is 80 euros a year. They beg on the streets, they sleep with their children in muddy corners under pouring rain. They become prostitutes, charging the equivalent of 50 cents per visit. They are abused, they are HIV-positive and, on average, they give birth to six children each.

One organisation in Addis Ababa is trying to clean up the first problem by giving the street women some kind of hope.

A WORLD OF WASTE

SOS Addis is a non-governmental organisation (NGO) that was created by Ethiopians who had lived abroad and, having returned to their home country, wished to help somehow. The full name of the organisation is *SOS Addis tefetron bernalimat bkleten masweged mahiber*

(abbreviated as TBBMM). In Amharic, Ethiopia's official language, this means Nature Nurtured, Harm Reduced.

Through its recycling programme, it is cleaning up the urban environment while giving some form of employment to desperate women who have no other means of income.

'One has to do something about it,' says Kiros Wolde-Giorghis, founder and driving force behind SOS Addis, about the trash in the city. 'Every day it gets worse.'

According to the group, 70 per cent of Addis Ababa's waste is not adequately disposed of: bins are left uncollected, household rubbish is dumped directly in rivers and trash is tossed by people wherever they happen to be. Most people would be hard pressed to find a rubbish bin anywhere in this country, anyway. Any material that is not degradable,



Previous page: Life in one of the world's poorest nations. Left: Yeshemebet Mengistu, 65, helps support her orphaned grandchildren. Above: A kilo of bags earns 1 birr. **Right:** Many children of poor families cannot go to school. **Far right:** Plastic bags clog rivers and streams

like plastic, is of course the most hazardous and will be around to pollute the longest.

The organisation started out by training 25 women, who were provided with gowns, gloves, masks and boots in order to safely pick up the plastic bags through the waste. Now they are employing 50 women, even though they have not been able to provide the additional women with the necessary paraphernalia. And more keep coming.

LACK OF FUNDS

'There are a lot of women asking for this work,' says Anteneh Aberra, the programme's coordinator, 'but the place does not have the capacity to accept any more workers.'

SOS Addis has a yearly budget of only 3,000 euros. Anteneh himself, who is 25 years old

and studying to become a priest, gets just 20 euros a month for working full-time with the project. And Kiros admits that they only operate on the private donations of better-off individuals in Ethiopia. The Ethiopian Environmental Agency, which gets huge funds from abroad for environmental programmes, gave them a one-off funding of 500 euros. 'But', she adds, in an attempt to be fair, 'they give us a lot of moral support.'

Because it does not have adequate funds, the organisation is using a governmental neighbourhood centre as its premises. Here is where the women bring the sacks they have filled with plastic bags they have collected from the streets, fields and rivers. Their sacks are weighed here and the amount they have collected is written down in a ledger. Then

they empty their sacks into huge 140-kilo bags. When the bags are full, a local manufacturer sends a truck to collect them and take them to a factory where the plastic is recycled.

The women get 1 birr (10 cents) for each kilo of plastic bags that they collect. The manufacturer, in turn, gives the organisation 1.50 birrs (15 cents) for each kilo taken to his factory. A woman who works at this full time, from dawn to late afternoon, can collect about 20 kilos a day. Thus, working six days a week she can make about 48 euros a month.

'What they do and what they get paid is not balanced, it is not enough,' agrees Anteneh, but even this little money can mean all the difference in the lives of these women. 'Some of the women, especially the young ones, do this job because they have no where to go.' But, as he points out, 'for some others it has changed their life and the life of their family.'

'Ideally we would have our own recycling machine at different locations,' says Kiros. 'These machines then could produce material to create handicrafts and even furniture.' She dreams that every neighbourhood centre would have its own shop, which would recycle the bags, create its own merchandise to sell, and also promote the use again of the woven or straw bags that Ethiopian women traditionally used to carry their shopping in, instead of the plastic ones. The traditional



Ethiopia's plastic-bag women

to six children; now only two survive.

'I just want to finish school and want to become a carpenter,' says Meron Bogale, 19, who works weighing the bags that come in. She points out, though, that school costs 14 birr (1.40 euros) a month and anyway she does not have the money to buy the uniform. 'I was thinking of becoming a prostitute, but then I changed my mind and started working here, though the money is not satisfactory.' Meron too is HIV-positive.

SOS Addis hopes that someday it will be able to offer more to these women, to help them become self-sufficient, while saving the environment and helping to educate those around them about how to nurture nature so that everybody's life is better. Despite the shortage of funds, Kiros is determined: 'I will keep on going and going and going.' **E**

Joanna Stavropoulou is a freelance photojournalist currently working in Africa

woven bags, apart from being better because they can be reused many times, have the additional advantage that they are made from biodegradable materials.

REAL-LIFE STORIES

Workinsh Haile is 23 years old but cannot work many hours and, even then, only a few days a week. She married when she was 18 but her husband died a year later, though she never really knew what from. Last year, after repeated debilitating illnesses of constant diarrhoea, crushing headaches, weak arms and legs and high fevers, she finally found the cause of her sickness: AIDS.

She lives with her 12-year-old brother in a small cardboard shack with a corrugated iron roof. The few kilos of plastic bags that she collects mean that she can earn about seven euros a month. Thus she can pay for the electricity in her small shack, buckets of water from neighbours, and food for her and her

'Some do this because they have nowhere to go; for others it has changed their life'

brother. It does not cover her young brother's school fees, which meant he had to quit school. She has also not been able to get the treatment she needs; the government hospitals give her only painkillers. 'I feel I have to live as long as I live,' Workinsh says about how she deals with her fear of her condition.

HIV/AIDS affects those who get the disease and everybody else in the family. Wengelawit Demelash, 20, who picks up plastic bags in company with her grandmother, has six siblings. Both her parents died of AIDS. Her younger brother, who is 14 years old, is also a carrier of HIV. Wengelawit's grandmother, Yeshemebet Mengistu, 65, had given birth



If you would like to know more or contribute to SOS Addis, contact:

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Addis Ababa, Ethiopia
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Tel: +251 911 439282

What your donation will buy:

- 4.5 euros = 10 plastic gloves
- 6.0 euros = 10 masks
- 9.0 euros = 1 wheelbarrow
- 13.5 euros = 1 fork and 1 spade
- 315 euros = a year's salary for one plastic-bag collector



~~Every~~ little help~~.~~

Confused when shopping? Wondering if, when you go into the nation's favourite supermarket, you're getting the maximum green bang for your buck? **Andrew Simms'** latest book, *Tescopoly*, is a forensic investigation of all things Tesco – including the chain's green and ethical credentials. Forget the hype, he says, Tesco's most recent charm offensive, the Good Neighbour policy, launched in May 2006, isn't good enough. Could Britain's largest retailer do it better? Take a look at Tesco's Plan A – then turn the page for a better Plan B

TESCO value PLAN A

1



Invest in environmental technology, in particular more efficient energy supplies for its stores and more renewable energy. Tesco's aim is to 'halve by 2010 the average energy use in all our buildings against a baseline of 2000'. There are two things that can be said about this: in a world facing oil shortages

and rocketing energy prices, it simply makes good business sense, regardless of whether or not it is the 'right' thing to do; also, the proposal comes against the background of a company whose basic business model is, and will become more so, designed around people jumping in their cars to drive to superstores and out-of-town hypermarkets. Detailed questions about the sincerity of the Tesco pledge were also asked and left unanswered.

2



The second of Tesco's stated aims is to **double the amount of waste for recycling** that customers return to stores. But the question is, how much waste do customers return for recycling in the first place? Here's another good question. Wouldn't it be more effective to tackle the problem at the source and radically reduce the amount of unnecessary packaging on products?

3



Cut the number of plastic bags given out, by a quarter – well, it's a start. But the bustling city of New Delhi in India banned all plastic bags years ago; in Bangladesh, former Permanent Secretary at the Environment Ministry, Sabihuddin Ahmed, banned plastic bags entirely. The supermarket also promised to make its bags degradable – another technology that has been available for decades.

4



Roll out 'on all 7,000 Tesco own-brand products'.

Huge concern has focused on how easy or difficult it is to buy healthy food in supermarkets. The Food Standards Agency came up with a labelling scheme to make it easier to choose healthy food. It proposed a system of 'traffic light' symbols: green for eat away, amber for approach with caution, and red for eat occasionally in small doses. Which? (formerly known as The Consumers' Association) found that this was the best system, and easiest to understand; 97 per cent of shoppers followed it and were able to easily compare one product with another. Asda/Wal-Mart, The Co-operative Group, Sainsbury's, Waitrose and Marks & Spencer agreed to use the system. Tesco, however, did not. It chose to go with its own system, described by Which? as 'more of a hindrance than a help', with just 37 per cent of consumers being able to correctly interpret the meaning of the Tesco colour scheme.

5



Sponsor some school materials

on good eating. For more on Tesco's schools initiatives, see point 6 on the opposite page.

6

Sponsor some sports events. Points 5 and 6 build on existing Tesco initiatives to provide schools with computers and sports equipment. Both win the store publicity and praise, and help to develop an 'emotional bond' with the consumer. At a low cost to Tesco, this is exactly what they are designed to do. It is known in the trade as 'cause-related marketing', and even has its own award scheme. In 1998, Tesco Computers for Schools won the 'Cause Related Marketing Award for Excellence and Example of Best Practice', bestowed by an outfit called Business

in the Community. The scheme was commended for its impact on increased sales, enhancing Tesco's profile in the local community, positioning Tesco as the number-one retailer locally for customers, reinforcing Tesco's brand values, improving customer loyalty and creating recognition as an innovative retailer (and, of course, it gave some computers to schools). The problem, as this award makes rather clear, is that the emphasis is more on the marketing than the cause. Not immediately obvious is how much money you have to spend at Tesco to benefit from the scheme. Vouchers to exchange for equipment are available at limited times during the year (although, for running the

scheme, Tesco gets the publicity benefit all year round). In order to get one of the mid-rank computers on offer, you have to spend around £250,000. Similarly astonishing figures apply to Tesco's scheme supplying sports equipment to schools. To get a pack of three tennis balls, available from any average online retailer at around just £1.25, you would have to spend £1,140 at a Tesco supermarket. A pair of plastic inflatable armbands for swimming would set you back £840; a football, £2,200; a hockey stick, £2,360; and to get a trampoline for your school, you would have to buy just under £1 million-worth of Tesco groceries. That is one expensive bounce.

7

Design some **less offensive shop fronts**. For more on community relations as per Tesco, see below.

9

Increase sourcing of local goods, which could be a good or bad thing depending on how it treats suppliers (Tesco's track record being very shaky). More local sourcing means, potentially, that supermarkets could increase a beneficial multiplier effect in the local economy. Retail research suggests that there is still huge unmet demand for more local goods. One poll showed that 44 per cent of shoppers wanted to buy more. According to Asda/Wal-Mart, the market for local food is worth £160 million.

However, greater local sourcing by supermarkets is a double-edged sword. Powerful international food manufacturers can be outmanoeuvred in negotiations by supermarkets, so what chance do small operators have in getting fair contracts? If the supermarkets made typical requests for exclusivity, coupled with the fact that they can change their minds on a whim, the danger is that small producers would become trapped in highly unequal commercial relationships in which they become dependent on single large contracts. Their profit margins would then be squeezed to subsistence levels to meet the supermarkets' price requirements.

10

Finally, Tesco vowed to **promote regional British foods** in-store – which, of course, presents the same concerns as already mentioned in point 9, about local sourcing.

8

Improve the way Tesco consults local communities before building new stores, so that we can be sure that we

have understood local issues and concerns. Elsewhere, Terry Leahy has said that Tesco would seek out a favourable silent majority in favour of a store if a community did reject Tesco's plans to build one.

Promises, promises

So far, then, there's not much to get excited about. In early 2007, following in the footsteps of smaller retailer Marks & Spencer, Tesco took its environmental plans further. New targets announced to reduce energy use and green house gas emissions, if realised, would constitute noticeable improvements for the supermarket.

But two doubts remain. Firstly, the promises cut across Tesco's core business model – based on expanding massive, drive-to hypermarkets and, simply, selling ever more stuff. Even if, for example, the company reduced energy use per square metre of store, an overall doubling of floor space would likely drown out any efficiency gains. Secondly, without clear, independent monitoring and verification, it will be hard to know when, and if, targets are ever met.

To get a trampoline for your school, you would have to buy just under £1 million-worth of Tesco groceries



TESCO
value
PLAN B
THE ALTERNATIVE

What would a plan for Tesco's behaviour look like if it were to match the rhetoric on responsibility? Nick Robins, Head of SRI Funds for Henderson Global Investors, made a range of suggestions to apply to Tesco at home and abroad, to be achieved over five years. Paraphrased and added to, they also cover 10 points – but are rather different from Tesco's

1



a Fair, Open Markets Plan, restraining its

Power. The first problem is market power – so, as a responsible retailer, under this alternative plan Tesco would voluntarily implement

share of the grocery market to no more than 10 per cent in each of the markets where it is present. In fact, as the Competition Commission noted in its 2000 investigation, a mere eight per cent of market share delivers enough power to abuse the supply chain – so maybe we should lower the 10 to eight per cent.

2



set 90 per cent as a goal.

Going local. Tesco would set itself the target of sourcing three-quarters of seasonal food in-country, and

3



It also has one of the lowest average annual salaries for its workers, at just £11,594, a figure that shrank from the previous year and includes its overseas

Sharing the benefits. Tesco has one of the most expensive company boards in the FTSE-100 list of biggest corporations, costing £19.7 million in 2006.

staff. This figure is probably understated to a degree, because Tesco has many part-time workers; but even if this figure were higher by a few thousand pounds, it wouldn't even come close to Chief Executive Terry Leahy's pay, which rose by 25 per cent in 2006 to nearly £4 million, including bonuses of £2.8 million. Someone earning the average Tesco salary would have to work for 345 years to catch up with Leahy. Robins suggests

that Tesco introduce a maximum ratio between top and bottom pay of 15 times. Interestingly, more than 100 years ago, that giant of the business world JP Morgan said that, in order to effectively motivate staff, no company needs to have a differential between highest- and lowest-paid greater than 10. Historically, the Royal Navy had a *de facto* differential of eight. For the sake of argument, let's settle on a ratio of 10 as a target for Tesco.

4



WHO's Global Strategy on Diet, Physical Activity and Health. It would commit to

Healthy living. As part of a commitment to public health, Tesco would launch a Health Action Plan, linked to international initiatives like the

removing from its shelves products with poor health profiles (an approach similar to one used to phase out electrical goods that use energy inefficiently, referred to as 'choice editing'). For example, in support of government targets to reduce smoking, Tesco would cut its cigarette sales by one-quarter in five years and halve them in 10.

5



See point 9 for more suggestions for fair investment.

Fair trade. All of Tesco's own-brand products sourced from overseas would be bought according to proper fair trade guidelines.

6

Global warming. The shift to more efficient and sustainable energy use was a big part of Tesco's rebranding as a 'responsible' company.

It was welcomed, but left a lot out.

Perhaps the biggest weakness is that Tesco focused mainly on its own infrastructure and ignored the fact that its whole business model encourages the wasteful use of private transport. To change that, Robins proposes a target in line with government aims to reduce greenhouse gas emissions by 60 per cent by the year 2050. The target would

apply to all of Tesco's own energy use, including fuel for vehicles, the emissions that stem from all the stores supporting logistics and, vitally, emissions from the transport that its customers use to shop at Tesco stores.

This aim would be a start, and is good as far as it goes, but environmental realities might mean we need to turn the screw a little tighter. The latest science of climate change suggests that the target for 2050 may need to be higher and reached much sooner to prevent catastrophic, runaway global warming. So we might need to change the year from 2050 to 2030, and the 60 per cent to around 80 per cent or higher.

9

Community investment.

Robins suggests that Tesco shift from its current commitment to donate the

equivalent of one per cent of pre-tax profits, and increase this donation to five per cent of post-tax profits – matching the practice of the major US retailer Whole Food Markets.

7

Sustainable farming, fishing and forestry. After climate change, depletion and inefficient use of the world's

freshwater supplies is the next major environmental threat. To improve its record on sustainability, Tesco would extend current commitments on farm management, fish, palm oil, and timber to all of its global operations. It would also launch a plan called Every Little Drop Helps, to measure and report on the water used in the production of its products, and would set targets to cut water use.

8

Waste. Tesco would set out to reduce plastic carrier bag use by 90 per cent, achievable by introducing a

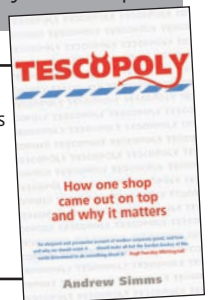
charge for them, with the proceeds going to appropriate charities (such as Bag Relief). In the Republic of Ireland, a tax on plastic carrier bags has achieved exactly this result and raised large amounts of money. An alternative would be to follow the New Delhi or Bangladesh examples, and simply ban them. It is striking how quickly people adapt – just as we adapted to using plastic bags.

What good neighbour?

There is something Orwellian in Tesco's promise to become a 'good neighbour'. Partly, it's an admission that it hasn't been one so far. It's also a strategic attempt to ward off regulation and maintain market power. You can't help suspecting that if Tesco really was your neighbour, you could wake up one morning to find a Tesco Metro built over your back garden, and a week later a Tesco Express would appear at the front. As for genuine good neighbours, they're all different – a reality trap that even Tesco's PR machine has yet to escape.

For more details

Tescopoly by Andrew Simms (Constable and Robinson, £7.99). Andrew Simms is policy director of the New Economics Foundation (www.neweconomics.org)



10

Decision-making.

Tesco's approach to communities that don't like their decisions (remember those active campaigns – 138 at last count) is like when the Government gets into trouble with a deeply unpopular policy and doesn't admit that the policy is wrong, but merely suggests that it has failed to communicate the policy well

enough. Sir Terry Leahy's 'Good Neighbour' policy says: 'We will improve the way we consult local communities before building new stores.' In other words, Tesco will not simply walk away if a community does not want a new store. The new approach seems designed to make it easier for Tesco to get its own way in the end. Stronger local democracy is the only real answer. For example, proposed new legislation like the Sustainable Communities Bill seeks to establish in law the principle that decisions

should be taken at the lowest appropriate and practicable level and be financially supported by central government funds available for local development. In late 2006, the Bill had won the support of more than half the House of Commons and was picked by the MP who came top in the lottery for private members' bills, pushing it to the front of the queue of non-government proposed legislation. Under the new scenario Tesco would support the terms of this Bill, or similar.

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¹Based on BWEA and ASA figures of an emissions factor of 860g CO₂/kWh for electricity generated by coal fired power stations, typically displaced by wind power generating capacity.

GREEN PAGES

HEALTHY TEETH

And little
white lies

KATHARINE HAMNETT IN TESCO

Check out
or sell-out?

BAN THE BULB

Rethinking how we
light our homes

MEET DUSTY GEDGE:

Revolutionising rooftops

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food range • 10% off Black
Isle beers • 15% off Nigel's
Eco Store lighting range
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64 In wine we trust A hangover from biblical times is the belief that wine is natural. Well, so it was back then – but these days, as **Monty Waldin** explains, many vineyards are doused with chemicals

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66 Katharine Hamnett takes on Tesco The activist designer takes organic cotton and fair trade practice to the supermarket behemoth

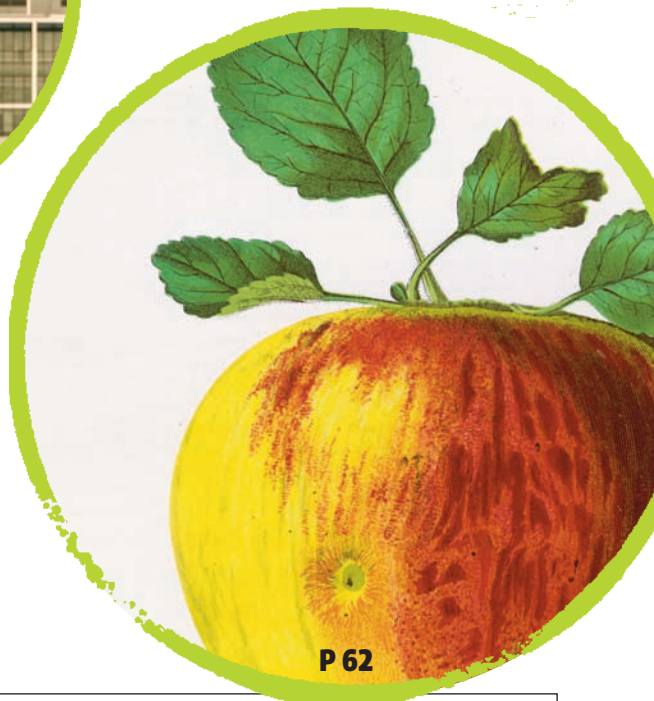
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Wherever you see this little bird you'll find pointers to relevant contacts in our Green Shopping Guide



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What is 'good' design? The answer depends on whom you ask. In the design community today, it's about how effectively a product engages with the consumer; traditionally, it meant how well a product functioned and looked. In a marketplace where packaging can mean more than the product, the question must be raised of what role ethics and the environment can and should play. According to the British Council, up to 80 per cent of a product's environmental impact is decided at the design stage. This figure will vary across industries, but it remains the case that from lightbulbs to lingerie, toys to tower blocks to trousers, designers wield huge influence. It's unacceptable that either through ignorance or indifference, many relinquish this power. Will the design community pave a new way forward? In this month's Green Pages, Katharine Hamnett justifies working with Tesco on the grounds that creating an ethical supply chain can help to improve the lives of cotton farmers worldwide. Dusty Gedge, our local hero, creates a nest for urban architecture's most undervalued audience: wildlife. And Laura Sevier discovers how to minimise our carbon footprint with the flick of an eco light switch. These initiatives all prove one thing: the *sine qua non* of 'good' design starts with conscious designers.



Matilda Lee, Green Pages Editor

★ READER OFFERS ★

- 76** 20% off Goodness Direct's food range
- 77** 10% off Black Isle Brewery beers
- 78** 15% off Nigel's Eco Store's lighting products
- 79** 15% off 600 colours in Self-Coat Paints' B-Eco range
- 83** 30% off mother and baby skincare from Angelique
- 84** 25% off handcrafted accessories from Hatti Trading
- 86** 20% off Cornwall Soap Box's bodycare range

May

BY LAURA SEVIER

Hear birds sing, admire wild flowers, eat your way through festivals and farmers' markets, bin your dustbin with compost and help the planet with a click of your computer – all this month



5 May

The spirit of summer

Jack in the Green festivals traditionally took place on village greens around the UK as part of the May celebrations to welcome the arrival of summer. The custom still survives in Bristol, Deptford and Hastings and it makes for an intriguing spectacle. The Jack, nine foot tall and covered in greenery, is accompanied by a merry band of singers and dancers. Dressed in green rags and vegetation, they lead a lively procession through the city's streets. He's then symbolically slain to 'release the spirit of summer'. For more details of festivities, visit www.commonground.org.uk (see their Comment on page 17).

Also of note

29 April, Photography: Discover your urban wonderland Use your camera for nature-spotting. Natural History Museum www.nhm.ac.uk

12 April – 11 May, Exposed: Climate Change in Britain's Backyard Stunning photo exhibition starts its UK tour. www.nationaltrust.org.uk/events

16–27 May, Be Nice to Nettles Week www.nettles.org.uk

21–25 May, National Walk to School Week www.walktoschool.org.uk

Walk in the woods Walks, talks and other tree-related events throughout May. www.treecouncil.org.uk



SAVE OUR NATURAL HERITAGE Blue butterflies

All seven species of blue butterflies in the UK are threatened by habitat loss and changes to their environment. Look out for Adonis, Chalkhill, Holly and Small Blues this month. www.butterfly-conservation.org



28 April Debt and Power: breaking the chains of economic slavery

The world's most impoverished countries are forced to pay over \$100 million a day to the rich world in debt repayments. Find out more at the Jubilee Debt Campaign conference, London NW1. For details: www.jubileedebtcampaign.org.uk

Website of the month

www.tiptheplanet.com
The first centralised user-adaptable resource for tips that benefit the planet, Tiptheplanet is a new project to create a wiki website where you can find information on everything from environmental news to energy saving, from finance to finding a green job. Sign up to their blog and you'll be sent a daily tip.



PICK OF THE MONTH

Eczema cream from Pure Potions

My son suffers from eczema and we've gone through countless creams and oils to help relieve the itchiness. Then I tried Pure Potions Skin Salvation. With hemp, safflower and olive oils (soothing and nourishing) as well as chickweed and nettle (to soothe itching), it is all natural and very effective. The search for a perfect cream is finally over. www.purepotions.co.uk **Matilda Lee**

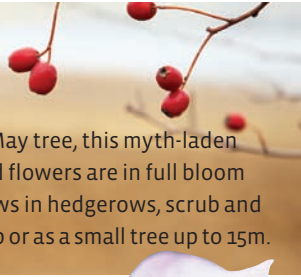


6 May Nature's melodies

Gather at dawn with other bird-lovers for International Dawn Chorus Day and enjoy bird songs with a local expert, usually followed by a hearty breakfast. Robins, blackbirds, song thrushes, wrens, dunnocks, great tits, starlings and blue tits are all very vocal at this time of year, particularly in the morning. Events are organised by local bird and wildlife conservation groups. See www.wildlifetrusts.org

MAY IN BLOOM Hawthorn Tree

Otherwise known as the May tree, this myth-laden tree's small, white scented flowers are in full bloom in May. The hawthorn grows in hedgerows, scrub and woodland as a dense shrub or as a small tree up to 15m.



Wild flower: Cuckoo Flower

Also called Lady's Smock or Mayflower, the cuckoo flower is closely related to watercress. Its white, lilac or pale pink flowers appear between April and June, coinciding with the coming of the cuckoo, hence the name. Look out for them in damp, shady, grassy areas.



Warning It is illegal to uproot wild flowers and plants and to pick certain species that are protected by the Wildlife & Countryside Act 1981. For more information, visit www.naturenet.net/law/wcagen.html#plants

6-12 May International Compost Awareness Week

Around 40 per cent of the average dustbin's contents are suitable for composting, allowing food 'waste' to live again and be part of a natural cycle instead of going to landfill.

Compost bins

Nicky Scott, author of *Composting: An Easy Household Guide* (Green Books, £4.95) recommends:

For inside You can start composting indoors with 10-litre caddies, bokashi bins (the bokashi mix helps cut out the smell) and wormeries: visit www.wigglywiggles.co.uk; www.recyclenow.com; www.recycleworks.co.uk and www.westcountryworms.co.uk

For outside Make or buy various types of compost bin, such as Green Cone bins (www.greencone.com); Jora 270 bins (www.smartsoil.co.uk); and traditional compost bins (www.organiccatalog.com)

For more information

Compost Association, www.compost.org.uk; Waste & Resources Action Programme (WRAP), www.wrap.org.uk or call the home composting hotline, 0845 600 0323; and Garden Organic, www.gardenorganic.org.uk



24 May - 3 June Eating to protect the planet

Amidst the literature, art and discussion at *The Guardian* Hay Literary Festival, the Soil Association is showcasing a 'Gastrodome' - organic menus of tasty local food freshly cooked by culinary artists the Soil Sisters; and a 'Geodome' - talks, films and discussions about how food choices impact the environment, including 'Food Stories' for children. For details: Soil Association, tel: 0117 314 5171; www.soilassociation.org and www.hayfestival.com/wales

Email: laura@theecologist.org with upcoming events for In Season



Experience farmers' markets

London's 16th farmers' market is opening in Acton (from 21 April, Saturdays 9am-2pm, Market Square, Acton High St.) There are now 500-plus farmers' markets around the UK, offering fresh, local, diverse and delicious produce sold by the farmers themselves. Find one near you at www.farmersmarkets.net

May food in season

Fruit and vegetables

Asparagus
Broad bean
Beetroot
Cabbage
Cauliflower
Chard
Dandelion
Elderflower
Endive
Garlic
Lettuce
Mushroom (morel)
Nettle
Onion
Pea
Potato
Radish
Rhubarb
Rocket, wild
Seakale
Sorrel
Spinach
Spring greens
Spring onion
Turnip
Watercress



Asparagus

British asparagus is nutrient-packed and a renowned aphrodisiac. The season formally starts on 1 May, for around seven weeks. Once cut, it deteriorates, so it's best eaten as fresh as possible.

To cook: Break off the woody ends of the spears then blanch, steam, stir-fry, sauté or chargrill and add olive oil, lemon and salt.



27 May - 3 June

The 2007 Asparagus Festival in the Vale of Evesham, the traditional home of English asparagus. See



LOCAL HERO

View from the top: Dusty Gedge of Living Roofs

Can there be wildlife in our urban jungles? **Matilda Lee** meets a man campaigning to let nature live on city rooftops

It all started with the black redstart. With only 100 estimated nesting pairs, this bird, a brown and gold relative of the robin, is one of the UK's rarest species. The bird thrived in the rubble and sparse vegetation of London after the Second World War, as this resembled its natural habitat in the Alpine slopes. In particular, it settled in brownfield sites (vacant or derelict land or buildings) in south-east London.

Dusty Gedge, an actor and circus performer (specialities: juggling, unicycling and tightrope-walking), had been an avid birdwatcher since the age of seven. In 1997, a conservation officer in Deptford, south-east London, recruited him to do a birdwatching survey for a creekside regeneration project.

The black redstart is protected under the 1981 Protected Species Act, by which it is an offence to intentionally disturb a bird's nest-building or caring for eggs or young. At the crack of dawn, Dusty would find himself visiting sites being developed in brownfield regeneration projects, where the bird was known to nest. He'd try to 'occupy' the site and stop

the building until the birds had finished nesting. This didn't win him many friends, but it did get attention – from the local council as well as groups such as English Nature and the Environment Agency. The building would be stopped to re-evaluate the site for protected wildlife species, which, in the short run, allowed the birds to finish nesting. But as a long-term solution, it didn't help the black redstart as there were no plans incorporated to recreate its habitat. That is, until the idea of a green roof came about.

'The attitude of developers was, green roofs were only meant for hippy community centres,' says Dusty, a rugged, chain-smoking south Londoner. He heard about a Swiss scientist, Dr Brenneisen, the world authority on the use of green roofs to promote biodiversity, and went to see him. The Swiss had successfully designed rooftops to recreate the black redstart's natural habitat, combining urban design with specific conservation and biodiversity objectives. In the Swiss model, Dusty discovered that green roofs could mean much more than a hippy hang-out or yuppies' terraced rooftop garden.

The roofs Dusty promotes may not even be green. Designed to mimic natural and local habitats for the benefit of bird, plant and

insect species, they use building construction waste (stone or brick rubble) interspersed with seed mixtures – then leave the rest to nature. These 'laissez faire' roofs require little or no input (no watering, no mowing). The first 'biodiverse' or 'brown' roof that Dusty was instrumental in creating – on the Laban Dance Centre, in Deptford, south-east London – was built specifically to house the black redstart.

Holistic view

Fast-forward 10 years and Dusty, from his own experience and research, has compiled a vast sum of case studies, research and information on green roofs, which is available at the tip of his tongue (and on his website, www.livingroofs.org, a UK portal run from his kitchen table). From stormwater amelioration saving the sockeye salmon in Portland, Oregon to green roofs in Germany providing refuge for the skylark, Dusty is a walking encyclopaedia of green roof case histories.

While he's not the only expert in the field, his knowledge and endless enthusiasm has made Dusty a kind of 'godfather' of the green roofs community/movement in the UK. He's handed in the circus



Designed to mimic natural habitats, they mix stone or brick rubble and seeds – then let nature do the rest



tightrope for a full-time schedule of tours, meetings and speaking engagements with everyone from ecologists to government officials, corporate executives, architects and developers. Gary Grant, a consultant ecologist and author of *Green Roofs and Facades*, says, 'I think Dusty's spoken to every local authority in London. He's a tireless campaigner.'

'Green roofs were a new discipline for me,' says Dusty, 'but my advantage was not to be constrained by the mission statement of one organisation. I didn't approach it being an architect or in the construction industry – I learned on the hoof.' His philosophy is very much centred on locality. 'You want green roofs to mimic the natural landscape. Near rivers, you could have a dry riverbed habitat. In Durham they could have magnesium limestone grass; in Alpine climates you have dry meadow flowers. The more diverse the species, the better.'

But it's not only the black redstarts who are served: green roofs also offer potential benefits to humans in the UK. 'With serious downpours, rainwater goes straight from paved roofs into roads, rivers and into sewage systems, contributing to flash floods. A green

Clockwise from above: a small green roof in Berlin; Dusty's first green roof, on the Laban Dance Centre; grasshopper on a green roof in Rhyl, Wales; a black redstart-



roof will absorb this heavy rainfall – by 50, 60, even up to 90 per cent, storing it in vegetation until it is absorbed back into the atmosphere,' Dusty says. With UK flood damage costing hundreds of millions of pounds over the past few summers, and some two million commercial and residential properties at risk, green roofs are a wise flood prevention and mitigation measure.

The urban 'heat island effect' is the difference in temperature between urban areas and the surrounding countryside due to the abundance of hard-standing, cement buildings, roofs and pavements, which absorb the sun's heat rather than reflecting it back into the atmosphere. At the peak of the 2003 summer heatwave, for example, London temperatures were 9°C higher than in the surrounding green belt. This phenomenon will only get worse with climate change. Widespread green roofs would reduce local temperatures and help to keep buildings cool in summer.

Since 2004, Dusty has served as an expert on a panel for green roofs at the London Plan, the Mayor's planning strategy for London, trying to get the message across about the multiple benefits of green roofs – from biodiversity, stormwater drainage and heat island effect, to reduced energy and therefore CO₂ emissions. All the same, green roofs went from being a



'requirement' for every new building of 100 square metres or more, and all major building refurbishments, to a 'recommendation'.

Now the Greater London Authority (GLA) has commissioned a report, of which Dusty is one of the contributors, to justify why green roofs should be a requirement. 'For me, it's a no-brainer, but you can't tell that to an architect... [There's] nothing wrong with [Richard] Rogers [head of the Mayor's Urban Task Force] and co, but they are more interested in designing a roof that people can have coffee on.'

Although green roofs might appear to be in competition with the 'hard technologies', as Dusty calls them, of photovoltaic (PV) power and wind farms – 'solar PVs are sleek and silver and vegetation is weedy and untidy,' he says – Dusty believes you shouldn't choose one over the other. 'In Germany, you have to have green roofs when

Black redstart photo | LAWRENCE

you have solar PV because it enhances the microclimate for it. The optimal temperature for solar PV should be 25°C. Every 5°C above 25°C, you lose eight per cent efficiency in the PV. Because of evapotranspiration, roof vegetation helps maintain a microclimate of 25°C.’

Big business, big roofs

In September 2004, Dusty was tending a stand at a ‘Green Day’ event at Canary Wharf, to raise awareness of the black redstart. ‘A guy came over and kindly asked what could be done to help. I told him: “Shove a green roof on your building?”.’ The following year, with Dusty’s consistent support and prodding against initial reservations at corporate HQ, Barclays Bank built the highest green roof in Europe. Retro-fitting 400 sq m of rooftop area using recycled crushed brick, pre-grown sedum mats and wildflower mix has helped the idea to catch on in one of London’s most built-up areas. At Canary Wharf there are now seven green roofs, including Barclays – representing an estimated 20 to 30 per cent, Dusty calculates, of the total possible area.

‘If you think of every bank or law firm that, no matter why, wants to do something for the environment tomorrow, green roofs offer a diversity of environmental returns,’ says Dusty.

His enthusiasm certainly convinced Tony Partington, managing director of Canary Wharf Management Ltd. Partington has had green roofs made on five of the seven buildings they manage, which has resulted in black redstart nesting areas. ‘I wouldn’t know a black redstart from a crow,’ he adds, ‘but that’s what Dusty tells me.’

Even so, there are also benefits to a company’s bottom line. While there has been no official study on the cost-savings of green roofs in the UK, there is plenty of anecdotal evidence. Burnett Parsons, building manager at 10 South Colonnade, Canary Wharf, says that since their own green roof went up, there has been no need to heat or cool the top floor. Parsons estimates that this has reduced costs in electricity by £4,000 to £5,000 a year.

And Dusty is hot on the trail of more



Since the green roof was put on, there’s been no need to heat or cool the top floor

Opening page and right: Dusty on the green roof of Barclays Bank in Canary Wharf, London; below, a biodiverse roof in Basel, Switzerland

greenable roofs. ‘Croydon, Canary Wharf, Brentford and other commercial nodes – they’re the battleground where I’ll be focusing,’ he says. There is plenty of scope: London’s greenable rooftops comprise an area 10 times the size of Richmond Park. Taking into account flat or gently sloping rooftop areas across all of the UK’s cities offers a potentially green area roughly the size of Manchester.

Nigel Dunnett, a senior lecturer at the University of Sheffield’s Department of Landscape, met Dusty at a Chicago Green Roofs conference in 2000. Together they organised the UK’s first green roofs conference (in 2003), out of which came Sheffield’s Green Roof Forum, which has been instrumental in developing city policy. Sheffield’s Local Plan will require green roofs for all new flat-roof developments – commercial and residential – in the city centre. It is still in draft form, but if it pulls through by next year, it will be a first in the UK.

In the grand scheme of things, Sheffield new-builds might seem small-scale in the efforts to reduce climate change and its impacts and preserve endangered species. But not when you’re someone used to measuring success bird by bird. **E**



For more info

There is a ‘Green Roof Forum’, plus information and resources on green roofs, at www.livingroofs.org. Dusty will co-lead domestic level green roof seminars in June 2007. For details see website. *Green Roofs and Facades* by Gary Grant (BREbookshop.com, £22.50)





'Down with flavourless fruit'

Paul Kingsnorth bypasses the supermarket airfreighted apples and unearths a plenitude of delicious native fruits you can grow yourself

I wasn't impressed with medlars the first time I came across them. I can't imagine that anybody is. Picture it: a small, hard, round, brown fruit, utterly inedible until you have let it rot – the preferred term, medlar connoisseurs tell me, is 'blet' – for several days. When the bletting is over, the medlar resembles nothing more than... well, it's probably enough if I tell you that it was referred to by Shakespeare – in his romantic masterpiece *Romeo and Juliet*, no less – as the 'open arse' fruit. Mmm. Appetising.

What's most curious of all, though, is that, despite all these handicaps, it is actually pretty appetising. Once the bletting is over, this most overlooked of our ancient fruits can be turned into a fantastic jam or a jelly. It can also be made into something called 'medlar cheese' – a recipe that was apparently very common in medieval times but is almost extinct in this age of mangosteens and starfruit.

What am I on about? I'm on about fruit. You might think that fruit is just something that happens somewhere else. You might think of gorgeous Mediterranean citruses, golden Indian mangoes, melt-in-the-mouth Caribbean bananas. Then you might wander into your local grocery store and see those moist plastic bags full of tragic, waxed, airfreighted apples and tell yourself sadly that, when it comes

to fruit at least, this poor bloody country has nothing to offer.

And you would be gloriously wrong. Britain has a stunning panoply of native fruit. Did you know that you could eat a different kind of apple every day for more than six years and still not exhaust the varieties that we can grow in this country? Did you know that our apple season runs all the way through from July to April? Did you know that at least 2,000 varieties of apple have been cultivated here? Even this may be an underestimate. Last year I met a man who, from his Buckinghamshire barn, has spent years cataloguing British apple varieties, and suggests that there may be as many as 6,000 in existence – around two-thirds of all the varieties in the world.

And while apples may be our most famous and widespread fruit, there are plenty of other choices, too: hundreds of varieties of pears, apricots, cherries, plums, greengages, berries and nuts. Like so much else, we've lost sight of this over the past half-century. Globalisation, supermarket power, exotic tastes, a lack of knowledge about our natural and cultural landscape – you can choose your favourite culprit, but



the effect is unquestionable.

The land area used to grow food in the UK has halved in just the past decade, and a number of our native varieties are extinct. Ancient orchards are being torn up daily. Our unique and neglected range of native fruits is on its way out if we don't do something.

So let's do something, and let's not confine our efforts to buying shrink-wrapped apples with Union Jack stickers on them. Let's do the best thing that anyone who wants to preserve and promote these ancient and amazing varieties of fruit can do. Let's plant them.

Hang on, I hear you cry. Let's not get carried away. Where am I supposed to get the land, or the time, let alone the



For where to buy organic food and drink see the listings beginning on **p 75** of our shopping guide



expertise, to start planting an orchard? I may have a few lines of leeks or a windowbox full of herbs, but this is way beyond my capacity.

Well, I'm here to tell you that it's possible. I have no land at all, and the amount they pay me for these columns is not going to buy me any. Nevertheless, I've got an orchard – a small one anyway. And, should you want one, you can have one too. If you don't, you can least plant a fruit tree or a small bush, even if your garden is no bigger than a postage stamp.

So what are your options? Firstly, if you have a small garden, you can buy yourself some fruit bushes or even a fruit tree. I mentioned in a previous column that it's possible to grow apple trees in containers – and it is, though it remains better to grow them in the ground. You don't need as much land as you might think to do this, especially if you plant a dwarf variety. Some of the websites listed in the column on the right can help you to get going.

If even a small tree is still too much, try something smaller. In our garden we have purple gooseberries, blackcurrants and even blueberries, which grow surprisingly well in pots.

The next step up is an allotment – yours alone, or shared, as discussed last month. This is where I have my trees. With a small group of friends, I tend two allotment plots, which are home to around 20 trees – apples,

pears, greengages, plums and, of course, that medlar. Frankly, it's probably a bit over-ambitious, and I wouldn't recommend anything on this scale unless you really do have time on your hands, or a boundless appetite for fruit. But the point is the principle: it costs 30 quid a year for the ground, and the only other cost is buying the young trees, and the odd bit of compost. Plus – and I can't emphasise this enough – everything is worth it when you get that fruit.

Finally, there's another increasingly popular option: a community orchard. Again, this might sound like something you can only do if you live in an expensive rural idyll, but it's actually becoming increasingly popular in urban areas. Blondin Orchard, in Ealing, was created by the local council in consultation with hundreds of residents, 50 of whom helped plant its 46 trees. Walbottle Community Orchard on Tyneside is popular with local schoolchildren. Bath has two community orchards and in Oxford, where I live, I know there is at least one. Usually they require little more than the perseverance of a few local people, some spare land and a small pot of money.

It doesn't matter how much or how little fruit you grow. What matters is that you can do it: fresh, home-grown fruit can be yours. Whether or not you like the sound of medlars. **E**

It's actually quite easy to grow fruit – nature does most of the work, and the rewards for your efforts are delicious



Let's do the best thing we can do to preserve and to promote our ancient varieties of fruit: let's plant them.

Tips & resources

The first tree you plant can be intimidating. But the good thing about trees is that they grow slowly, so you've plenty of time to learn! Apple trees should be planted somewhere sunny and fairly sheltered, where the soil doesn't get waterlogged. They're pollinated by insects, so try to plant them somewhere that might attract bees – somewhere with other trees or flowers. Plant in spring or summer, when the soil is not too wet or cold, and mulch them with straw, hay or even newspaper, and lots of compost or manure. Water regularly in their first year. Oh, and buy a book on pruning!



- Common Ground's Guide to community orchards is at www.commonground.org.uk/apple-day/a-corc.html

- The Marcher Apple Network is a collection of apple enthusiasts from the Welsh borders: www.marcherapple.net

- Bernwode Nursery can sell you any fruit tree under the sun: www.bernwodeplants.co.uk

- The Organic Gardening Catalogue includes some old varieties and all their stock is organically grown. Tel: 0845 130 1304, www.organiccatalog.com

- All my previous columns on allotments and food growing are collected on my website at www.paulkingsnorth.net



In wine we trust

A hangover from biblical times is the belief that wine is natural. Well, it was then – but these days, as **Monty Waldin** explains, many vineyards are doused with chemicals...



I can't recall the number of times I've heard people exclaim, 'All wine is organic, isn't it?' It seems that wine, along with bread and olive oil, spring to mind as being among the very few food products in which we have innate trust. As BSE and other food scandals raged, wine provided a brighter item of news, as it was discovered that moderate consumption of wine – especially red wine – can benefit overall health.

Research showed that middle-aged men and post-menopausal women seemed to derive the greatest potential benefits from moderate red wine

consumption: increased longevity, less risk of heart disease, and less risk of contracting many other diseases, including stress-related ones – even less risk of catching the common cold. This is due to the compounds in red wine that give it its colour.

They help to keep fatty deposits in arteries moving, preventing the blood from clogging and allowing the heart to pump efficiently and without straining. When British doctors began prescribing a glass to patients with heart-related illnesses, it seemed that red wine had become the adult health beverage of choice.

But, I wondered, can we drink just any old red wine, or should we make an effort to avoid wines coming from vineyards fed with a diet of chemical fertilisers and sprayed with chemical fungicides, notably systemics?

Systemics are so called because they actually penetrate vines, ending up in the sap and the grapes. One of the most widely used systemics in vineyards is an anti-rot spray containing aluminium. Given that published data

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Some French vineyards sprayed with weedkiller had less soil life than the Sahara desert

suggests a link between aluminium and Alzheimer's disease (for which reason we should avoid using aluminium cooking utensils), does it make sense for doctors to blithely tell us to drink red wine that may contain totally unnatural aluminium residues?

Opponents of organic vine growing – usually those with a vested interest in selling the systemics, weedkillers and genetically engineered products banned by the organic movement – say the only thing in wine likely to harm one's health is not chemical residues but the alcohol.

This is a bit like telling a small boy that it's OK for him to walk into a minefield to retrieve his football 'because you're going to die of something one day anyway'.

Even if you are unconcerned by spray residues ending up in your wine glass, you should be concerned about the environmental degradation caused in vineyards by weedkillers. A former French government soil microbiologist said that some French vineyards sprayed with weedkiller had less



Tasting notes

Domaine de Beaujeu, Vin de Pays du Bouche du Rhône red Merlot, 2004

Beaujeu's red wine made from the Merlot grape is a typical example of why Merlot is so popular. It shows soft, immediately approachable and smooth plum and redcurrant flavours. Pull the cork out an hour or so before serving to give this wine time to breathe. Drink within one year of purchase for the freshest flavours.

Domaine Perrin, Côtes-du-Rhône, Nature 2005

This red is from a single vineyard in the southern Rhône valley planted mainly with Grenache, a grape that gives soft, moreish wines. A small amount of Syrah grapes are blended in to give Grenache's black fruit flavours extra focus. Serve in as big a wine glass as you have, if drinking this without food. Good food pairing includes stews, steaks and pizza.



only wine estate in the area to continue to farm like

Fasoli Gino, 'Borgoletto' Soave, 2005

A dry white from a single vineyard in the Soave

region – Borgoletto, owned by the Fasoli family, one of northern Italy's longest-standing organic wine families. This wine has a much broader, creamier, softer texture than commercial Soave, which can be mean, green, and flavourless due to forced high yields on over-fertilised vineyards.



The Fasolis ask only moderate yields of grapes from their vines – hence the extra concentration and flavour in this wine, made from traditional Garganega grapes.

Domaine Clos de Caveau, red Côtes-du-Rhône, 2005

Located in Vacqueyras, one of southern Rhône's most famed wine villages, this winery has been certified organic since 1989. The vineyard lies in its own mini-valley, minimising any risk of spray drift from non-organic neighbours, and the winemaking is traditional. Crisper and more immediate in texture than Perrins' 'Nature', but just as full-flavoured – if you allow it a day to breathe before serving.

soil life than the Sahara desert.

This is why estates like Domaine de Beaujeu (see our recommended wines and tasting notes) are so vital. Domaine de Beaujeu has been certified organic since 1974 and is owned by Pierre Cartier and his wife Patricia. The Cartiers are one of southern France's most dedicated organic wine-growing families: Pierre's brothers Luc and Frédéric own Mas de Gourgonnier, one of Provence's most respected organic wineries.

The Cartiers maintain their estate in the traditional way, encouraging and maintaining native hedging around their fields for biodiversity, and continuing to farm cereal crops alongside the vines. Beaujeu is the

this, polyculturally rather than monoculturally. The soil is maintained using composted sheep manure – not fertiliser.

The Beaujeau estate lies on the edge of the Camargue, a swampy area famous for its wild horses and salt flats, near the historic town of Arles at the mouth of the Rhône valley. If you go up-river you'll meet another of France's most famous organic wine families, the Perrins of the famous Châteauneuf-du-Pape wine estate, Château de Beaucastel.

The top Beaucastel wines are critically acclaimed but, alas, are not priced for everyday drinking – so the Perrins decided to produce more moderately priced wines, like 'Nature' (see left for tasting notes), a Côtes du Rhône from a vineyard which they rent and have farmed according to the organic rulebook (Ecocert certification).

Perhaps as food scares become an almost daily occurrence, we can expect more and more of the world's vineyards to convert to organic methods of growing – in time, perhaps even enough to satisfy those customers in wine shops who think that all wine is organic. **E**

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See left for full tasting notes:

- 1 2004 Merlot Domaine de Beaujeu, Vin de Pays du Bouche du Rhône (x2)
 - 2 2005 Soave 'Borgoletto', Fasoli Gino (x3)
 - 3 2005 Domaine Clos de Caveau, Côtes du Rhône (x2)
 - 4 2005 Nature, Côtes du Rhône, Domaines Perrin (x2)
- (Full tasting notes in April issue)
- 5 2004 Les Demoiselles de Falfas, Côtes de Bourg (x2)
 - 6 2004 Château Falfas, Côtes de Bourg (x1)

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'I'm walking into the jaws of hell'

Katharine Hamnett tells how Choose Love, her new line with Tesco, is her attempt to change the nasty business of making and selling clothes

The clothing, shoe and textile industry is one of the largest in the world. It is responsible for enormous pollution and environmental destruction. The industry uses more water than any other, apart from agriculture. It discharges toxic chemicals into the environment, including massive quantities of dioxins (the world's number one pathogen) and heavy metals. It is responsible for enormous amounts of CO₂ from manufacturing, transport and unnecessary air travel, and greenhouse gas emissions from chemical fertilisers in cotton agriculture. It is squandering the planet.

The clothing industry employs a billion people (one in six of the world's population). Labour and pay conditions for millions of garment, shoe and textile workers in South East Asia, China, Mexico and Central and South America, are appalling. Twelve- to 18-hour shifts and seven-day weeks are the norm and trade unions are rare or illegal. Workers are predominately young women and pregnancy is discouraged, often with enforced abortions.

The situation of cotton agriculture in the developing world is catastrophic. Cotton uses 10 per cent of the world's pesticides and 16 per cent of insecticides. According to the World Health Organization, pesticides cause 20,000 deaths per year from accidental poisonings. They also result, according to the Pesticide

Action Network, in three million acute poisonings per year and 200,000 suicides, many due to farmers' debt. Farmers in the developing world are given virtually no information on the dangers of the pesticides (often banned in Europe and the USA) that they are sold – not even the need to wear protective clothing.

To grow cotton, before planting, farmers need a contract with the brokers to buy their cotton when it's harvested. As part of the contract, they have to agree to buy the seeds and pesticides from the broker. If they can't afford their prices, the brokers have set up banks that will lend them the money – at 10 per cent interest – which must be repaid within a year. If they can't repay the loan because the crop fails – eg, due to lack of rain – the banks foreclose and take their tools and bicycles, leaving them unable to continue farming. They leave their land for the cities, sending a





SAVE
THE
FUTURE
FOR ME

little money home and, on their occasional trips back home to their villages, often bringing HIV with them as well.

In Mali in 2003, I asked a farmer, 'What is the downside of growing conventional cotton?' He replied, 'When we have sold our crop we have nothing left.' I asked, 'What is the upside of growing cotton organically?' He said, 'When we have sold the crop all the money is ours and we have our health.'

It is unarguably better for farmers to grow cotton organically. They increase their income by 50 per cent because of a 40 per cent drop in the cost of inputs (fertilisers and pesticides) and a 20 per cent premium for organic cotton. It enables them to feed themselves, school their children, afford healthcare and dig wells. By making agriculture viable it helps to stop migration to cities and thereby helps to stop the spread of HIV.

People say organic cotton will be too expensive, but the truth is that the value to the farmer of the cotton in a T-shirt is four to five per cent of the retail value, so if he gets 20 per cent more it puts one per cent on the price of a T-shirt. This is hardly prohibitive in cost, but can make the difference between the survival and the extinction of millions of farmers in Africa and the rest of the developing world. There is no such thing as cheap clothes: the true price is paid in human and environmental degradation at the bottom of the supply chain.

The only thing that can save these people is to somehow make a change

Opposite page: Hamnett and one of her famous slogan T-shirts; this page, children's organic cotton T-shirts, £5 each, at selected branches of Tesco



I'm doing this on my own terms, with a stringent contract to ensure the use of organic cotton and improve conditions for garment workers

in the way that clothes are made. Research shows that consumers are prepared to buy goods that are ethically and environmentally produced but if only they are at the same price as conventional ones.

When Tesco approached me to do a fairtrade organic cotton range, I was amazed but I also thought I was walking into the jaws of hell. Many NGOs that I work with will not work with large manufacturers even if the project is a good one. I think this is a mistake. Even if it were to be tokenism I was still prepared to do it. Every little helps, as they say. If people are doing the right thing, I don't care if it's for the wrong reasons: how will they ever change if they are not helped and encouraged to try?

Nonetheless, I was only prepared to do it on my own terms, and with the most stringent contractual terms you could imagine, with a very high degree of transparency. Tesco has agreed to adhere to the Katharine Hamnett environmental standards included in the contract compiled by KATHARINE E HAMNETT, in consultation with the following industry experts: Society of Dyers and Colourists, SGS, Dystar, Ciba and Marks & Spencer; standards and guidelines: the Soil Association Textile Standard, GOTS (Global Organic Textile Standard), EU Eco-label, Greenpeace REACH campaign – OSPAR commission list of 'Priority Action' chemicals, Oeko-tex 100, Skal, Eco cert, FTO (Fairtrade organisation) and FTO organic; and the following bodies and legislation: ETAD (Ecological and Toxicological Association of Dyes and Organic Pigments Manufacturers) and EU directives.

Tesco will sign contracts directly with the farmers, giving them a fair price for their organic cotton, and has also agreed to manufacture in actual compliance with the ETI labour code, which is not normally compulsory.

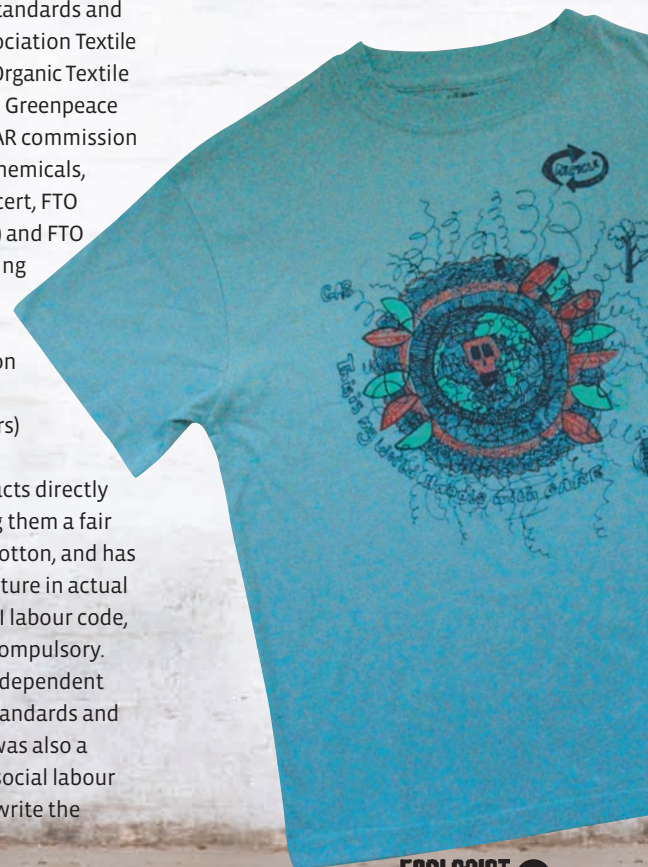
Clare Lissaman, an independent consultant on labour standards and ethical trade and who was also a director of Rugmark, a social labour initiative, helped us to write the

labour standards in our contract, and included multi-stakeholder auditing, which will ensure that these standards are adhered to. None of the Choose Love range will be made in China, where private trade unions are illegal.

If companies like Tesco insist, as a prerequisite to doing business with a cotton mill or garment factory, that its workers are properly paid and treated and that monitoring systems are in place to ensure that this is so, it sends a clear message to other factories and mills who want the gigantic orders that Tesco can place: that they have to do the same or lose out.

The only way that people will produce ethically and environmentally is if they can make money out of it. If Tesco can make money out of it, other manufacturers will do the same.

I saw this collaboration as an opportunity to raise the bar on manufacturing conditions and, given the huge volumes of organic cotton that Tesco could consume, insisting that garment workers are paid and treated properly could potentially go a long way to radically improving the lives of millions of people. **E**





Wildlife Works



How do you prevent the poaching of critically endangered wildlife? This is what Mike Korchinsky asked himself on an eye-opening African holiday in 1997. He believes the key is to create sustainable livelihoods for local communities. Putting his ideas into practice, Korchinsky bought an initial 80,000 acres in Rukinga, Kenya – an area rife with poaching – which he turned into a wildlife sanctuary, with

rangers employed to protect wildlife; and an eco-factory was built on site to produce stylish organic cotton and wool womenswear. Wildlife Works, Korchinsky's clothing label, offers seamstresses continuous training and has enabled the building of four new schools, educating 1,200 local children. Local jobs and community-building is helping to stem the flow of rural unemployed into the slums of

The scheme protects wildlife, provides work and training, and has built four schools

Nairobi and the wildlife sanctuary has now grown by another 200,000 acres – thanks to the Kenyan government's belief in the project. Korchinsky is working on rolling his business model out to other countries with critical wildlife areas. Next stop on the wildlife safari: Madagascar.

The clothing range is available at www.wildlifeworks.co.uk and will be in selected stores this autumn.

Barefoot shoes

Vivobarefoot is based around a whole new philosophy of footwear. Creator Tim Brennan set out to create the perfect shoe – one that the wearer would find as close as possible to having bare feet, without the risk of cutting them. Made from soft, flexible material with an ultra-thin, puncture-resistant sole, Vivobarefoot shoes act like a protective second skin, allowing the surface of the foot to expand with each step – which means improved

posture and a sense of connection to the earth. The new Spring/Summer line is now available at Terra Plana's two London stores or online at www.terraplana.com.

For more information, visit <http://vivobarefoot.webfactional.com>



Waste? Not!

Reclaim-to-wear fashion pioneers From Somewhere (Filippo Ricci and Orsola de Castro, above) open their first shop in London's Notting Hill in late May. Their fresh, funky designs transform the 'waste' – from production cuts to fabric colour charts – of famous fabric manufacturers, into unique clothes mixing cashmere, silk, cotton and jersey. The clothes are made in Europe, using fair labour. From Somewhere, 83 Westbourne Park Road, London W11; www.fromsomedwhere.co.uk



Dharma brown £80



Odette £65

Calling all vintage virgins

'I've always liked things from a different era,' says Funmi Odulate, author of *Shopping for Vintage* (Quadrille, £12.99). 'Seventy-five per cent of my wardrobe is vintage, but people don't always know it.'

In today's world of disposable 'fast fashion', vintage clothing – from around 1920 up to the early 1980s – is a way of wearing a little piece of history. For the couturiers and designers of these eras, craftsmanship and attention to detail were vital. So for high-quality, beautiful clothes that won't break the bank, vintage is the way to go.

Whether you're a vintage virgin or an old hat at spotting flea-market finds, Funmi's book is a handy accompaniment. It includes a mini-history detailing 'Designers and their decades' from the Roaring Twenties through the Swinging Sixties to the Aspirational Eighties. Her chapter on 'The art of buying and collecting' includes practical advice on how to distinguish – by a garment's fabric, style, cut and stitching – between treasure and tat.

It also offers advice on how to navigate your way through the 'organised chaos' of most specialist vintage shops, as well as the etiquette (eg, is it acceptable to haggle?).

Vintage is everywhere. 'If you wanted to, you could go to a car boot sale every day of the year, except Christmas,' says Funmi. Less well known is the fact that auction houses Bonhams, Christie's and Sotheby's regularly hold auctions of vintage clothing collections. While these may have a reputation for being elitist, prices may be cheaper than buying from professional vintage dealers.

Included in the book's 'vintage directory' are details of shops, fairs, flea markets, internet sites and other top places to shop for vintage. **E**

Ecologist reader offer

Get *Shopping for Vintage* by Funmi Odulate for the special price of £10.99 (normally £12.99), with free p&p.

To order please call 01256 302699, quoting ref O67.

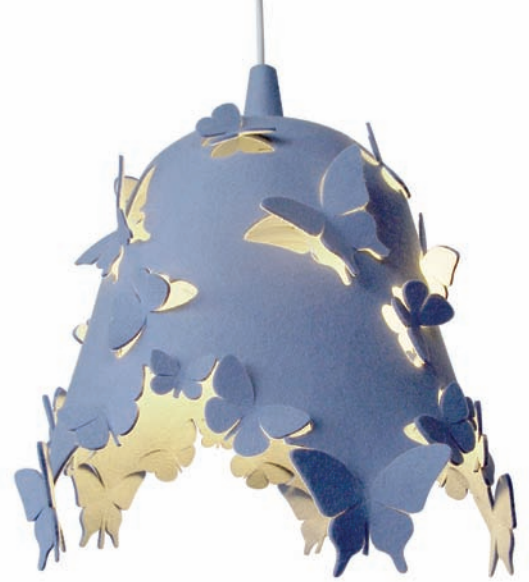


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In today's world of disposable 'fast fashion', vintage clothing is a way of wearing a little piece of history



Green lights are the new white



It's not just our light bulbs we need to change, says **Laura Sevier**. We need to rethink the way we light

Big changes are happening in the lighting world. In December last year, Theo van Deurson, CEO of Philips, the world's biggest lighting manufacturer, said: 'We believe it is time to encourage the switch to energy-saving light bulbs.' This year, on 9 March, EU leaders announced their intention to ban incandescent light bulbs by 2010. Then on 12 March, Gordon Brown said that the UK would be the first country in Europe to phase out high-energy light bulbs from 'almost all' domestic use by 2011.

At present, the electricity used to light the UK's homes produces carbon dioxide emissions of around 7.8 million tonnes a year. 'Banning incandescent light bulbs could save the UK two to three millions of tonnes of CO₂ per year,' says Dr Matt Prescott, who started the Ban the Bulb campaign two years ago (www.banthebulb.co.uk). 'It's a symbolic and significant start. At present, energy-saving CFLs [compact fluorescent lamps] account for only seven per cent of the UK market. This is now set to change.'

With the Draft Climate

Change Bill outlining targets for a 60 per cent reduction in CO₂ by 2050, change is clearly necessary. Yet we're lighting our homes more than ever before. The average UK household has around 23 light bulbs, accounting for approximately 16 per cent of total domestic electricity. Electricity consumption by domestic lights and appliances has nearly doubled since 1970 and is set to increase by 12 per cent by 2010, according to Defra.

So who or what is to blame for this increase? It's not just the ordinary tungsten lightbulb with its warm but wasteful glow. It's also our habit of lighting whole rooms instead of just the areas we need, largely driven by a craze for halogen downlighters. 'Interior designers have been enthralled by them for 25 years,' says lighting designer John Bullock. 'They're meant to be spotlights, for accent lighting. But now they're everywhere, giving off all this visual white noise. Before the Seventies we never had enough light – everything was under-lit. Now we have too much light and we're very careless with the way we use it.'

Unnecessary and excessive use of artificial lighting is not only a waste of energy and money. It can also be obtrusive, irritating and a health hazard. Studies have shown how 'over-illumination' can lead to headaches,



Excessive use of artificial lighting is a waste of energy and money. It can also be a health hazard

fatigue, stress, and hypertension. Artificial light is even considered a 'pollutant'. So what can we do?

ENJOY NATURAL LIGHT

The sun is our most abundant and eco-friendly light source. As well as being a mood enhancer, it compares with the best fluorescents – and it's free. The more you can allow in, the less you need to rely on artificial lighting. The best natural light comes from the north, according to Ian Armstrong, architect and founder of sustainable architectural practice Arco2, in Cornwall. 'With north light there's constant brightness, even if it's a grey day,' he says. 'West-facing windows are good for evening sun. South light is brighter but you get more glare.'

To create a light, airy indoors

- Use pale colours for walls, ceilings and floors wherever possible
- Hang mirrors opposite windows
- Clean your windows, de-clutter

Watt conversion chart

Ordinary bulbs	Energy-saving equivalent
25W	6W
40W	8–11W
60W	13–18W
100W	20–25W



windowsills and pull curtains right back during the day.

THINK BEFORE YOU LIGHT

Decide how much and what type of lighting you need:

- General or ambient: provides overall space brightness
- Task: lighting for reading, writing, etc
- Accent: for table tops and counters or to highlight features
- Mood: coloured lights, candles, etc.

Choosing a bulb

- For general or task lighting, go for energy-saving CFLs. These now come in hundreds of shapes, sizes, colours and tones. Gone are the days of ugly fluorescent tubes that protruded beyond their lampshades.
- For a warm, yellowish light, choose a lamp with a low colour temperature (measured in degrees Kelvin) – less than 3500K. For a cooler, whiter light, go for a high colour temperature (3500K+ for cool and 5000K+ for cold).
- For accent or task lighting, try a good-quality warm white LED. LEDs give off light in one direction so are natural spotlights. Colour-changing LEDs make good mood lights.

LIGHTEN UP...

Eithne Farry has these bright ideas for transforming an old lampshade:

- Get painting. If it's a plain shade, add stripes or spots or squiggles or use a potato print for a repeat pattern.
- If it's a thick cardboard shade, make a pattern of constellations by piercing holes in the card with an upholstery needle or a compass.
- Draw tree branches, leaves and



Clockwise from far left: 100 per cent recycled cardboard lampshade; natural wool felt 'Delight' lampshade; both Ecocentric. Solar-powered outdoor light, British Eco. LED desk lamp, Luminair



Ecologist reader offer: 15 per cent off all lighting products at Nigel's Eco Store. See p78 of our shopping guide

cherries onto the shade then cut out some of the shapes so that it's like a stencil but with light as the paint.

NEED A NEW LAMP?

There are plenty to choose from – including a new wave of eco designs.

Go retro

Find a vintage lamp on Ebay or buy from a secondhand shop (check that it will work with an energy-efficient bulb).

Eco lamps and shades

- Oliver Heath's 'Natural Wonders' range combines colour-changing LEDs with low-energy bulbs so you can switch from task to mood lighting; Jasper Startup's 'Miss Light' shades are made from sustainable plywood; designer Nahoko Koyama makes 'Coron' shades from old felt hats. All available at www.ecocentric.co.uk
- Luminair LED lighting is made in the UK from sustainable materials. www.luminair.co.uk
- 100 per cent recycled cardboard lampshades, handmade by Use UK, are available at www.nigelsecostore.com
- Design collective Neues Licht fibre-optic lights work with low-energy lamps. www.cameronpeters.co.uk

Glow in the dark

- Solar-powered garden lights require no wiring or power source. Just stake them in the ground to mark steps and paths or to use as security lights. British Eco, www.britisheco.com
- Glow bricks and wind-up torches are available at www.nigelsecostore.com
- Try Natural Magic candles, made using vegetable wax and essential oils – visit www.naturalmagicuk.com

ECOLOGIST READER OFFER

Lightbulbs Direct is offering *Ecologist* readers 10 per cent off its full range of energy-saving lightbulbs (22 different styles) and LEDs. Visit www.lightbulbs-direct.com, choose your bulb(s) then call 01494 723286, quoting 'Ecologist offer.' Ends 31 May 2007



Bulbs glossary

Traditional bulbs

Most 'standard' light bulbs are incandescent lamps that use a very inefficient method of producing light. Only five per cent of the energy used is converted into light, the rest being turned into heat.

Compact fluorescent lamps (CFLs)

Commonly called energy-saving bulbs, CFLs consume one-fifth of the power and last up to 12 times longer than incandescents – up to 12,000 hours. Replacing just one incandescent with a CFL can cut your lighting costs by up to £100 over the bulb's lifetime. Most CFLs can't be used with a dimmer switch, but there are a few dimmable models (www.megamanuk.com). CFLs contain mercury, so need to be disposed of at a CFL recycling facility. Some retailers, such as IKEA, will recycle them for you. For more information: www.reuk.co.uk/Toxic-Mercury-in-CFL-Bulbs.htm

Tungsten halogen bulbs

Similar to incandescents but much smaller. One of the least efficient of all light sources (most function at 50W), their bright white light makes them popular as ceiling spotlights. Philips and Osram have energy-saving 35W versions.

Light-emitting diodes (LEDs)

'Low-energy LED lights are the future of lighting,' says designer Oliver Heath. 'They have four times the lifespan of energy-saving bulbs, use as little as one to four watts – and they can change colour.' First developed for use in digital clocks and dashboards, their technology has advanced in recent years but as yet, their light output is not bright enough for general lighting so they are best used as accent or mood lights.



How to be healthy Eat well and grin

Putting on your best smile doesn't mean using fancy dental products, says **Pat Thomas**, it's achieved by what you eat



There is much more going on in our mouths than most of us know. Ads on TV and in glossy magazines suggest that gleaming white teeth and kissably fresh breath are the major goals where your mouth is concerned. But from a health perspective, your mouth is deeply connected to the rest of your body and your level of oral health both influences and reflects your overall physical wellbeing. Surprisingly, your toothbrush may be your best defence against a raft of life-threatening conditions.

Consider these facts: people with gum disease (known in its early stages as gingivitis) are almost twice as likely to develop atherosclerosis – narrowing of the arteries that supply blood to the heart. Indeed, your risk of developing heart disease is much higher if you have poor oral health than if you smoke or have high

cholesterol. Middle-aged men with advanced gum disease (periodontitis) are four times more likely to have a stroke than those with healthier gums.

There are two possible reasons for this. One is that bacteria can migrate into the bloodstream from the gums and trigger an immune response that causes the artery walls to become inflamed. Another suggestion is that, once in the bloodstream, plaque-forming bacteria attach themselves directly to the fatty deposits already present in a person's arteries, causing further narrowing and increasing the odds of a stroke or heart attack.

People with gum disease are more likely to suffer reduced kidney function and even kidney failure. Among both smokers and non-smokers, gum disease raises the risk of pancreatic cancer up to threefold. Gum disease also increases the risk of premature labour by up to a factor of four. Severe gum

disease also appears to increase blood sugar levels thus putting diabetics at increased risk of complications.

The importance of diet

The connection between general levels of health and oral health is not new. In the 1920s and 30s, Dr Weston A Price, an American dentist, travelled the world studying and chronicling the links between diet, dental health and development.

Price studied native populations (including tribal Africans, Pacific Islanders, Eskimos, North and South American Indians and Australian Aborigines) and compared their teeth and general level of health to that of modern Americans. He concluded that straight, healthy teeth, strong bodies and resistance to disease, in the end all came down to diet.

Unlike the diets of modern cultures, what these native people ate and



See **p 86-87** for listings of natural bodycare essentials companies

Illustration CAMERON LAW

drank was invariably fresh, seasonally appropriate and 'organic'. Indigenous diets, Price found, often included fermented foods such as cheese, cultured butter, yoghurt or fermented grain drinks. They were also high in fresh fish, fish roe, shellfish and seaweed and in animal fat, whether from game, eggs or insects. As a result, they were rich in fat-soluble vitamins such as A, D and E as well as tissue-building B-complex and vitamin C and tooth-and bone-building minerals such as calcium. They were also abundant in enzymes that helped the digestive process to squeeze every ounce of nutrition out of available food.

If rates of gum disease have increased in spite of our apparently plentiful food supply, then it may be because of an interplay between environment and diet. What passes for food these days is often of very poor quality, too high in protein, sugar and fake fats (such as hydrogenated fats) and too low in raw seasonal hunter-gatherer type foods such as nuts, seeds and berries, as well as fresh vegetables.

No single nutrient has been shown to have a greater influence on oral health than any other. This is because teeth and gums are made of different substances and require a wide range of different nutrients to stay healthy.

A chronically poor diet has a direct effect on the immune system, making it less effective under attack and so increasing your susceptibility to plaque-forming bacteria. Restrictive or faddy diets can also mean you are not getting the full complement of nutrients necessary to maintain good oral health. Studies show that long-



Studying indigenous peoples, Dr Price found that their healthy teeth, strong bodies and resistance disease were all due to diet

This Australian Aborigine's strong, white teeth are a testament to the health-giving food of his native culture

term dieters have more acidic saliva and are at increased risk of gingivitis.

Likewise, smoking suppresses the normal immune response to the accumulation of plaque. It is also associated with decreased saliva flow, and this may further explain smokers' increased tendency to form plaque.

Holistic dentistry

Interest in Price's work, as well as increasing knowledge of the potential harm caused by many of the things we put in our mouths, has led to a new discipline known as holistic dentistry.

Apart from the long-term problems already mentioned, holistic dentists have the ability to deal with many chronic problems that may at first appear to be unrelated to the mouth. For instance, someone who complains of chronic headaches or migraines may really have a problem with their jaws. An altered sense of taste may be due to a 'coated' tongue, which may be indicative of chronic gut problems.

Stress can also be addressed through the mouth. These days many of us adopt a 'grit our teeth and get on with it' attitude to life, and as a result can develop the habit of grinding our teeth (bruxism), which causes tension in many of the muscles around the mouth, resulting in jaw misalignment, headaches, migraines, tinnitus, earache, pain in the cheeks or temple areas and even the big toe!

The holistic dentist's practice is invariably a mercury-free practice, not only because of the toxicity of mercury fillings but also because of the way that amalgam fillings can expand over time and cause the teeth to crack. Practitioners place a high degree of importance on nutrition as a way of preventing and treating tooth decay and gum disease, rather than by applying – or ask the patient to consume – substances such as fluoride.

Traditional dentistry has always stressed the importance of regular brushing and flossing to maintain dental health. These things are important. But for truly good oral health, we need to stop separating what goes on in our heads from what goes on in the rest of the body. **E**

Chemical overload

Several 'active' ingredients in toothpaste may actually cause more problems than they solve:

Sodium lauryl sulphate (SLS) is a detergent and suspected gastrointestinal or liver toxicant. It can irritate and strip away the protective mucous membrane of the mouth, and thus may increase the incidence of mouth ulcers and may be implicated in an increased risk of oral cancer.

Triclosan, like SLS, is an irritant and there is evidence that the two can combine synergistically to become yet more irritant. Triclosan is also associated with a rise in superbugs, resistant to many antiseptics and antibiotics.

Alcohol-based mouthwashes increase the risk of throat and mouth cancers. This is because alcohol is drying, changes the pH of the mouth, and strips away the mouth and throat's protective mucous membrane.

Silica, an abrasive common in toothpastes, can build up under the surface of the gums, causing granulomas – small nodules of inflamed tissue – that can mimic gingivitis and leave the gums more vulnerable to infection.

Fluoride is a systemic poison that accumulates in the body. There is little evidence to suggest that brushing with it is significantly protective for teeth. But studies do link fluoride with sensitivity/allergic type reactions and a host of illnesses, including oral cancers, gastro-oesophageal reflux disease, bone problems,

diabetes, thyroid malfunction, mental impairment and dental fluorosis, which mottles and discolours the teeth.



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Food and drink

The online producers below supply genuinely fresh, seasonal fruit, vegetables, fish and meat. And what could be more convenient than having your cooking 'essentials' delivered direct to your door? You can also feel safe in the knowledge that you're buying environmentally sound, delicious food that supports small, independent producers.

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FRUIT & VEGETABLES

Do you live near a farmers' market? For a list of farmers' markets around the country, go to www.theecologist.org/farmersmarket. Along with many greengrocers, farmers' markets are a great source of locally produced, fresh, seasonal fruit and veg. If you don't live near a good greengrocer or farmers' market, the next best thing is to sign up for a local box scheme. For 15 reasons to join one, and a list of suppliers throughout the UK, go to www.theecologist.org/boxscheme

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- Higher Hacknell Farm**
www.higherhacknell.co.uk
- Sheepdrove Organic Farm**
www.sheepdrove.com
- Well Hung Meat**
www.wellhungmeat.com

FRESH FISH

- Inverawe Smokehouses**
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- Deverill Trout Farm**
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- Graig Farm Organics**
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Offer expires 31 July 2007

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Ecotip

Encourage children to enjoy healthy food

with a trip to a local farmers' market. Meeting the people who grow, raise, or make the food will make them more willing to taste samples of fresh fruit and vegetables. For how to find farmers' markets and other food events, see our 'In Season' guide, pages 56-57.

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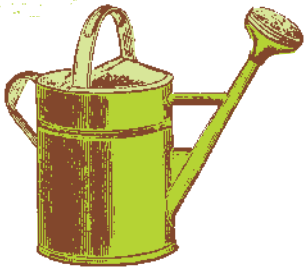
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Home and garden

From garden tools to bed linen, cleaning products and furniture – by simply changing our household buying habits we can reduce our carbon footprint and the chemical cocktail that makes its way into our homes. So visit the online producers below for ideas on how to green your home

★ Nigel's Eco Store

Nigel's Eco Store is offering 15% off all its lighting products:

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- * Energy-saving biobulbs
- * LED spotlight, globe and candle bulbs
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The Healthy House

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Nigel's Eco Store

www.theinsightecostore.com

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www.cobincornwall.com

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Energy-saving bulb stockists

(see our feature on page 70)

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- Efficient Light**
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- Energy Saving Trust**
www.est.org.uk
- Energy Saving World**
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- LED Online** www.ledonline.co.uk
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www.omicronuk.com
- OptoSource (LEDs)**
www.marl.co.uk/optosource
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Energy

No matter where you live, you can switch to Ecotricity for your electricity supply. And we'd encourage you to do so. We can't rely on an energy market that profits from rising energy prices and increasing demand. This is why The Ecologist and Ecotricity have teamed up to help reduce your energy bills and ease the transition to clean, locally supplied energy

Eco power campaign

AIM To meet the UK's energy needs from local, clean, renewable sources

In the UK we need to move from our dependence on non-renewable, air-polluting, climate-changing, centrally generated, hugely inefficient and increasingly expensive sources of energy – gas (40 per cent), coal (30 per cent), nuclear (20 per cent), oil (five per cent) – to non-polluting, small-scale energy sources generated as close to users as possible, eg wind, hydro, tidal, solar, biofuels, ground source heat, etc.

HOW? Supplying the current (and expected increased) energy demand in the UK, while keeping prices for energy low, is IMPOSSIBLE. We either confront this and start to adapt, or we stick our heads in the sand and moan about the inexorable rise in our energy bills. Each one of us, starting at home and then moving out into our local communities and workplaces, needs to:

- 1 SWITCH to Ecotricity as our energy supplier
- 2 REDUCE our energy demand
- 3 LOCALISE our energy supply... individually, and in our communities.

ECO-POWER CAMPAIGN SWITCH TO ECOTRICITY

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Ecotricity refuses to invest in non-renewable energy sources, eg coal, gas or nuclear power.

Why switch now?

For 2007, Ecotricity has approval to build 27 new turbines, totalling 30MW of clean energy – enough to power 20,000 more homes. All it needs is as many of us to buy our electricity through the company – thereby giving it the financial leverage to put this additional renewable capacity in place. Together we can fill the gap threatened by nuclear and coal decommissioning while the grey suits in Westminster fiddle.

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Sign up today and quote 'Eco Offerz' to get this great offer.

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Mon to Fri 8.30am–5.30pm, or visit www.ecotricity.com/ecologist Terms and conditions apply.

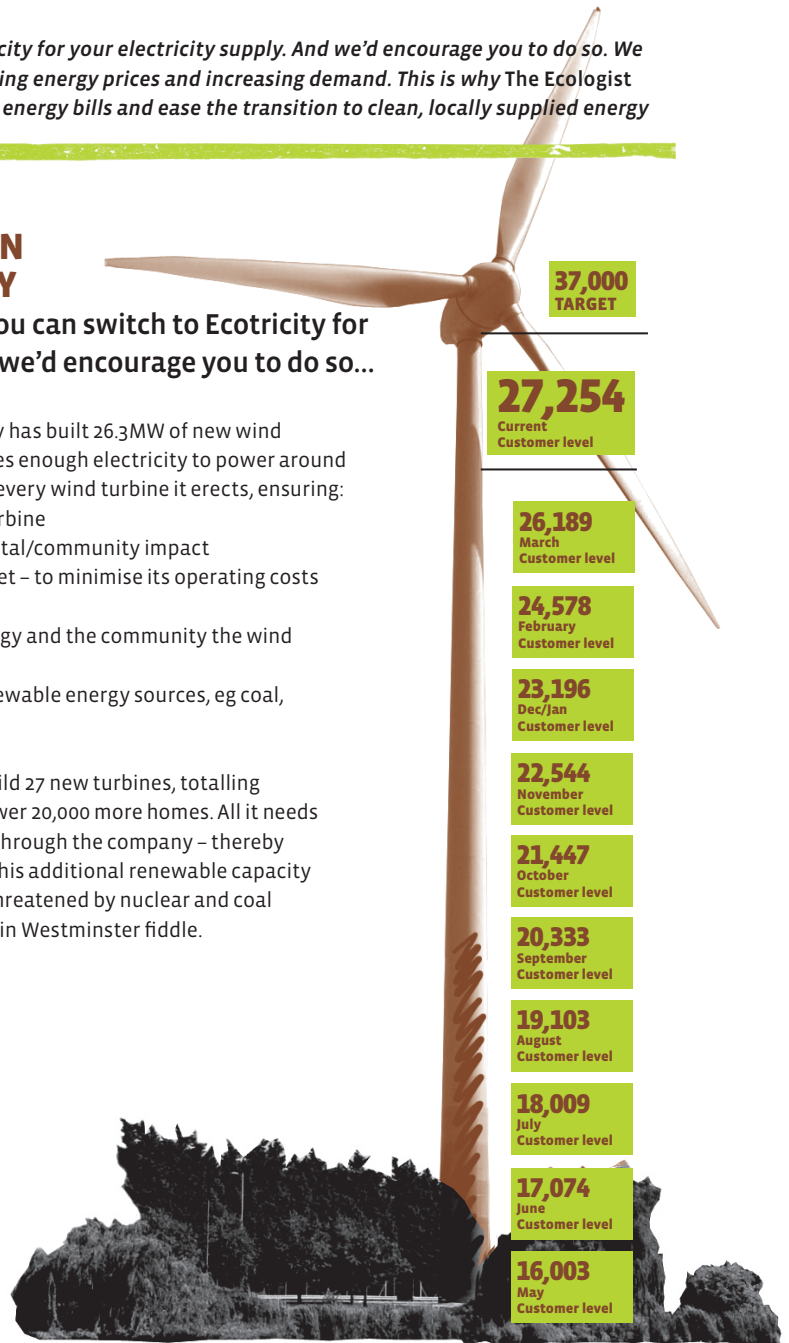
ELECTRICITY RENEWABLE ENERGY TECHNOLOGIES

- British Eco**
www.britisheco.com
- Dulas Ltd**
www.renewable-resources.com
- HiTech Energy Ltd**
www.hitechenergy.co.uk
- LIGHT BULBS**
- Energy Savers Direct**
www.energysavers-direct.com

- Energy Saving World**
www.energysavingworld.co.uk
- Nigel's Eco Store**
www.theinsightecostore.com
- SUPPLIERS**
- Ecotricity**
www.ecotricity.co.uk

- GROUND SOURCE HEAT PUMPS**
- Conservation Engineering Ltd**
www.heating-designs.co.uk

- Eco Heat Pumps**
www.ecoheatpumps.co.uk
- Geothermal Heating International**
www.geoheat.co.uk
- Green Systems**
www.greensystems.net
- Groenholland UK Ltd**
www.groenholland.com
- Kensa Engineering Ltd**
www.kensaengineering.com
- Powertech Solar**
www.powertech-solar.com





Parenting

The amount of baby gear we buy – such as nappies, wipes, bottles, car seats, pushchairs, clothes, shoes, toys and other nursery items – is staggering. Given the ongoing cost of raising a child and the heavy competition that exists between manufacturers, as consumers we would do well to read and understand labels and buy fewer but better products

★ Angelique

30% discount

Mother and baby skincare products

Made with natural ingredients and fragranced with a soft blend of 100 per cent aromatic essential oils, Angelique skincare products are free from potentially harmful petroleum jelly, mineral oil, SLS, parabens and synthetic fragrances.

- Moisturising Cream: blended from six botanical oils, infused with aloe vera gel, chamomile extract and vitamin E. Helps soothe, moisturise and protect the skin.
- Massage Balm: made from extra-virgin

olive oil jelly and shea butter. Massaging babies brings many benefits, including improved sleep patterns. Excellent for very dry skin, eczema and helps prevent stretchmarks while pregnant.

- Spritzer: a mild, water-based spray to freshen babies' skin (or use as a room freshener).

100 per cent organic cotton gifts

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To order: email angeliqueproduct@aol.com, typing 'Ecologist offer' in the subject box. Offer ends 31 May 2007. www.angelique.co.uk



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www.hejhog.co.uk



Clothing

The virtual boutiques and retailers featured on these pages stock a range of well-made, stylish and ethical clothes. Precise sizing charts make it easy to find the right size for you – and if something doesn't fit, or you don't like it, simply return it. Being stylish and being ethical are no longer at odds.



Hatti Trading

25% off all products



Beautifully handcrafted bags and accessories

Emma Triplett founded Hatti Trading after a stint as a voluntary teacher in Nepal, working for The Esther Benjamins Trust, an English charity that rescued and rehabilitated Nepalese girls who had been unwittingly sold or tricked into circuses in India, and become victims of child abuse. Hatti Trading was set up with

the aim of creating secure, dignified employment for these victims of human trafficking.

The bags and accessories are made by rehabilitated

survivors and other disadvantaged and impoverished women, enabling them to support themselves and their families.

Hatti Trading pays a living wage and also invests in educational programmes and other social welfare ventures. The company has been certified as a Fair Trade Importer by the British Association for Fair Trade Shops (BAFTS).

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**Offer ends: 31 May 2007
www.hattitrading.co.uk**



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Ecotip
Conventional processing of cotton requires a large number of chemicals of various toxicity and hazards – which means an organic cotton T-shirt may still contain a high level of toxic chemical residues. For information about the various eco standards and labels, visit www.wearorganic.org

THTC - The Hemp Trading Company

Brand NEW range of t-shirts now available at www.thtc.co.uk

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www.calico-moon.co.uk

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www.izzylane.co.uk



Bodycare & cosmetics

The best way to ensure healthy skin is to maintain a healthy diet, get enough sleep and keep stress levels low. If you do buy products for your face or body, try to make sure they are based on natural ingredients. The companies listed here carry products that have not been tested on animals; they contain no parabens, no petrochemicals and no synthetic ingredients.

★ Cornwall Soap Box

Based at its newly developed craft workshop at Hayle, Cornwall Soap Box makes handmade, chemical-free products using fairly traded, ethically sourced and natural ingredients. Its range of soaps, shampoo bars, natural and organic skincare is available online at www.cornwallsoapbox.co.uk (Tel: 01736 758358)

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Offer ends 31 May 2007


www.earthbound.co.uk



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BODYCARE ESSENTIALS

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www.akamuti.co.uk

Barefoot Botanicals

www.barefoot-botanicals.com

Earthbound Organics

www.earthbound.co.uk

Ecotopia

www.ecotopia.co.uk

Essential Care

www.essential-care.co.uk

Jo Wood Organics

www.jowoodorganics.com

Life Giving Organics

www.LifeGivingOrganics.com

My Being Well

www.mybeingwell.com

The Organic Pharmacy

www.theorganicpharmacy.com

Pure Nuff Stuff

www.purenuffstuff.co.uk

Pure Skin Care

www.pureskincare.co.uk

HEALTH & HOMEOPATHY

Ainsworths

www.ainsworths.com

Helios Homeopathic Pharmacy

www.helios.co.uk

Optima

www.optimahealthcare.co.uk

Pure Potions

www.purepotions.co.uk

Revital

www.revital.com

The Organic Health Shop

www.baughdell.co.uk

Ecologist action Make your own



Ecologist action Make your own

Everyone's skin is different, so why

not make your own bodycare products and cosmetics at home, to suit your needs? The websites listed below will help guide you through ingredients that work for your skin and hair type, and offer a range of ideas for customising your favourite natural scents.

Aromatic

www.aromatic.co.uk

Bay House Aromatics

www.bay-house.co.uk

Cosmetics at Home

www.cosmeticsathome.co.uk

New Directions

www.newdirectionsuk.com

The Soap Tub

www.meltsandpoursupplies.com

Three skincare recipes

Egg On Your Face

For oily complexions

Mix one egg white with a quarter of a teaspoon of lemon juice or vinegar. Whisk, apply to cleansed skin, wash off after 10 minutes.

Mashed Banana

For dry, irritated skin

Mash a ripe banana and some honey to a pulp; apply liberally all over your face. Leave for 10 minutes before washing off.

Yoghurt

To cool and soothe

Often used in Indian beauty regimes, plain yoghurt is good for skin that's a bit sensitive or sunburnt. Leave on for 10 to 15 minutes, then wash thoroughly.

PERFUME

Aromasciences

www.aromasciences.com

Ascent

www.hayspace.co.uk

Doima

www.veganvillage.co.uk/dolma

Primavera

www.primavera.co.uk

MAKE YOUR OWN

Aromatic

www.aromatic.co.uk

Bay House Aromatics

www.bay-house.co.uk

Cosmetics at Home

www.cosmeticsathome.co.uk

New Directions

www.newdirectionsuk.com



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... and the rest

On these pages you will find products and services that do not fall into our first five classifications, but which are essential to the wellbeing of our planet, and which help you to reduce your carbon footprint. If you think you have something to offer which we have not listed here, please let us know.

CAREERS

Charity Action Recruitment

www.c-a-r.org.uk

Charity Connections

www.charityconnections.co.uk

Charity job

www.charityjob.co.uk

Countryside Jobs Service

www.countryside-jobs.com

Eden Recruitment

www.edenrecruitment.co.uk

Ends Environmental Job Search

www.ends.co.uk/jobs/about.htm

Environment Job

www.environmentjob.co.uk

Evergreen Resources

www.evergreen.org.uk

Execucare

www.execucare.com

Getalife

www.prospects.ac.uk

One World

www.oneworld.net

PERSONALS



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www.countryside-jobs.com

21 May 2007: CJS Weekly Special Edition Supplement featuring Wildlife Conservation and Research work.

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BICYCLE CAMPAIGNS

London Cycling Campaign

www.lcc.org.uk

Sustrans

www.sustrans.org.uk

National Cyclists Organisation

www.ctc.org.uk

BIO-DIESEL FUEL

Ebony Solutions

www.ebony-solutions.co.uk

BREAKDOWN

Environmental Transport

Association

www.eta.co.uk

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VOLUNTEERING

Action Without Borders

www.idealists.org

BCTV

www.bctv.org

Do-It!

www.do-it.org

Environment Job

www.environmentjob.co.uk

Countryside Jobs Service

www.countryside-jobs.com

TimeBank

www.timebank.co.uk

FUNERALS

COFFINS

Nigel's Eco Store

www.theinsightecostore.com

The Sawd Partnership

www.bamboocoffins.co.uk

Somerset Willow

www.somersetwillow.co.uk

FLOWERS

Green Fuse

www.greenfuse.co.uk

Red Hen

www.redhens.co.uk

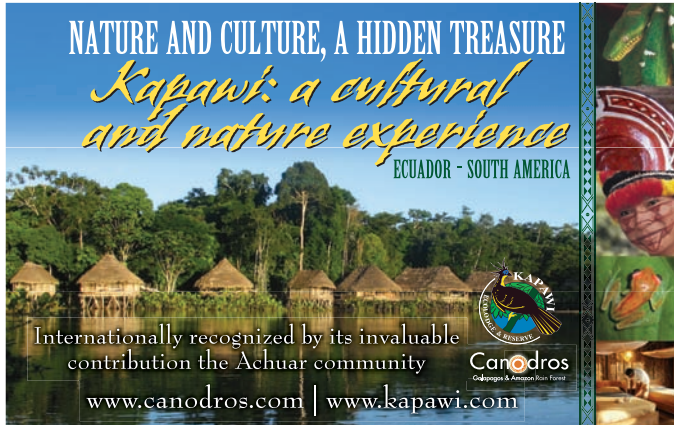
FUNERAL SERVICES

Family Care Funeral Services

www.ecofunerals.co.uk


COURSES

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Contact:- Course Administrator, CAT, Machynlleth, Powys, SY20 9AZ

WSA Welsh School of Architecture

Three MSc courses on building and sustainability

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This course prepares professionals for finding opportunities in their normal practice to initiate and facilitate sustainable change in the built environment. It provides an array of practical tools for implementation and guides students in applying their knowledge to a live project.

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The Welsh School of Architecture is the UK's top-rated research school of architecture. It has earned an enviable reputation for its research and teaching in sustainable building. Its three courses at masters level in this subject are intended for audiences with differing interests.

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Standing on Holy Ground

23 October – 26 October **£176**
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www.wildsideholidays.com



Eco holiday tip

Find 'organic' places to stay all

over UK and abroad by visiting www.organicplacestostay.com, which has a regional guide to small hotels, B&Bs and accommodation to rent on organic farms and smallholdings. Some have their own small restaurant that serves fresh, local, mostly organic food; others have an organic kitchen garden or orchard, some have their own vineyard, and some offer courses. Many are located in naturally beautiful areas surrounded by wildlife.

OFFICE RESOURCES

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www.actionaidrecycling.org.uk

COFFEE AND TEA

Fairtrade
www.fairtrade.org.uk

PAPER

Evolve
www.evolve-papers.com

STATIONERY

Ecotopia
www.ecotopia.co.uk

Remarkable
www.remarkable.co.uk

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www.greenisp.net

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FINANCIAL



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Fast Food Nation

The book was an exposé of the fast food industry. Now it's been made into a film drama. **Jeremy Smith** talks to author/scriptwriter Eric Schlosser and director Richard Linklater

Fast Food Nation the film goes on UK release on 4 May. Rather than attempt to faithfully recreate the content of Eric Schlosser's eponymous book, however, the film focuses on the lives of the many different people affected by the fast food industry – the cowhand, the immigrant worker in the slaughterhouse, the kid behind the counter in the fast food restaurant, the man in the suit marketing the products, and so on. It gives us a window into all their lives, reminding us that each mouthful of food consumed in such a system impacts upon all these people's lives in ways we can scarce imagine.

The script was written by Eric Schlosser and the film directed by Richard Linklater – he of *Slacker*, *Waking Life* and *Before Sunset*. **Jeremy Smith** of the *Ecologist* spoke to them about the burgeoning popularity of politically engaged cinema and why they turned *Fast Food Nation* into a drama.

Ecologist Documentary has never been more popular with cinema audiences. Why did you turn the book into a fictional drama?

Schlosser I spent about 18 months working with various documentary filmmakers, trying to get a documentary made based on the book, and it did seem a very logical thing to do. And this was before *Bowling for Columbine* [2002], which showed that theatrical release of documentary was possible in the States. All the filmmakers I was meeting with had backing from various networks. And I ultimately didn't trust that and would rather have had no film, than one that felt like a total sell-out, that was in any way a compromise. Even PBS, which is a public broadcasting system in the United States, gets money from McDonalds. You know, McDonalds is one of the big sponsors of *Sesame Street*.

Linklater Petroleum Broadcasting network, we call it.

S So the idea of doing it as a feature film,



'The only thing that has been known to make any change is consumer awareness and demand'

and a fictional film, came from Jeremy Thomas, this British producer, one of the last independents, who works with some of the great, great directors of Europe. [Thomas is most famous for having made the Sex Pistols' *Great Rock and Roll Swindle*]. He'd been given the book by Malcolm McLaren [former manager of the Sex Pistols]. I met with Jeremy, and I said I'd think about it. Then I was on a book tour, and met Rick in

Austin and we started talking about it. And it was clear that the only way to do it would be to put aside the book and just do something that had the spirit of the book and the title, but was something totally different.

E Who are you trying to talk to with this film?

L Autobiographically, I feel close to all the people in the film – I worked offshore, that was my connection with the migrant workers, I was that kid, now I'm the guy in his forties, with his responsibilities to his kids with something to lose. But different people will see and relate to different characters – and in the end we're asking you to relate to all these characters. Because it's all of us – we're all operating under the effects of a system that's so much bigger than all of us, this global economy, borderless thing. The characters don't really analyse it, they are just responding.

Film is a powerful medium with which to communicate. You put these people on the screen and it's like, 'OK, here are our heroes, we're gonna follow their lives.' I think it enters your psyche, maybe in a different way from non-fiction. It hopefully injects a certain humanity into a system that is anything but humane. You know, that abstracts the people involved completely, that keeps them hidden. Everyone in our movie, you're not supposed to think about and you're not supposed to care about. The girl serving you your burger is just an automaton – maybe a cute one, but you know, there's not a connection here, and you're not supposed to make a connection. This system profits by a disconnect. So, anything we can do to break that down and make you actually care about these people, particularly the undocumented workers from Mexico... In the USA, they are currently [regarded as barely] a cut above terrorists.

S Right now, as we sit here, there are literally hundreds if not thousands of people crossing the desert, to get into the USA. It's estimated



Opposite page:
Richard Linklater
(top) and Eric
Schlosser. This page:
Luis Guzman as
Benny, a Mexican
migrant worker

that 500,000 people cross a year. So, on any given day, there's more than 1,000 people wandering in the desert. It's big. It's not like you see the crowds. But what we depicted in that film is just routine. And I mean, hundreds of people die, they just, they just...

E Is the film looking to present a solution, an answer to the problems it covers?

L It begs the questions. It would have been untruthful for us to show anything resembling a happy ending – it lets the audience off the hook, lets them leave the cinema going, 'OK, someone's taking care of it'. It's kind of like, if at the end of *An Inconvenient Truth*, you walk out saying, 'Great, Al Gore's got it under control.' But you come out saying, 'I should turn off that light,' etc. We're all interconnected here, it's really up to each citizen/consumer to first be informed, be aware and then make your choices at the only point at which this system responds – at the free market level. We can't count on our government to step in and defy big business and do something for the common good. They've proven themselves completely ineffective there.

The only thing that really matters and has been known to make any change is consumer awareness, consumer demand, and that's where my faith lies. It's too complex a system, with too many questions and conundrums when you go into any of these issues.

S: A happy ending would have been a lie.

E This is a film about the problems of a world controlled by giant faceless corporations, yet it itself was produced by Fox Searchlight.

L It's the irony of the modern commercial arena that you can't go too far without encountering one of them. The upside is that just when you think that the whole system's rigged and everyone's walking lock stock with the corporate master, you find there's always the individual who doesn't want to toe the line. Those corporations are still made up of individuals. The same ones who are absolved of responsibility.

E There weren't many politically aware films of this nature four or five years ago. Then in 2004 we had Michael Moore's *Fahrenheit 9/11*, Morgan Spurlock's *Super Size Me* – and now people can't get enough of them. What

do you think has driven this change?

S When things get bad enough, people start waking up. The same was true with the Vietnam War, and the films of the Seventies.

L Films maybe don't lead the charge, but they reflect what's happening. Just the fact we got this thing made says that someone thinks this is in the air; and there's people out there connecting the dots, who might want to include this in their thinking. I tried to make films like this in the Nineties and I never could get the financing. Maybe we were a little too prosperous in the USA. The worse things get, people know there's a counter way of thinking. A film can't change the world, but it can change a person.

Jeremy Smith is Editor of the *Ecologist*



FAST FOOD NATION

Director: Richard Linklater

Script: Eric Schlosser

An eye-opening journey into the dark heart of the all-American meal

Released in the UK on 4 May

Classic book club

Revisiting the books that shaped the environmental movement



Silent Spring

Rachel Carson
(Penguin, £9.99)

First published in September 1962, *Silent Spring*

is considered by many to have launched the environmental movement in the West. The book exposed for the first time the damage pesticides wreak upon the environment, particularly on birds. Its title evokes an image of a season devoid of wildlife.

It is remembered today mainly for the way it exposed disinformation tactics used by the chemical industry at the time, and for facilitating the USA's ban on the pesticide DDT in 1972. But it is also beautifully written, and worth reading now for its reminder of the beauty of what we are destroying, as much as for its revelations about how.

Most importantly, Rachel Carson's book is still as relevant. She may have been writing 45 years ago, but the words that open the final chapter could have been written yesterday:

'We stand now where two roads diverge. But unlike the roads in Robert Frost's familiar poem, they are not equally fair. The road we have long been traveling is deceptively easy, a smooth superhighway on which we progress with great speed, but at its end lies disaster. The other fork of the road – the one less traveled by – offers our last, our only chance to reach a destination that assures the preservation of the earth.'

Log onto www.theecologist.org and contribute to the *Ecologist* book club forum. Happy reading!

Four kinds of gorgeous

Bill McKibben is profoundly moved by Jay Griffiths' deeply feminine meditation on what it means to be wild

Not to mince words, this is a major book by a woman who is, no question, a major writer. Jay Griffiths has a powerful and uncompromising idea, plus the reportorial skills to back that idea with an epic world-covering journey. And she writes like four kinds of gorgeous, so deep in love with the world that when the right word isn't there she simply births it. Consider her portrait of a rainforest, posed in contrast to Conrad's description of 'a wilderness without a sound'.

'My perception could not have been more different,' she writes, cataloguing the 'ticky-ticky chopping sound of leaves in a breeze, the messianic birdsong in the canopies. Even in dead leaves or the carcass of a bird killed by a jaguar, life speaks out its stories, liana

Griffiths gives voice to a worldview that makes sense and beauty and joy out of life

tangled, turquoise and elastic, the parrots that mimic a waterfall or a raindrop in a pool and would mimic the sunrise itself if they could; the tumescent and stretchy growths on trees; nests of tiny glistening worms, or thick snakes on a cold slink.'

If *Wild* were mere travelogue, it would amply reward the reader with passages like that. But the book is far more – it's a sinewy argument (which takes up where her last book, *Pip Pip: A Sideways Look at Time*, left off) about the ways in which an oppressive modernity has killed off, figuratively but also literally, the authentic ways of being human.

In most of the places she visits, that modernity is represented by the ugliest face of Christianity, the missionary out to convert the savages. In the process, as reporters before her have pointed out, they usually spread disease, collaborate with governments eager to move the natives on to reservations, and open the way for commercial exploitation of whatever minerals or other valuables the natives are unlucky enough to live near. Griffiths'

denunciations of these crimes ring with a truth and an anger that hopefully will cause a stir. But her great contribution is to give voice to the deepest damage: the upending of a worldview that makes sense and beauty and joy out of life, replacing it with some ersatz version of middle-class Western life that brings no satisfaction. That old worldview – cyclical instead of linear, as open to female as to male energy, blurring the line between dream and day, musical in the most pervasive, humming sense – has never been better described. Though she is the farthest thing from an academic anthropologist (one of the funnier scenes in a sporadically hilarious book describes a fellow-traveller who keeps demanding that local people describe their kinship groups, till they all nod off from sheer boredom), she has nonetheless provided us with a majestic anthropology of how humans who still live in the living world experience that life.

She makes no bones, either, about the contrast between that real life and the strange one we've built for ourselves. Instead of the nomadic, seasonal, alert, dangerous, gleeful life she finds in her travels, we have the 'grotesque infantilism of the suburbs, sucking the dummy of the supermarket and every week's squirting out the waste into giant plastic nappies, the bulging trash bags by the closed gate. In the suburbs... the curiosity of all animals is degenerated into bingeing on Sky News. Queasily obedient, here life is just a dull lull, tethered to a bungalow, an index-linked nap between two sleeps.'

For those who find a lot of 'nature writing' a bit hard to take – who know that all too much of the genre is an airy waving of the hands – *Wild* is the book that shows how it should be done. No hand-waving: this is a fist in the gut, and about time.



Wild: An Elemental Journey

Jay Griffiths
(Hamish Hamilton, £20)



Learning from the past

1907–1964 Rachel Carson's life was hugely influential. A biologist, ecologist and writer, her most famous book, *Silent Spring* (see opposite), is widely credited with launching the modern environmental movement. 'Those who dwell among the beauties and mysteries of the earth are never alone or weary of life.'

How fair is fair trade?

A comprehensive analysis of Fairtrade focuses on both its benefits and problems, finds **Ed Hamer**

Since its birth in 1964, Fairtrade has become the mantra of the ethical consumer. However, as the brand capitalises on its considerable marketing potential, it is essential that its integrity remains intact. Madeley and Litvinoff's timely publication has been released to ensure that this is the case, and that fair continues to keep its flair.

While the book's early chapters cover the

most common Fairtrade arguments, there are a number of revelations to surprise even the most informed readers. Did you know, for example, that the Fairtrade movement has influenced the development and future of international free-trade markets, encouraged solidarity between Palestinian and Israeli farmers, and has now expanded to include cosmetics, tourism and even haberdashery?

To their credit, Litvinoff and Madeley have not glossed over the negative consequences of the Fairtrade boom. The book highlights environmental concerns associated with Fairtrade enterprises and the questionable carbon costs of transporting goods from disadvantaged producers in the global South to premium markets in the North.

In the final chapters, the book looks to the future of the movement and increasing concerns over the involvement of big

business. It was, after all, the exploitation by big companies that created the need for Fairtrade in the first place.

As consumer demand continues to fuel the Fairtrade revolution, this book will provide welcome ammunition for any consumers with a conscience who want to articulate its ethical credentials. Although each of the 50 reasons laid down by Litvinoff and Madeley are independently valid, one reason pervades them all: buy Fairtrade because fair means life.



50 Reasons to Buy Fairtrade

Miles Litvinoff and John Madeley
(Pluto Press, £7.99)

DVD The Planet

Directors: Michael Stenberg,
Linus Torell, Johan Söderberg
Sweden, Norway, Denmark
2006; 84 mins



Early on in *The Planet*, George Monbiot makes a vital point about nature documentaries, saying they ‘invent an artificial wilderness’ without any people. In reality there is no ecosystem on earth that is not profoundly affected by us. This film is at pains to remind us quite how much we have tampered with our environment.

We are shown vast satellite images of seething conurbations across the world. We zoom in to rattling montages of construction and industry reminiscent of Fritz Lang’s *Metropolis*. The world looks like a giant mesh of steel and glass – a different sort of greenhouse effect. We are taken on



a whistle-stop tour of environmental degradation, from the goat-ridden, toxic e-waste dumps of Nigeria to the invisibly chemical-contaminated Inuit tribes of the Arctic.

The Planet is awash with statistics – for example, in the past century the number of vertebrates on earth halved, while humanity quadrupled in size. Scientists, environmentalists and economists clamour that the world is in a terrible state, and if drastic things aren’t done very soon we’ll be in serious trouble.

In last year’s environmental smash-hit *An Inconvenient Truth*, Al Gore gently informed us that the future looks like ‘a nature hike through the book of Revelation’. *The Planet* shows that many aspects of that revelation are already here.

David Hawkins



Does money make the world go round?

An analysis of the modern market economy from a green perspective has Mark Anslow asking himself what money is actually for

Just occasionally, you read a book that gives you an Archimedes-in-the-bath moment. *Market Schmarket* is one of those.

We are all at least dimly aware that the machinations at 11 Downing Street have a dramatic impact on our everyday lives. But, short of the predictable media furor on the day of the Budget, the workings of the economy remain largely unseen and unquestioned. Molly Scott Cato, an economics speaker for the Green Party and a Senior Lecturer in Social Economy at the University of Wales Institute, takes this to task.

In *Market Schmarket*, she questions some of the most fundamental assumptions of our modern market economy. Why do we need economic growth, if it is the main driver behind continued environmental destruction and doesn’t make us happier? Why do so many policies support the idea of a ‘free market’ when the concept only

exists on paper? Why is there still an ever-increasing tendency towards global supply chains, when it’s clearly evident that the localisation of products and services makes

‘Why,’ asks Cato, ‘do we need economic growth if it doesn’t make us any happier?’

communities healthier, stronger and richer?

Many of these are concepts with which environmentalists are already familiar. But the book ploughs on to ask some even more unsettling questions. Money, far from being the stable, regulated system we perceive, is revealed to be the product of private banks, which simply create it against the debts they are owed. Without continued consumption and the debts this

creates, the economy would grind to a halt. Throughout the book, Scott Cato exposes a deeply flawed system, which she analogises to the old ‘frog in a vat’ hypothesis – if you raise the temperature slowly enough, the frog will be boiled alive. We are the frog.

Neither a wholesale dismissal of market economics nor a Marxist tract, the book is both well balanced and solution-oriented. Fair trade, cooperatives and guilds are some of the ways forward to which Scott Cato points. It leaves you with a real feeling that something can still be done.



**Market Schmarket:
Building the Post-
Capitalist Economy**
Molly Scott Cato
(New Clarion Press, £13.95)

The dominator effect

John Papworth reviews Kirkpatrick Sale's latest mind-expanding examination of the human condition

Kirkpatrick Sale is the outstanding radical writer of the English-speaking world today. The bulk of his writing, especially perhaps his far-seeing work on Columbus and his monumental volume *Human Scale*, are part of the essential furniture of any educated mind that seeks to probe the causes of the

'Every civilisation that has ever existed has collapsed and ours will be no exception'

catastrophic global crisis that currently consumes our living clay.

After Eden is an extended essay on the motivational springs behind humankind's restless drive to subdue and to suppress, to overwhelm and to dominate. Why do we do this?, asks Sale, when we might so easily have sought to create, to evolve in harmony with the life force, to beautify, to elevate, to ennoble even, to realms of the sublime; to ensure that our individual interludes on this speck of dust in space might reach out to become an ever-widening circle of adventure and achievement, one in which human stature might come to match the power and the wonder of those of the divine, which it has always professed to propitiate?

This is the question Sale here seeks to answer, and he does so with a wealth of scholarship and imaginative comprehension.

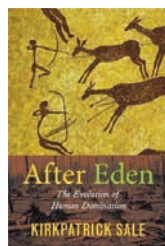
He reaches some mind-boggling conclusions, but what is riveting is the route by which he travels: how man the hunter-gatherer moved on to become man the agriculturist, and then man the urban city dweller, all the time stressing how the basic psychic chords of his nature from his earliest stages have continued to persist and how their failure to prevail can only be as transient as they may prove tragic.

Lewis Mumford once declared: 'If anything can arrest the total disintegration of world civilisation today it will come through a miracle: the recovery of the human scale.' But

Sale would reach beyond this and seek to recover those ties with nature, the instinctive awareness and appreciation of its complexity, variety, rhythms and dangers, which are still embedded in our genetic make-up. Ties that once evoked our spontaneous awe and wonder, and that can still be the guide we so desperately need to create a lifestyle that abandons domination and opts for the fruits of harmony.

'For,' as Sale concludes, 'we cannot, we will not, go on as we are. In the first place, every civilisation that has ever existed has collapsed, and ours will be no exception, because civilisations carry out an iron imperative of ecological destruction, especially intensified by agriculture, combined with social incoherence, especially intensified by hierarchy. Moreover, our particular industrial civilisation has developed technologies that enable us to hasten that destruction and incoherence to a degree unimaginable to any preceding one, with consequences so catastrophic that the future of a great many surface species, including the dominant bipedal one, is uncertain. And even if in the next decade or two we do not succeed in altering the climate and atmosphere and befouling the soil and water in such a way as to imperil life on earth, there is every reason to expect (as a Pentagon report of February 2004 predicts) a conjunction of crises that will create havoc, war, starvation, disease and death on a wide scale in every land on earth, and bring our civilisation crashing down around our heads.'

Is there any light at the end of the tunnel? Kirkpatrick Sale would argue: only if we are determined to look for it.



After Eden – the evolution of human domination

Kirkpatrick Sale
(Duke University Press,
£48.99 via Amazon)

Last words? Penan

Status Endangered – around 8,000 speakers remaining.

Habitat The swiftly diminishing rainforests (half cut down so far) of Sarawak on the island of Borneo.

Description While their animistic religion says all beings have souls, the Penan believe the land is owned by the dead, the living and those still to be born. This means they can't afford to overstretch their resources. Central to Penan philosophy is the concept of *molong*, meaning 'not taking more than you need'. Everything is shared equally. Failure to do this (*see hun*) is the worst transgression possible.

The Penan's intimacy with their surroundings is reflected in how they name things. They have more than 40 words to describe the different stages of the sago palm, on which they rely for shelter and food; yet no word for domesticated animal.

Around 300 Penan still lead the traditional nomadic way of life as small groups of hunter-gatherers. The rest have been settled due to governmental pressure and the incursions of logging companies like Samling into their ancestral home, reducing the land to mud, or *tanah munyai* ('melted earth'). The Penan's plight became a *cause célèbre* (in both senses) in the late 1980s, when they were made poster-children of the rainforest movement. But despite the fact that most people have stopped talking about them now, their struggle continues.

In Penan, when something is gone, it leaves an *uban* – a sort of palpable absence, or 'space left behind'. If the Penan people are lost, this space left behind will be all we have of their unique language, their expert knowledge of the forests and their model of successful permaculture.

David Hawkins

How to be free

Save your soul

Noting the ecological movement's religious overtones, **Tom Hodgkinson** offers a nonconformist solution for people and planet alike

Our contemporary obsession with sustainability, responsible living and the need to prevent further damage to the planet has a religious quality to it.

Just as for religious man, the most urgent task of life is to save his soul, so to eco-man the goal is to save the planet. Both creeds have salvation as their purpose.

Some of the more extreme eco-people are predicting, almost hopefully, some sort of meltdown, apocalypse, Armageddon. Whether the coming crisis will be triggered by peak oil, a collapse in the financial system, or some kind of planetary disaster, they are not quite sure. But the end of the world, say our prophets, is definitely nigh. And we see here another parallel with religions, in that each cult promises its followers that they alone will be saved. So we convince ourselves that thanks to solar panels, windmills and vegetable patches, we will be among the chosen few who survive.

Just as in religious circles, there has always been fervent debate on the best way to achieve salvation, so the eco-people argue about the least damaging ways to live. Is town life preferable to country life because it makes fewer demands on the car? Is it better to buy organic at the supermarket or use the local greengrocer? Are Rayburns ecologically unsound because they use so much oil? What to do about plastic bags? Should we burn cardboard or recycle it? The whole movement brims with argument and dialogue, which was the case with Christianity. Writers in the Middle Ages produced manuals that provided priests with answers to the everyday ethical conundrums that troubled their flock.

And, like medieval Christianity, the eco-movement commends community, distrusts money and capitalism. So in comparing the eco-movement to a religion, I am in no way criticising it. Quite the opposite. The belief in salvation through good works did, at the very

least, ensure that good works were carried out. In the same way, ecologically responsible living is an effective way of improving our quality of life and reassessing our system of values, whether the world comes to an end or not.

We are asking the important question: how to live? And in magazines like this one I see a rejection of the narrow individualistic creed that has dominated European culture for 250 years, which had its roots in the Puritanism of the 16th century, in favour of neighbourliness. The monks of old recommended growing vegetables, baking bread and brewing beer as

worthwhile everyday occupations, and so do we.

We must get it out of our heads that to live responsibly and ethically requires self-sacrifice and austerity, or that it is a creed that should be forced on others. Those are ideas inherited from the Puritan strain in Western thought: life is about suffering, man is evil and he must be corrected if he is to be saved. There are times when eco-warriors can look unpleasantly puritanical and evangelical: 'Sinners, change your ways now! Throw away your automobiles and your unholy addiction to oil before it is too late!'

The puritanical faction says that the answer lies in action. We are told to 'do something' now, that salvation waits at the end of a long, hard road paved with toil. Well, to me salvation lies not in hard work but in pleasure, creativity and loafing around doing nothing much.

For me, it's not about 'doing something', but about doing much, much less.

One of my favourite books is *The One-Straw Revolution* by Masanobu Fukuoka, the great guide to 'no-work' farming and an inspiring piece of philosophical reflection. Fukuoka retired from society in the Thirties in order to farm without artificial fertiliser – all the rage then in Japan, as in the rest of the world – and to farm without ploughing.

Another attractive element in his approach is that very little weeding is required. Our equivalent today is 'no-dig' gardening, which is recommended in guides to organic gardening.

It's an approach I follow in my vegetable patch: less work, better produce and less damage to the earth is an unbeatable combination. Fukuoka says it is man's 'meddling' that creates all his problems in the first place. Thus the answer is not more but less meddling. Instead of going to London for a protest march or flying around the world for conferences on global warming, follow the advice of ecologist Dr Stephan Harding of Dartington and lie quietly on the hillside. In so doing you will save the planet and maybe even your own soul. **E**



To me, salvation lies not in hard work but in pleasure, creativity and loafing around doing nothing much



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