

VANISHING ENGLAND

10 things you'll miss when they're gone

MAN'S WORST INVENTION

Agriculture

THE SHOPLIFTING VICAR

John Papworth, the original eco warrior

INSIDE THE...



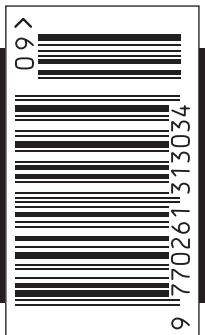
SANDWICH

THE TRUE COST OF CONVENIENCE



PLUS THE GREEN PAGES

Local Hero: Andrew Ritchie, father of the incomparable Brompton Bicycle • Read The Label: fragrances • DIY style • Fair trade jewellery • In season: 3 steps to food heaven • Allotments: The joy of scythes • Organic & Biodynamic Wine Club

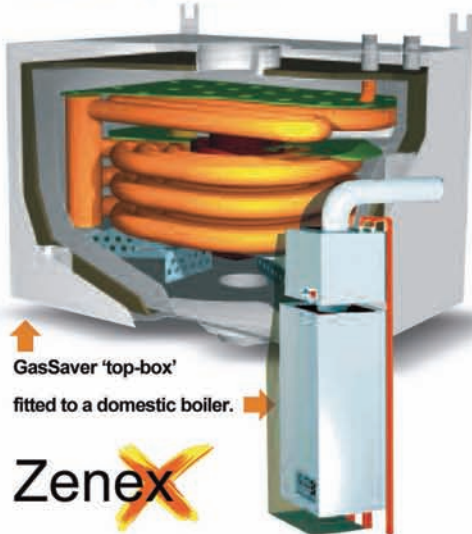


Take a huge bite out of your gas bill...
... and help to save the planet

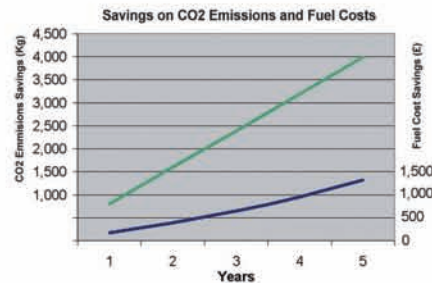
We have a problem, for we are in effect living a three-world lifestyle with only one world to support us. The world's energy usage has, over the past fifty years exploded, CO₂ emissions - a major contributor to global warming, need to be brought under control if we are to secure a future for our children.

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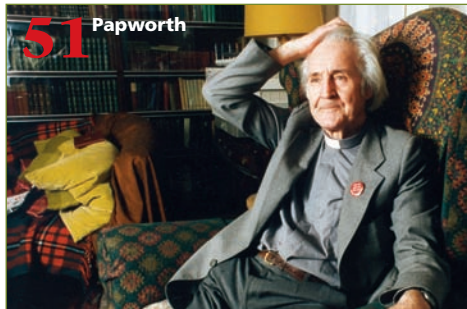
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Contents

SEPTEMBER 2006 | ISSUE 7 | VOLUME 36



FEATURES

23 PHOTO STORY: Roosters

Beautiful, arrogant, aggressive, eccentric and highly-sexed. **Philippe Schlienger** captures the unique diversity of birds on the verge of redundancy in a world where expedient egg and meat production rule.

30 Vanishing England

If God is in the details, then England is in a continual state of grace. A new book, *England in Particular*, shows how the local and commonplace defines the character of a nation and why it's worth preserving.

36 Humanity's worst invention: Agriculture

War, inequality, poverty, crime, famine, disease, climate change and mass extinction – the cultural disasters of denying our hunter-gatherer roots. By **Clive W Dennis**, winner of the annual Ecologist/Coady International Institute essay competition 2006.

41 BLT: The big lifestyle trade-off

It only costs £1.80 – a bargain when you are hungry and in a hurry. But, as **Jon Hughes** and **Pat Thomas** report, the ingredients in your bacon, lettuce and tomato sandwich have travelled more than 31,000 miles, leaving a trail of devastation in their wake.

51 This turbulent priest

John Papworth has been a communist, a beggar, an editor, a presidential advisor, a prisoner and a priest. **Paul Kingsnorth** meets the original eco warrior.

COMMENTS

16 Beyond belief

Evolution is just a half-baked beginning? Human beings are a poorly designed work in progress? **Dan Grace** explores the brave new world of transhumanism – the Frankenstein answer to getting rid of our human faults and frailties.

20 The road to ruin

For a quarter of a century American car manufacturers have been lying about the fuel efficiency of their cars – a comfortable deception that costs the country a million barrels of oil a day, a report by the **Environmental Working Group** reveals.

REGULARS

8 Upfront

The scramble for Antarctic oil; dirty beaches; is corporate social responsibility meaningless nonsense?; hair-colouring killers; pill popping hits an all time high; bribing communities to store nuclear waste.

22 Going going gone...

The population of Las Vegas tops one million – not including the tourists. But 33 years ago it was little more than a watering hole in a vast desert.

34 Behind the label: Carex antibacterial handwash

Using an antibacterial cleanser means you are engaging in chemical overkill linked to hormone disruption, skin reactions and central nervous system disruption.

56 Doomsday funbook – We are all addicts

Why our over dependence on techno-fixes is stunting our growth.

58 Reviews

Why what we eat matters; the environmental and humanitarian cost of waste; good reasons to get on your bike; and the compelling story of crude.

98 Cassandra

The problems of built-in obsolescence, the convoluted machinations of the democracy and the need to rethink the aims of the peace movement.

37 PAGE GREEN GUIDE

- 64 Hero: Andrew Ritchie...**
Father of the Brompton Bicycle
- 69 Pick of the Month**
Fair trade jewellery from 'made'
- 70 Fashion Survival Kit..**
Tackle clothes closet boredom
- 72 This Month's Vineyard: Domaine de la Garrelrière...**
Taste the moon in your wine
- 73 Ecologist Organic & Biodynamic Wine Club**
- 74 Allotments: The Joy of Scythes**
- 76 Read the Label: Fragrances**
- 78 In Season: 3 Steps to Food Heaven**

- 79 GREEN SHOPPING GUIDE...**
making every £1 count
- 82 Food & Drink**
- 86 Home & Garden**
- 88 Energy**
- 90 Clothing**
- 92 Bodycare & Cosmetics**
- 94 Baby & Child**
- 96 Holidays, Funerals, Property, Personals, Weddings & Office Resources**
- 97 Careers, Courses & Transport**





THIS MONTH IN HISTORY: SEPTEMBER 1926

25 September 1926 – the League of Nations signed the International Convention on Slavery, defining and abolishing human trafficking and forced labour across the globe.

The word slavery evokes images of a Trans-Atlantic trade which ceased to exist in the 19th century. However, slavery still exists and is still shaping our world. According to reports compiled by the US Committee for Refugees and Immigrants, human trafficking is the “fastest growing criminal enterprise in the world”.

A slave is defined as someone who is forced to work through mental or

physical threat, is dehumanised and commoditised and has restrictions on his or her freedom of movement.

The International Labour Organization estimates that throughout the world, in countries like Brazil, Albania, India and Africa, around 12.3 million people remain enslaved, not including the 179 million children who work in conditions that are hazardous to their health and welfare.

Over 80 per cent of these slaves are women or children, engaging in chattel slavery, debt bondage, forced labour or sexual slavery – the latter netting around 6 billion dollars a year.

ecologist

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EDITORIAL

You'll notice we've devoted 10 pages of this edition to the humble BLT sandwich. We could have filled double the number, because the sheer madness in the global food economy ensures that even a product as simple as a bacon, lettuce and tomato sandwich (BLT) has been transformed into an ecological nightmare.



Consider the bacon. The vast majority is produced on intensive farms in Denmark, whose pig population generates more than nine billion litres of faeces annually – at great expense to the nation's river ecosystems. For sheer squalour, it's hard to compare with a modern factory pig farm, where sensitive, inquisitive and highly intelligent animals are deprived not only of the most basic natural stimuli – they are unable even to move. To give an indication of the scale of Denmark's pig operation, one automated slaughterhouse in Horsens kills nearly 80,000 pigs each week, after stunning them with CO₂.

Then there is the fodder. Ninety per cent of the world's soya is fed to animals, and a large proportion of that goes to pigs. As pig farms have been increasingly intensified, so has the area of land used to produce soya expanded – at the expense of some of the world's most biodiverse wildernesses. Whereas 30 years ago in Argentina, for instance, just 37,000 acres were devoted to soya, today that figure has risen to 14 million. South America's precious forests are being ravaged simply to feed Europe's pigs.

None of these costs appear on the price tag. What would be the price if they did? What is the value of the Orangutan – whose habitat is being replaced by palm oil monocultures? What is the value of the Amazon, or the true cost of the vast quantities of chemicals required for the lettuce and tomatoes? Over 30,000 miles is the distance a typical BLT's ingredients have travelled, so if the price tag were an honest reflection of the cost, the BLT's contribution to climate change would also have to be factored in.

It's impossible to accurately price up the BLT, but whatever the true figure – it's a lot more than the £1.80 you're likely to pay. So what do we do? Do we boycott the BLT in favour of the prawn mayonnaise? Should we vilify and ostracise the BLT's consumer? The answer is that to do so would have zero impact, because the BLT story is no more shocking than the story accompanying so much of what we eat. The BLT itself is not the problem, the global food system is the problem.

Instead, we need to push for honest accounting. When we buy so-called cheap food from the supermarket, we're paying twice; through our taxes and over the counter. All these indirect costs – pollution, transport infrastructure, soil erosion, climate change, habitat loss, landfill waste and so on – are shouldered evenly by the taxpayer. If those costs were covered at each step of the supply chain, the price of the final product would be quite different.

And, wherever possible, we should be choosing to support local organic produce. People have been eating BLTs for generations without engaging in rampant ecological destruction. A BLT whose ingredients are local and organic cannot be blamed for any of the problems outlined in this edition. On the contrary, when you buy a local organic BLT, the environment benefits; the local economy benefits and, in all likelihood, the food itself will be tastier and healthier.

When we're told – in response to the growing momentum in favour of action to save the planet – that to do so requires political courage and individual sacrifice, we need to know that is nonsense. No one needs to give up their BLT, or any other sandwich. We simply need to stop subsidising, through our taxes, our environment and our health the wrong type of food system. In the meantime, as many of us as possible need to actively support the alternatives. As Tesco repeatedly reminds us, "Every little helps!"

Letters

EMOTIONAL BLAIRMAIL

After reading your comprehensive 'Dossier' on nuclear power it was disappointing, though not very surprising, that Blair and co have gone down the nuclear route. When Blair tries to justify nuclear, on the basis that it will tackle climate, it reminds me of him trying to justify the war in Iraq on moral grounds, in that he is using a reason he sees as more palatable to the public.

Clearly, anyone who looks into the matter will see that nuclear power is heavily dependent on transportation, either by rail, ship or truck. Therefore, nuclear is not only responsible for emitting vast amounts of CO₂ but is also reliant on oil, which of course we all know is likely to peak in the next few years. When oil prices start hitting \$100 a barrel, the cost of electricity from nuclear will also rise.

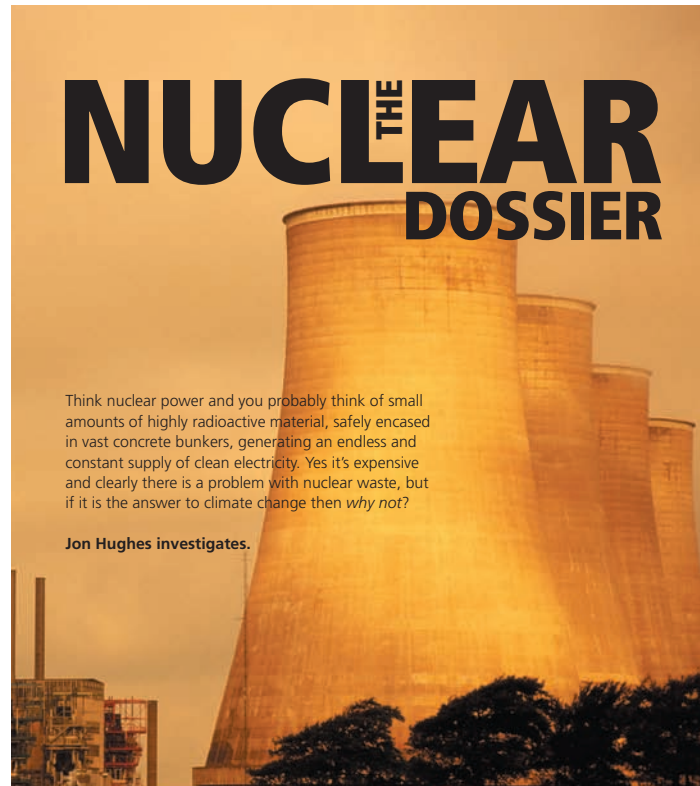
It all seems just a wasted opportunity, when you think how many billions of pounds will be spent on building new nuclear power stations, when it could be spent on ensuring every roof top (where feasible), whether it's a house or a warehouse, could have solar or wind power fitted.

The Government's assertion that nuclear power will tackle climate change is deceptive, and has been deliberately used to soften people's approach to this issue.

I am therefore disappointed that one statistic is missing from your dossier: how much CO₂ is produced by a nuclear power station every year, if you look at the whole cycle from mining to enrichment, compared to a gas or coal/clean coal power station.

If we could be clear on this point, perhaps the

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



Government could be forced to think again about a decentralised energy network.

**Tom Winckley
Shrewsbury
England**

ODIOUS COMPARISONS

George Monbiot, in an apology for nuclear power, *The Guardian* 11th July, believes that, without it, we in Britain will fail dismally to curb our greenhouse gas emissions. Like others who would compare nuclear power with other inefficient fossil-fuel fired stations, he has got it wrong. Rather, we should be comparing nuclear power with a co-generation system, ideally operating on biofuels, that produces heat and electricity for the household and industry simultaneously. Such a system, through electric switching devices, can be usefully combined with other renewable energy sources, such as wind, or wave, photovoltaics or

whatever, even though they are intermittent sources of electricity. Such a system would also be ideal for charging the batteries of electric vehicles during non-peak hours.

Such systems leave nuclear power standing: they are seven times less emitting of greenhouse gases, even with today's good grade uranium ores, than nuclear power. In fact, Monbiot is out by a factor of two when he states that a nuclear power station such as Sizewell is responsible for releasing 16 tonnes of carbon dioxide per megawatt-hour. The figure, as assessed for France, with its 60 operating PWRs, is closer to 29 tonnes. France's nuclear power stations are responsible for more than nine per cent of the country's greenhouse gas emissions.

Once we consider the next grade of uranium ore down from the current limited supplies, then nuclear power burns up more energy than it generates, and since nuclear

power has been built on the back of the fossil fuel industry, that is very bad news indeed for greenhouse gas emissions. If the world, like Tony Blair, were to turn to nuclear power to save us from global warming, heaven help us.

Peter Bunyard,
By email

'SELL BY' DAFTNESS

I was in Salisbury today, and unusually for me went into Marks and Spencer. I rarely use a supermarket and, if I do, I go to Waitrose as I can buy more British food there.

Whilst there, I was selecting my surprisingly clean new potatoes as a young lad, an employee, was looking at bags of potatoes, shallots and other vegetables and putting them into a trolley. I noticed what he was doing and carried on collecting my potatoes. I then clicked; he was checking sell-by dates. Being a bargain hunting hippy, I looked in the trolley and I asked what price they would be, as they were out of date tomorrow. Without a care in the world, he said, 'Oh, we don't mark down prices at Marks and Spencer. We throw it for waste so that no one gets food poisoning.'

Is the *Ecologist* aware of this horrific practice? I commented on how crazy this was, as the foods he was removing for waste were only shallots, swede and whole lettuces – most of which keep for a long while. I asked to speak to the food hall manager, and another young lad came out. He was horribly unaware of what a shallot was, let alone why it can be kept or when they are in season. By this stage, I had quite a following of women, who commented that simply throwing food away was a disgusting thing to do and why couldn't we buy it

or take it to a charity?

The food hall manager said he didn't know about seasonal vegetables and what was or wasn't British and that M&S didn't want any customers getting food poisoning from out of date vegetables. I mentioned that I thought it highly unlikely anyone would get sick from eating an 'out of date' shallot. He said they sourced from English growers and choose only the very best, but he couldn't answer why they also saw fit to boil peas from Kenya! However, that is a separate issue.

I would love you to start a campaign to highlight this crazy practice. The women I came across in M&S yesterday simply didn't know this happens. I confess I did know, but hadn't seen it in action and I think ignorance is bliss, as I found it distressing. I hate food waste, and we

must throw away millions of tonnes, as Salisbury is only one town in the UK and has a small M&S store. I am sure most of the British public are unaware of this practice and might be horrified if they knew. Has the *Ecologist* thought about doing a 'waste not want not' campaign?

Joanna Runciman
By email

OUTRAGEOUS STUPIDITY?

OK, so I know this doesn't strictly count as packaging, but I thought you might be interested anyway. Recently Telewest sent me a mailshot explaining their new 'Clearer' pricing policy. To illustrate their point, the letter was printed on clear plastic. This means I can't do what I would normally do with it – give it to the kids to draw on – or dispose of it responsibly.

To make matters worse, because this plastic couldn't be folded, it had to be sent in an A4 sized envelope – more waste. Friends have told me they have seen similar letters included in weekend papers. Clever marketing perhaps, but clever overall? Certainly not.

Sorry I can't send a photo, and I don't feel like compounding the problem by sending you the offending article. I might frame it as an example to the children of outrageous stupidity.

Mel McArthur
By email

WASTE

THE LETHAL CONSEQUENCES OF BREATHING FIRE

When the Victorians first conceived of incinerators in the late 19th century they called them 'destructor units', as this perfectly describes what they do. In principle little has changed. Despite the best efforts of the industry to rebrand and clean up incineration, the fact remains that 'garbage in' means 'garbage out'. **Pat Thomas** reports.

Roughly 2 ½ million tonnes of municipal waste are incinerated in the UK each year. More efficient filters make emissions look clearer, but just because you don't see the pollution, doesn't mean it isn't there. The same toxic chemicals that were in our plastic, paper, textiles and wood when they went into the fire are still there during and after combustion. And their release into the air is still associated with a range of human health problems including cancer, reproductive problems and learning difficulties in children.

But the intense heat of incineration also helps create a whole range of new compounds with a completely unknown potential for toxicity. Indeed, the way that incineration changes the seen into the unseen and the known into the unknown is one of its most dangerous consequences.

Gas
Modern incinerators have measures in place to control the emissions they release into the atmosphere. These incinerators have to comply with tough standards set by European and UK legislation, which are designed to control acid emissions (using 'scrubbers', devices that use a high-energy liquid spray to remove acid emissions from the air stream), dust levels (using electrostatic precipitators, essentially dust magnets in the incineration unit) and fine particles (using textile filters).

Even so, a large incinerator produces the equivalent of 300 wheelie bins of exhaust gases from its chimneys every second. These not only pollute the local area, but are also carried on the prevailing winds to neighbouring cities and towns. Human beings are exposed to them by breathing contaminated air, by absorbing them through their skin and by eating contaminated food, such as vegetables, eggs and milk.

Because of their acidic nature incinerator emissions such as nitrogen oxides, sulphur dioxide and hydrogen chloride contribute to the phenomenon of acid rain, which is destructive to forests and lakes and the animals that inhabit them.

While a few hundred of the gases emitted by incinerators have been identified (see table), the process of heating and releasing emissions into the environment creates the possibility of thousands of new chemical compounds. There are no formal air

APOLOGY

Dear Subscribers, You've been right to criticise our service in recent weeks. Satisfying our readers is our most important job, and we've let you down with late delivery and unhelpful telephone service, which we sincerely regret.

From August our new subscription house will be BPI; a friendly, micro-business that understands the needs of the *Ecologist* and our customers. Together we'll make sure our readers are rewarded for their support. Please accept our apologies for the inconvenience we've caused and thank you again for your patience!

The Ecologist team



NATIONS EYE FINAL FRONTIER FOR OIL

Declining oil reserves and soaring prices could see desperate nations overturning a ban imposed on drilling in the last untouched frontier – Antarctica, an Iranian oil expert warned at an international conference of scientists last month. Pressure to exploit the pristine continent could become irresistible, Ali Bakhtiari, a former senior adviser for the National Iranian Oil Company, said.

“I hope it will not happen, because that would create enormous difficulties. But when

“I feel a twinge of guilt because essentially I’m a cat-loving pacifist who ought to care deeply about the environment. On the other hand, I represent people (the multinational oil corporations) who would squeeze school children to death if they thought some oil would come out.”

Paul Carter, oil man from the age of 15 and author of *Don't Tell Mum I Work On The Rigs, She Thinks I'm A Piano Player In A Whorehouse*, Nicholas Brealey Publishing, £6.39

you have the astronomical price increase that I can foresee, governments and companies will want to find oil anywhere,” he said. “There is now only one frontier province left, and that is Antarctica,” he was quoted as saying by Australia’s national news agency AAP.

Bakhtiari predicted the world’s oil production would peak this year at 81 million barrels per day and decline to roughly 55 million barrels per day by 2020, raising prices to “stratospheric levels”. Seven countries have made territorial claims in Antarctica – Argentina, Australia, Chile, France, New Zealand, Norway and Britain. The United States and Russia have reserved the right to make claims, and America does not recognize the claims of others.

Meanwhile, a 25-year moratorium on oil exploration in coastal waters off America looks set to end, after the Senate last month passed a bill directing the selling of leases for oil and gas development in 8.3 million acres of the east-central Gulf of Mexico – about 125 miles from the Florida coast. Many analysts see the move as a stepping-stone to a more ambitious plan to open US coastal waters to drilling everywhere, unless a state objects.



DIRTY BEACHES

Cigarettes and their filters topped the list of trash items culled from beaches worldwide during last year's annual international coastal cleanup, according to a report from the event organisers the Ocean Conservancy (OC) group. More than 450,000 volunteers removed 8.2 million pounds (3.7 million kilograms) of debris from 18,000 miles (29,000 kilometers) of coastline and waterways in 74 countries during the daylong cleanup last September. The group has sponsored the worldwide volunteer effort for 20 years.

"Marine debris kills wildlife and is a threat to the local environment, not to mention an eyesore," said OC director Vickie Mather. "The information we've gathered over the past 20 years shows that it's ultimately a manmade problem, which means it is highly solvable." Of the 6.2 million items of debris collected worldwide last year, cigarettes and cigarette butts accounted for roughly 1.6 million. Coming in a close second at 1.3 million were caps and lids, food wrappers and containers. This year's cleanup is set for September 16. For more details contact andrea@mcsuk.org

CORPORATE SOCIAL RESPONSIBILITY REPORTS A DANGER TO SUSTAINABLE FUTURE

Attempts by multinational corporations to talk up their social and environmental responsibility are so threadbare and misleading that they are preventing progress towards a sustainable future. That is the damning conclusion of a new study by Jan Bebbington, a professor of accounting at St Andrews University, and one of the Scottish Executive's leading environmental advisers. Fewer than 4% of the world's 50,000 major companies produce reports on "corporate social responsibility", she points out. And the quality of the reports that are produced is "almost universally trivial".

A study with a fellow professor from St Andrews, Rob Gray, brands most companies' claims to green credentials as "crass". Assurances that firms have properly assessed their social and environmental impacts are "at best useless and at worst highly misleading", it says.

The study warns: "The danger is that the very concept on which the future of the planet depends – sustainability – will be emasculated, appropriated and destroyed by assertion in the interests of corporations.

"We believe we must treat the current crop of 'sustainability reports' with the most profound mistrust, as one of the most dangerous trends

33

The percentage of male fish in English rivers that are changing sex due to 'gender-bending' chemicals in the water. Scientists at the UK's Environment Agency say the fish are swimming in an oestrogen 'soup' comprised of hormones from the contraceptive pill and HRT, but also from industrial chemicals that act like hormone-mimics. The problem – which is countrywide – has raised fears that the pollutants could also be contaminating our drinking water and affecting the fertility of men.

working against any possibility of a sustainable future." Bebbington told Scotland's *Sunday Herald*: "Unless we change the way the world is organised, we risk even greater social injustice and more ecological disasters.

"Driven by globalisation, problems of pollution, waste and global warming are all threatening to disrupt humanity in unprecedented ways. Controlling the multinational corporations that cause some of these problems is not going to be easy."

SCEPTIC FOR SALE

A Colorado electricity cooperative is urging other power groups to support global warming sceptics and has donated US\$100,000 to a climatologist who has labelled some of his colleagues "alarmists".

In a letter leaked to Reuters news agency, Stanley Lewandowski, general manager of the Intermountain Rural Electric Association (IREA), wrote to electric groups throughout the United States, singing the praises of the global warming sceptic Dr. Patrick Michaels, a climatologist at the University of Virginia, a fellow at the CATO Institute in Washington DC, and author of the book *The Satanic Gases: Clearing The Air About Global Warming*.

"This is smoking gun evidence that industry is trying to buy science to back its anti-environmental propaganda on global warming," said Frank O'Donnell, president of Washington DC based environmental group Clean Air Watch. "Something coming from Patrick Michaels should carry a warning label," he said. "Caution: this commentary bought with industry money." Lewandowski's letter also indicated that his group is, along with other energy companies, looking into possibly funding a film that would counteract former Vice President Gore's global warming film *An Inconvenient Truth*.

WHAT WE LEARNED LAST MONTH...

■ Sheep in Germany are being kitted out with miniature wellington boots. The all-weather PVC shoes were originally made for police dogs, but a request from a farmer in Hamburg prompted bootmaker Fennen from Lower Saxony to adapt his footwear to help to stop the sheep from getting hoof infections.

■ **A male New Zealand lawyer has started wearing a skirt and blouse in court in protest at the male-dominated judiciary. 'My confidence in the male ethos is zilch. It's a culture of intimidation, authority, power and control,' said Rob Moody, age 67, who also carries a handbag to complement his outfit.**

■ In a recent survey, eight out of 10 adults admitted to being so addicted to their mobiles they felt unable to turn them off – even during sex. A quarter of the 16,500 questioned said they would feel isolated if they lost their mobile, and nine per cent said they would be unable to carry on normally.

■ **Colin Watson, one of Britain's most notorious illegal collectors of rare bird eggs, fell to his death from a tree in south Yorkshire while attempting to rob a nest.**

■ As if China didn't have its hands full keeping tabs on its 1.3 billion people, the country will now begin tracking its vegetables. In an attempt to ensure food safety and traceability from farm to plate during the 2008 Olympics, Beijing is to give every cabbage, carrot and pea pod its own identity number and file. The report made no mention of fruit.

■ **Palaeontologists digging in northern Australia have found fossil evidence of at least 20 previously unknown creatures – including a carnivorous 'killer kangaroo' with long fangs – that lived between 10 and 20 million years ago.**

■ In a fine example of cause and effect the deputy head of communications at British American Tobacco Teresa La Thangue has moved onto a new position as head of external communications at Mayne Pharma, a specialist in injectable cancer drugs.

■ **New evidence suggests that some monkeys can string "words" together in simple sentences. A team at the University of St Andrews says male putty-nosed monkeys in West Africa combine different sounds to construct messages.**



HAIR DYE CHEMICALS BANNED

Regulators recently announced the ban of 22 substances from use in hair dyes in the European Union. The chemicals (listed below) are

THE BANNED CHEMICALS

6-Methoxy-2,3-Pyridinediamine and its HCl salt
 2,3-Naphthalenediol
 2,4-Diaminodiphenylamine
 2,6-Bis(2-Hydroxyethoxy)-3,5-Pyridinediamine
 2-Methoxymethyl-p-Aminophenol
 4,5-Diamino-1-Methylpyrazole and its HCl salt
 4,5-Diamino-1-((4-Chlorophenyl)Methyl)-1H-Pyrazole Sulfate
 4-Chloro-2-Aminophenol
 4-Hydroxyindole
 4-Methoxytoluene-2,5-Diamine and its HCl salt
 5-Amino-4-Fluoro-2-Methylphenol Sulfate
 N,N-Diethyl-m-Aminophenol
 N,N-Dimethyl-2,6-Pyridinediamine and its HCl salt
 N-Cyclopentyl-m-Aminophenol
 N-(2-Methoxyethyl)-p-phenylenediamine and its HCl salt
 2,4-Diamino-5-methylphenetol and its HCl salt
 1,7-Naphthalenediol
 3,4-Diaminobenzoic acid
 2-Aminomethyl-p-aminophenol and its HCl salt
 Solvent Red 1 (CI 12150)
 Acid Orange 24 (CI 20170)
 Acid Red 73 (CI 27290)

known to increase the risk of bladder cancer with longterm use.

The ban will take effect from December and, although the list may seem reassuring and impressive, it is unlikely to affect the £2.6 billion (\$3.4 billion) European hair dye market, or greatly improve safety standards, since most of these chemicals are no longer used in products.

The ban is part of a re-evaluation of all hair dye chemicals for potential genotoxicity or mutagenicity. Because of their strong association with bladder cancer, and the association of other hair dye chemicals with other forms of cancer, the EU Scientific Committee on Consumer Products (SCCP) asked the industry to supply safety data on the chemicals it uses. These 24 were the only ones for which the industry could not supply safety data. A further 115 chemicals are currently being evaluated, based on industry-sponsored evidence as to their safety.

While the story hit the headlines as a triumph, in reality it strikes at the heart of everything that is wrong with both the current and proposed regulation of chemicals. Instead of applying the Precautionary Principle, regulators are still relying on industry sponsored, and therefore unreliable and biased, data to determine the safety of chemicals widely in use. Because of this, initiatives like this will always be ineffective.



STORE OUR NUCLEAR WASTE AND GET BETTER SCHOOLS

The burial site for Britain's stockpile of nuclear waste should be decided by a nationwide contest, the Committee on Radioactive Waste Management proposed last month, in its final report into what to do with our radioactive waste. It concluded that a £10bn concrete bunker, cut into solid rock at least 300 metres (1,000ft) underground, would be needed to store the waste - a pile large enough to fill the Royal Albert Hall several times. In return for housing the underground repository, which would remain radioactive for centuries, the winning region would receive compensation in the form of improved roads, schools and other facilities. Better emergency services and expertise to monitor the longterm environment and health of the population would also be on offer. A recent study by the British Geological Survey found that 40% of the country was geologically stable enough to house a repository.

314

MILLION METRIC TONS

The amount of CO₂ emitted annually by cars and trucks in America, nearly eight times more than the largest US electricity generator, American Electric Power, which has emissions of 41 million metric tons. With just 5 per cent of the world's population, the United States has 30 per cent of the world's cars and produces 45 per cent of the world's automotive carbon dioxide emissions.

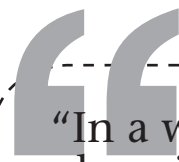
STUDY LEAVES GM CLAIMS IN TATTERS

Genetically modified (GM) cotton crops in China that are designed to withstand attack from pests are failing to live up to their billing, a study from Cornell University has found. The reason is that eradicating one pest has opened a door for others, which are now attacking the GM cotton.

The GM crop is known as Bt cotton, shorthand for the *Bacillus thuringiensis* gene inserted into the seeds to produce toxins that are lethal to leaf-eating bollworms.

However, over the past seven years, populations of other insects - such as mirids - have increased so much that farmers are now having to spray their crops with pesticides up to 20 times a growing season to control them, according to the study of 481 Chinese farmers in five major cotton-producing provinces.

The study - the first to look at the longer term economic impact of Bt cotton - found that that short-term gains made from planting Bt crops peaked after three years. By 2004, however, Chinese farmers had to spray just as much as conventional farmers, which resulted in a net average income of 8 per cent less than conventional cotton farmers, because Bt seed is triple the cost of conventional seed.



"In a world that is in chaos politically, socially and environmentally, how can the human race sustain another 100 years?"

Question posed by Professor Stephen Hawking on the internet, which a month later he answered himself, saying, "I don't know."



PRESCRIPTIONS HIT RECORD HIGH

A record 720 million prescriptions were dispensed last year, a rise of 50% over the past decade, figures released by the NHS Information Centre have revealed. The cost of dispensing so many drugs in 2005 was £7,937 million. Prescriptions for blood pressure and cholesterol-lowering medicines are up to the highest level ever. Prescriptions for blood pressure drugs, such as beta-blockers and ACE-inhibitors, more than quadrupled from 11 million in 1995 to 43 million last year. Cholesterol-reducing drugs went from two million prescriptions to 36 million in the same period. Obesity means that more people are being diagnosed with diabetes, reflected in the increase in prescriptions for the condition, rising from 10 million in 1995 to 27 million last year.



“Our task must be to free ourselves by widening our circle of compassion to embrace all living creatures and the whole of nature and its beauty.”

— hhAlbert Einstein

10

BILLION POUNDS

The value of the illegal trade in wild plants and animals. After drugs and guns, the third largest source of illicit income.

'SHAM' CONSULTATION ON GM CROPS

The government's recently launched consultation on how genetically modified (GM) and non-GM crops can “co-exist” in England is a thinly disguised attempt to allow GM crops in through the back door, Friends of the Earth has warned.

The public consultation seeks views on what practical measures are needed to allow GM crops to “co-exist” with conventional and organic crops, and who should pay when farmers suffer economic damage caused by GM contamination. But the crucial issue of how to ensure that non-GM crops are protected from GM contamination will not be asked, because the Government's consultation assumes that significant levels of GM contamination are acceptable.

The consultation is being carried out under EU rules, whereby member states can put in place measures to prevent GM contamination of non-GM crops. But under European food labelling rules, accidental GM contamination of up to 0.9 per cent is allowed before foods have to be labelled as GM. The UK Government has taken this to mean that 0.9 per cent GM contamination in conventional, and potentially even in organic, crops is acceptable. This approach

has been criticised in a legal opinion from an expert in European law, as being ‘fundamentally flawed’ and ‘wrong in law’.

The consultation also questions whether public registers of GM crop locations will be necessary. Friends of the Earth believes that the public has a right to know full details of where GM crops are being grown, and is calling for public registers to be made mandatory.

‘This consultation is a complete sham,’ said Friends of the Earth's GM campaigner, Clare Oxborrow. ‘It highlights the lengths the Government will go to back the biotech industry and pave the way for GM crops to be grown in England. The only way biotech companies will be able to grow their crops on a large scale is to allow widespread GM contamination of conventional and organic crops. And this is exactly what the UK Government is preparing to do.’

To have your say, see the consultation document at www.defra.gov.uk. Send written responses by 20 October to: Department for Environment, Food and Rural Affairs, GM Policy Team, Zone 4/E5 Ashdown House, 123 Victoria Street, London SW1E 6DE, or e-mail: GMcoexistence@defra.gsi.gov.uk

'SAFE' INGREDIENT MAKES PESTICIDES MORE VOLATILE AND TOXIC

A relatively benign compound, piperonyl butoxide (PBO), used widely in insecticides, can mix with and increase the toxicity of existing pesticides in the environment.

A study at the University of California, Berkeley, found that while PBO on its own is relatively inert, it acts like a chemical synergist, doubling the toxicity of chemicals such as pyrethrin and its synthetic counterpart, pyrethroid.

Donald Weston, adjunct professor of integrative biology, UC Berkeley, and lead author of the study, said, ‘This interaction of compounds is a whole new issue when doing pesticide risk assessments that has been largely ignored by regulators.’

Previous studies by Weston and colleagues have shown that pyrethroids exist in agricultural and urban streams at levels toxic to sensitive aquatic life. General urban

pesticide use, such as applying insecticides on lawns, gardens and around the perimeter of homes, is likely to be responsible for the bulk of the pyrethroids found in the sediment of urban streams.

Based upon his group's findings, Weston has said far greater consideration must be given in future to the way that chemicals interact with each other, as well as with substances that are already present in the environment.



LEAD MINE POLLUTION IN OCEAN VENTS

A team of geologists, examining deposits retrieved from the site of an underwater volcano near Italy, has discovered lead that did not come from the underlying rocks, or from any possible natural source in the vicinity. Instead, they traced the lead to an Australian lead mine situated thousands of miles away, the journal *Marine Geology* reports.

'I guess we can speculate that this is yet another piece of evidence of how widespread our disturbance in the environment is; the fact that we can influence natural hydrothermal systems,' said George Kamenov, a member of the team.

How did lead deposits from Australia get to be near Sicily? Kamenov said the most likely scenario is that the lead was mined at Broken Hill and shipped to Europe, where it was added to petrol, burned by cars and emitted into the air.

From there, the lead found its way into the sea, and then to the underwater volcano, where it travelled with water down into the earth, and then re-emerged via the hydrothermal vents. Processes similar to DNA testing were used to identify where the lead came from.



RIGHTS AT LAST

The UN has moved one step closer to adopting a declaration on indigenous people's rights. Canada and Russia were the only two countries on the council to vote against the declaration. First discussed over 20 years ago, it will now move to the UN General Assembly, where a vote is expected later this year. Several African countries voted in favour of the declaration, breaking with African governments' traditional reluctance to recognise indigenous peoples. For more information visit: www.survival-international.org

IT TAKES A VILLAGE

Conservation areas established by local people are far more effective at protecting fish and wildlife than reserves set up by governments, according to a study by the New York-based Wildlife Conservation Society (WCS) and other groups.

The study found that fish grew larger in small traditionally managed reserves. These reserves did not permanently close fishing around reefs, in the way that government-appointed managers favour, to safeguard fish stocks. Instead, communities occasionally opened their reserves to obtain food for feasts – an important incentive to ensure that temporary closures were enforced.

Writing in the journal *Current Biology*, the authors found that traditionally managed reserves were often organised to meet community needs, not the strict conservation goals established by outsiders. 'This study clearly shows that communities with a direct stake in preserving healthy fisheries around reefs can often serve as the best managers and police to protect these areas from overfishing,' said WCS biologist Dr. Tim McClanahan, the study's lead author.

WEATHER WATCH

It's been a summer of record-breaking weather around the world.

■ **United Kingdom** recorded its hottest July day since 1911, with temperatures reaching a high of 36.5°C, 3.6°C above average. London's West End was hit by severe power cuts as demand for air conditioning and the like tripped the national grid. And water shortages for next year have already been predicted as a result of the heat wave.

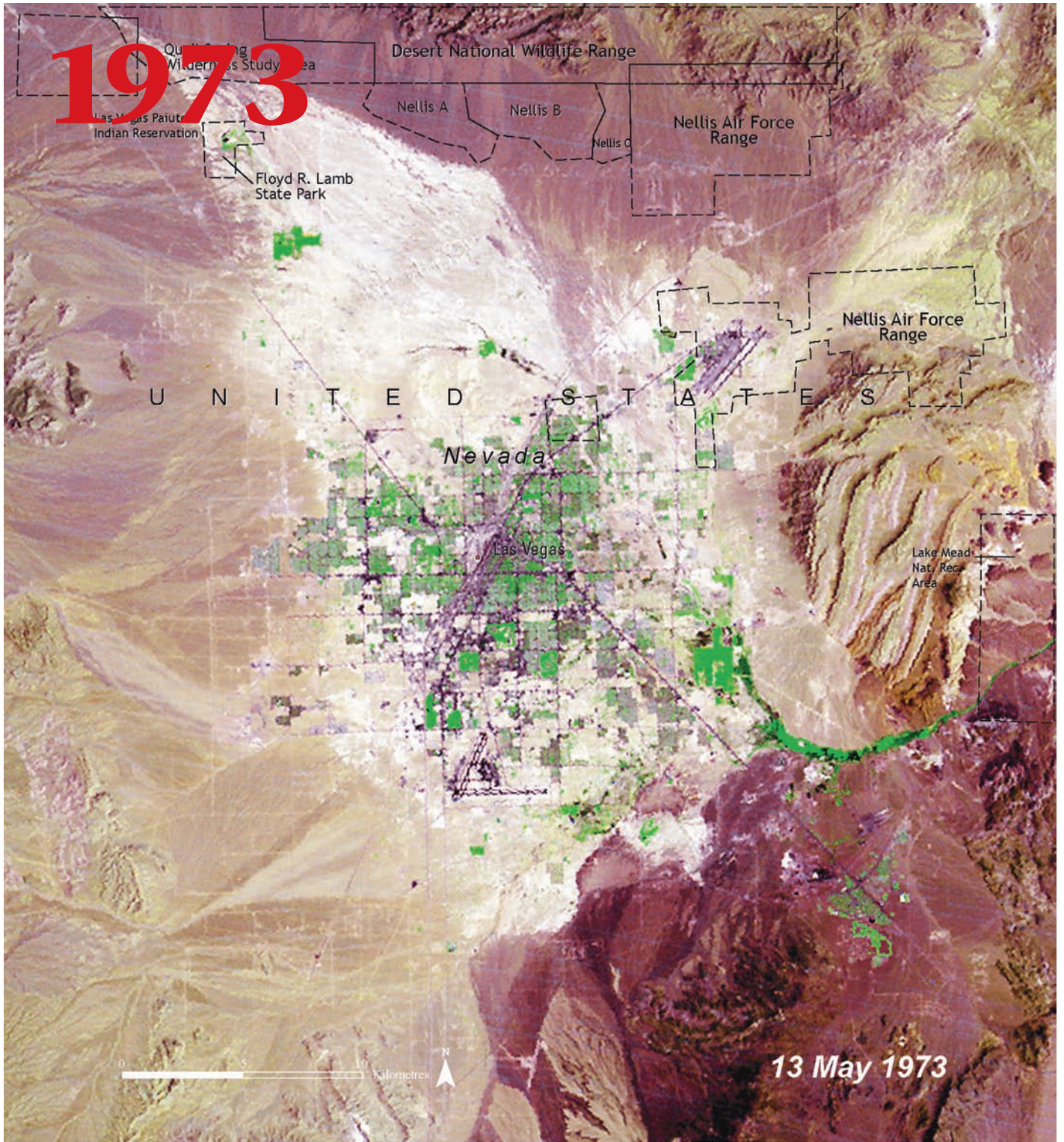
■ **Switzerland** recorded its hottest July since 1540. Temperatures in Geneva reached 23.8°C, 5.5°C above average. Swiss geologists say the European Alps have already lost half the glacial cover they had in 1850 as a result of global warming, and by 2100 are likely to have lost about 80% of their glacial cover. Due to the run-off from glacial melt occasioned by global warming, measurements revealed the North Atlantic contains less salt than ever before.

■ **Europe** 52,452 people have died across Europe as a result of July's heat wave.

■ **Italy and France** The temperature rise has led to poisonous algae growing along parts of the coasts of Italy and France, making the waters unsafe for swimming.

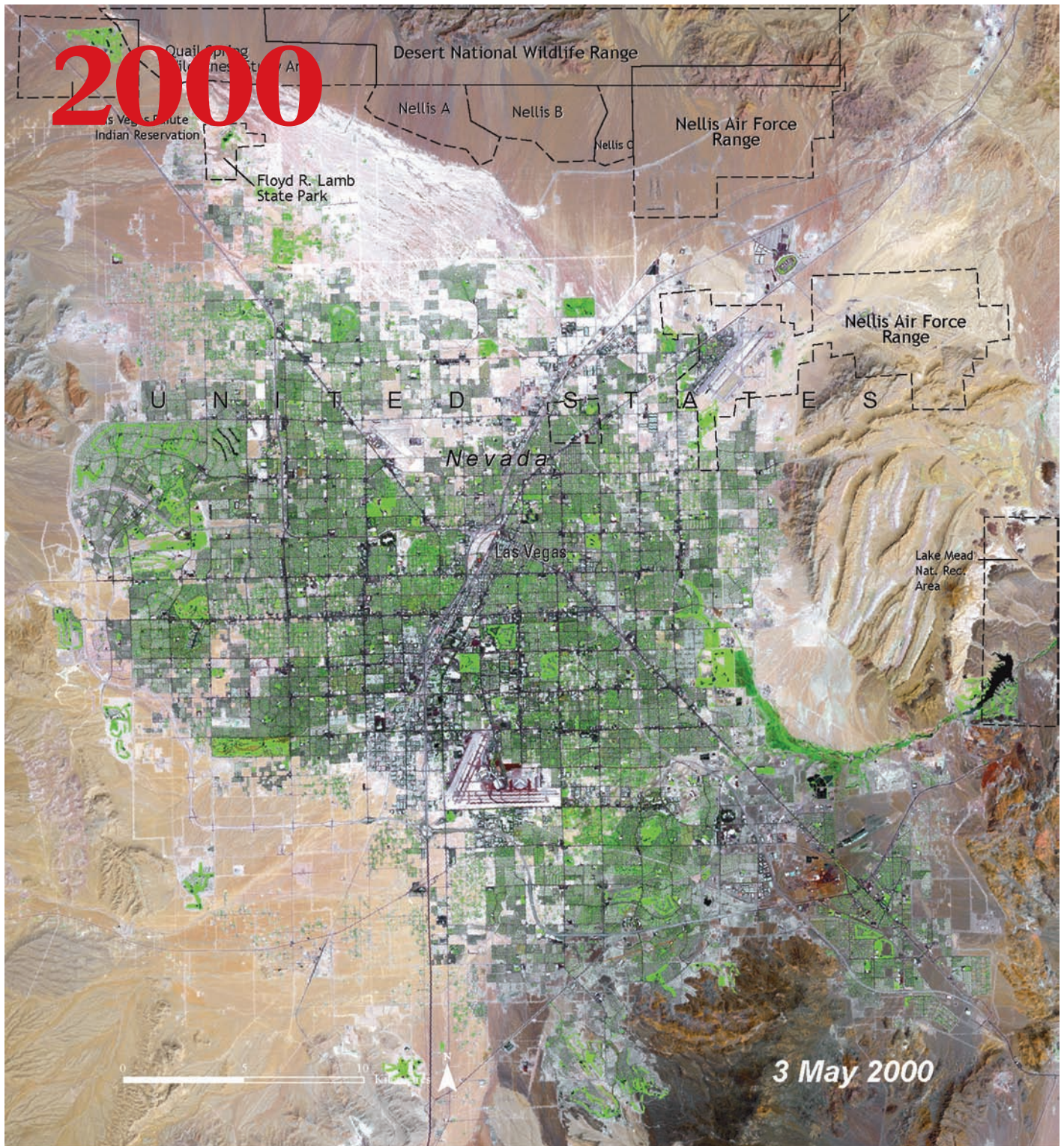
■ **Australia** has experienced unseasonably dry weather since January. Scientists have found that drought-affected forests do not absorb carbon dioxide as efficiently as under normal climatic conditions, leaving more greenhouse gases in the atmosphere, further exacerbating climate change.

■ **Africa** This July saw a drastic increase in droughts and dying crops compared to last year. At current rates, severe famines are predicted in Africa for the coming year. *Nature* magazine forecasts widespread reactivation of the sand dune fields in North Africa in the approaching decades – last seen over 14,000 years ago.



GOING, GOING...

...GONE? The fourth in a series of shocking satellite images of our dying world



PHOTOGRAPHS BY STILL PICTURES

LAS VEGAS, UNITED STATES. 1973 and 2000. Las Vegas is the fastest growing metropolitan area in the United States, mainly due to the way that the gaming and tourism industry has blossomed. In 1950, Las Vegas was home to 24,624 people. Today, the population of the city and surrounding area tops one million – not including the tourists.

Satellite imagery of Las Vegas provides a dramatic illustration of the huge increase in asphalt and concrete roads, the expansion of transport networks, and the displacement of the few vegetated areas. Growth in this desert city has sprawled in every direction, with the greatest expansion to the northwest and southeast, and as a result there is a deepening strain on water supplies.

Beyond Belief

BY DAN GRACE

A determined minority, acting on wholly irrational beliefs, with consequences that could affect the whole of life on this planet. Religious extremists? Well, of a sort... but they've got science on their side

“ Transhumanists view human nature as a work-in-progress, a half-baked beginning that we can learn to remould in desirable ways ”

Opposing the unchecked advance of biotechnology is often a thankless task. Certain sectors of the press like to reduce the debate to a simple dualism, and so green thinkers are grouped together with the Neocons and right-wing fundamentalist Christians as opponents of Progress. If us greenies would just think rationally and be reasonable, the argument goes, we would see that these new technologies are just another step in humankind's inexorable technological progress. Yet, within the biotech community, for all this talk of rationality driving forward research and development, lurks a strange cult, the transhumanists. Their beliefs are startlingly similar to their opponents, the evangelical Christians, and they wield just as much power.

There seem to be a variety of interpretations of exactly what it is to be transhuman, but it basically boils down to the belief that human evolution can be manipulated and guided through the emerging biotechnologies to produce individuals that are more than human. In the words of Nick Bostrom, a leading transhumanist thinker, and professor of philosophy at Oxford University: 'Transhumanists view human nature as a work-in-progress, a half-baked beginning that we can learn to remould in desirable ways.'

I know what you're thinking. The opinion of one Oxford professor doesn't make this a threat. This is just a few geeks living out their Nietzschean wet dreams in online forums, right? Wrong. In his (somewhat pro-transhumanism) book, *Rapture: How Biotech Became the New Religion*, Brian Alexander traces the lines of power that permeate the world of biotech and politics in the US. He clearly delineates the progression of this school of thought, both within the scientific community and outside it in the various groups of libertarian sci-fi fantasists and venture capitalists, and their constant cross-pollination that resulted in the biotech industry as we know it today. The annals of 'post-human' research and speculation read like a who's who of the world of science, from early 'visionaries' such as J.B.S. Haldane (whose predictions prompted a worried Aldous Huxley to pen the dystopian *Brave New World*) and Erwin Schrödinger (of cat fame), through to latter day

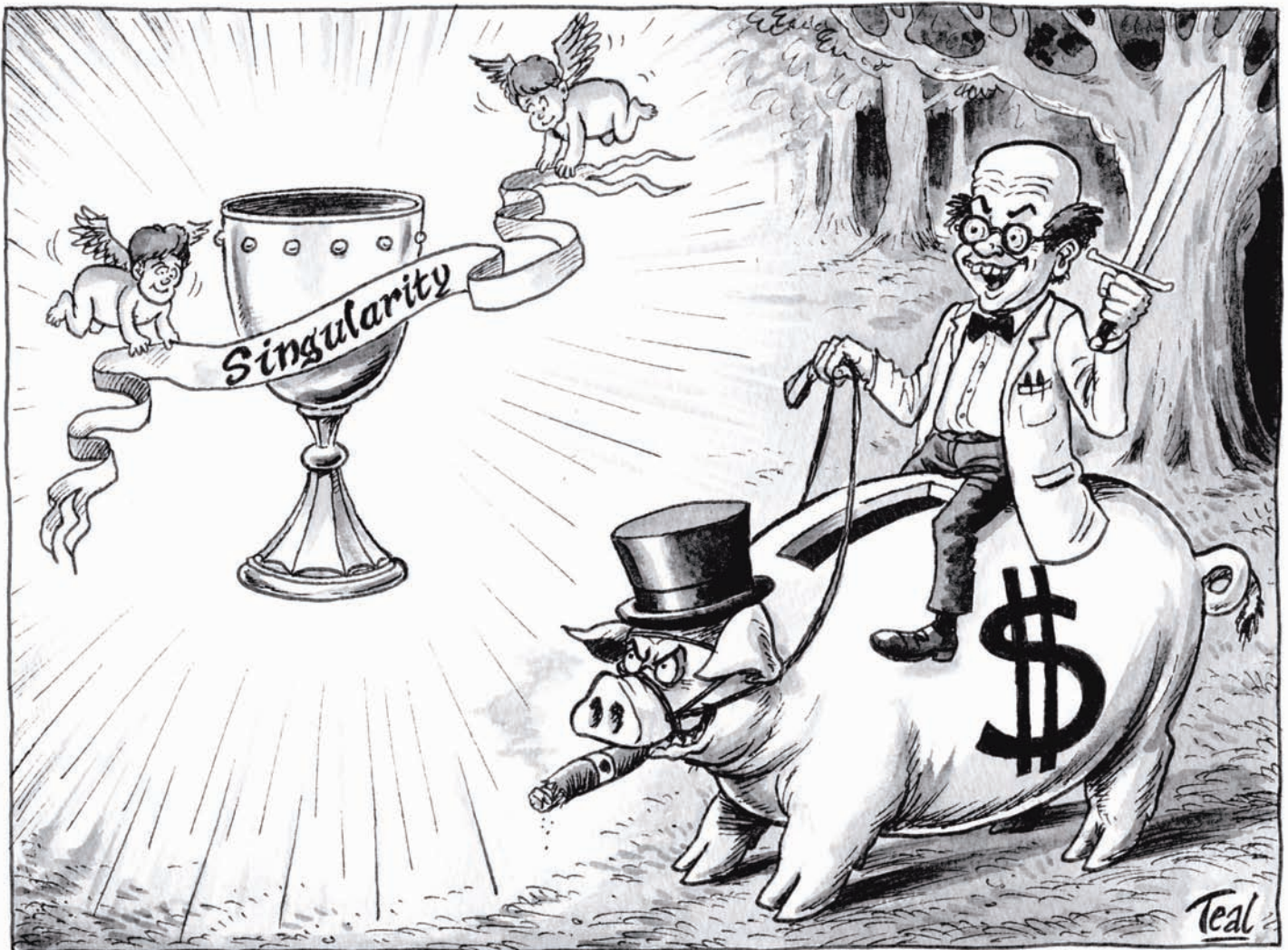
apostle William A. Haseltine (biotechnologist, and highly influential mover and shaker in the worlds of science and politics). Then there's Nobel laureate James Watson, co-discoverer of DNA and ardent advocate of genetic redesign, quoted as saying that "If you are really stupid, I would call that a disease... So I'd like to get rid of that..."

The Rapture and The Singularity

One of the defining beliefs of fundamentalist Christians is that we are approaching a point called The Rapture. The Rapture signifies the end of days; the point at which the disembodied spirits of the chosen few will ascend to god in heaven. Replace biblical law with scientific law and we have the transhumanists. Like the evangelicals, and all other religious and secular transcendental beliefs, transhumanists have a point of Rapture, where everything changes and becomes just perfect. They call it The Singularity (aptly taken from a science fiction novel). This is the point at which AI, nanotech and biology combine to create an exponential and uncontrollable increase of intelligence and evolutionary potential, the ultimate upshot of which is the emergence of a new 'superior' species and the eventual elimination of humankind.

In 2001, at the request of a body known as the Interagency Subcommittee on Nanoscale Science, Engineering and Technology (NSET) the National Science Foundation (NSF) and the US Department of Commerce commissioned a workshop and report into the convergence of these new sciences. Titled *'Converging Technologies for Improving Human Performance'*, the report involved experts from government, academia and the private sector, as well as scientific experts. The converging technologies in question were nanotechnology, biotechnology, information science and cognitive science, shortened to nano-bio-info-cogno, or NBIC. The report endorses many of the beliefs of the transhumanist movement:

'Examples of payoffs [of the technological convergence] will include improving work efficiency and learning... highly effective communication techniques including brain-to-brain interaction, perfecting human-machine interfaces including neuromorphic engineering,



enhancing human capabilities for defence purposes... and ameliorating the physical and cognitive decline that is common to the ageing mind.

'If we make the correct decisions and investments today, many of these visions could be achieved within 20 years' time. Moving forward simultaneously along many of these paths could achieve a golden age that would be an epochal turning point in human history.'

There's no doubt that these religiously inspired fantasies are embedded deeply in the NBIC industries.

Eugenics and class

But even if they do succeed in extending their lifespan, or enhancing their bodies in some other way, who's to say that anyone but those who can afford it will benefit? Could we see the emergence of a two-tier system, the further widening of the gap between the haves and have-nots? NBIC is big business after all. Nearly all the Fortune 500 companies have some

investment in nanotech alone. The promise of many transhumanists that their eugenicist dreams will be driven by market forces doesn't do much to reassure. The argument is often couched in the rhetoric of 'individual choice', but with technologies so invasive and all-pervading, it may be hard to opt out. As is the case with many technologies of the past, they only remain optional for a short period until they are integrated into society, and to function within that society one has to accept their use. Some transhumanists go as far as to say, once we're all 'fixed' by the new technologies it would be tantamount to child abuse to deny your child these enhancements.

We could even 'fix' disabilities. Never mind the rights of the disabled person to choose whether they want to be 'fixed' or not. See, for example, the US government's dropping of Dr. Gregor Wolbring, director of the International Center for Bioethics, Culture and Disability, from its nanotech strategy program for his view that 'people with disabilities be allowed

“ We could even 'fix' disabilities. Never mind the right of the disabled person to choose whether they want to be 'fixed' or not ”

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to choose not to be altered by nanotech and to accept themselves as they are if that is what they prefer to do'. Forced sterilisation in the US and the concentration camps of Nazi Germany spring immediately to mind, both introduced to eliminate socially undesirable genetic stock and help humankind reach new heights. 'Master race'? 'Transhumans'? Does anyone else have trouble telling the difference?

Technology and society

Transhumanists imbue technology with a potent magical ability; to change the world for the better. For them history is a linear progression towards The Singularity. Such naïve simplicity belies the fact that the relationship between technology and society is complex and mutually reinforcing. A technology born of a certain social relationship is likely to reinforce that relationship; the social situation of its production helps determine its eventual use. A technology produced by what equates to religio-capitalist oligarchy will not benefit all. Some, such as Nick Bostrom of Oxford University, recognise the potential risks of what they are embarking on, yet still they insist upon the inevitability of a transhuman future. Such conviction in the face of adversity would surely be considered fanaticism in any other sector of society.

The 'acceptable' face of NBIC industries: nano-particles in sun block; genetic modification for drought resistant crops in the developing world, is the thin end of the wedge. This isn't to suggest some vast global conspiracy, with the many organisations working towards cures for some of the most debilitating genetic disorders, consciously acting as the vanguard for the transhumanists. However, their research is paving the way for these ideas to become acceptable in mainstream society. As the *Converging Technologies* report makes clear, it is necessary for NBIC industries to 'prepare key organisations and societal activities for the changes made possible by converging technologies.'

The mass deployment of a potentially world threatening technology, based on the religious fervour of a few well-placed individuals, seems like a bad dream. It is reality. Yet the triumph of NBIC is not inevitable. The campaign against GM crops in this country has shown what concerted effort by determined individuals can do to stop people in their tracks. At the moment these technologies remain optional, but they will not remain so forever.

■ Dan Grace is a freelance journalist

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'HAVE YOU SUBSCRIBED YET?...

On the road to ruin

For more than 25 years, American car makers have lied about the fuel efficiency of their cars – increasing the use of oil by a million barrels a day. The **Environmental Working Group** (EWG) reveals how a quarter of a century of deception has been allowed to take place

Many Americans know that the cars they drive rarely get the mileage that is advertised. But few know that the miles per gallon claims made by the car makers are not the ones returned by road tests. Instead, car company lobbyists and Congress have created what the American Center for Auto Safety calls two sets of books when it comes to measuring fuel efficiency.

This legally sanctioned deception dates back more than 25 years. In 1980, the US House of Representatives' Committee on Government Operations assessed the effectiveness of fuel efficiency standards that Congress had passed in 1975. The Committee found that, 'Most new cars sold in this country do not achieve on road the fuel economy standards set by Congress. However, it should be noted that car manufacturers are deemed to be in compliance with the fuel economy standards mandated by Congress in 1975.'

A million dollars more

American car owners and the entire US economy will both be the losers if that situation is not remedied. Both will pay millions of dollars more, and both will remain more reliant on foreign oil sources, as a direct result of the needless waste of automobile fuel.'

The Committee found that cars that were manufactured in 1978 with a government-rated fuel efficiency of 27.5 miles per gallon (mpg),

achieved only 19 miles per gallon on the road, a shortfall of 30 per cent. It found that this shortfall between the government mileage ratings and real world driving could cause the US to burn an extra one million barrels of gasoline per day by 1985. Essentially, this shortfall continues to this day.

How the automakers drive/how you drive

The problem, the Committee found, was the grossly inaccurate testing procedures for measuring fuel efficiency; procedures that remain in place today. The city portion of the test is based on a simulated drive to work in Los Angeles in 1965, when congestion was much lower than it is today.

The highway portion of the test was developed by the Environmental Protection Agency (EPA) in 1974 and was designed to represent a mix of in-town and motorway driving at a time when the national speed limit was 55 miles per hour (mph). Subsequently, however, Congress eliminated the national speed limit in 1995 and states have instituted speed limits of 65 or 70mph.

Not surprisingly, neither the highway nor city test reflects real world driving behaviour or fuel efficiency. One major difference is speed. On the highway test, cars average just 49mph and never exceed 60mph. Yet according to the EPA, recent reports show that 28 per cent of all driving occurs at speeds greater than 60mph.

Red hot for green funds.



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Higher speed can dramatically reduce fuel efficiency.

In addition, the acceleration rates in both the city and highway tests are 3.3mph per second, despite recent studies of real world driving which show that acceleration rates can be as high as 12mph per second. Rapid acceleration can seriously cut gas mileage.

Even when the tests were developed, acceleration rates were higher in the real world. Yet, at the time, the dynamometers (treadmills for cars) on which the tests were completed did not allow for faster acceleration. Today's dynamometers allow for rapid acceleration, even though rapid acceleration is not incorporated in today's mileage testing.

Other significant differences between the driving tests and real world driving are the use of accessories and ambient temperature. Neither the city test nor the highway test uses accessories, such as air conditioning, heating or defrosting. Air conditioning in particular can reduce fuel efficiency. In addition, the tests are conducted at 75 degrees F even though only 20 per cent of all driving occurs within five degrees of this temperature. Fuel efficiency is lower at temperatures that are above and below 75 degrees.

Finally, because the tests are conducted on a dynamometer rather than on the road, the car makers do not have to account for a variety of conditions that can reduce fuel efficiency,

including roadway roughness, hills, wind, tyre pressure, heavier loads (trailers, cargo, multiple passengers), the effects of ethanol in petrol and others.

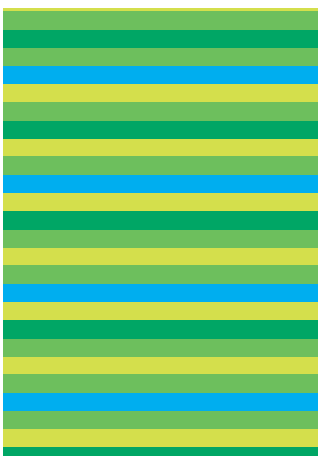
A Band-Aid Approach

Despite these discrepancies, Congress and the car makers have resisted real change. In 1980, confronted by inaccuracies in the testing program, General Motors and Ford suggested that fuel efficiency figures be adjusted so that consumers would have more accurate information. However, they opposed changing the driving test so that they would comply with federal fuel efficiency standards.

'That approach is anathema to the auto makers,' the Committee on Government Operations reported. Ford argued to the Committee that the testing procedures were fixed by law despite evidence that the EPA could have modified the test. The Committee recommended changing the test to accurately reflect mileage for the 1986 and later model years.

In 1984, however, the EPA adopted the approach favoured by the car makers. Since that year, the Agency has adjusted the mileage figures produced by the driving test downward before publishing their fuel efficiency figures. The agency lowers the city test figure by 10 per cent and the highway figure by 22 per cent. This adjustment provides consumers

“ Because the tests are conducted on a dynamometer rather than on the road, the car makers do not have to account for a variety of conditions that can reduce fuel efficiency ”



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“ A recent on-road study by the Consumers Union of more than 300 cars and trucks found that 274 delivered lower fuel efficiency than promised by the EPA ”

with somewhat more accurate information. That being said, the test for determining compliance with fuel efficiency standards remains grossly inaccurate.

The result of this inaccurate driving test is that the car makers are failing to meet federal fuel economy standards established by Congress in 1975. Current models must average 27.5mpg, while SUVs and light trucks must average 22.2mpg. According to the EWG's estimate, the true figures are closer to 21.7mpg and 16.3mpg respectively.

A recent on-road study by the Consumers Union of more than 300 cars and trucks found that 274 delivered lower fuel efficiency than promised by the EPA. The Consumers Union found that its estimated mileage for 2003 model year cars was 30 per cent lower than that reported to the government, for purposes of complying with federal fuel efficiency standards. This discrepancy is the same as that reported by the House Committee on Government Operations for 1978 model year cars.

Moving towards real mpg

For more than a quarter of a century, federal law has required car makers to save oil by meeting mileage standards for their cars. This law grew out of concern over the United States' economic vulnerability to unstable foreign sources of oil. Congress acknowledged that one of the best ways to reduce this vulnerability is simply to use less oil. But as long as the mileage standards have been on the books, the automakers have evaded the spirit of the law by using a bogus driving test. The test allows automakers to claim that they are meeting federal mileage standards, when in fact they are not.

The losers in this scheme are citizens, who must now pay \$3 a gallon for gasoline to operate vehicles that deliver significantly less fuel economy than advertised and, as a result of the mpg deception, America is more dependent on foreign oil than ever before.

■ This is an edited extract of *A Quarter Of A Century Of Deceit* by the Environmental Working Group. To see the report in full visit www.ewg.org



The composite image, by Alisdair Macdonald, shows the number of planes, each to scale, that fly over Green Man Lane near Heathrow in one hour.

The Government's airport expansion plans threaten to:

- make targets to tackle climate change unachievable
- damage our wildlife and countryside
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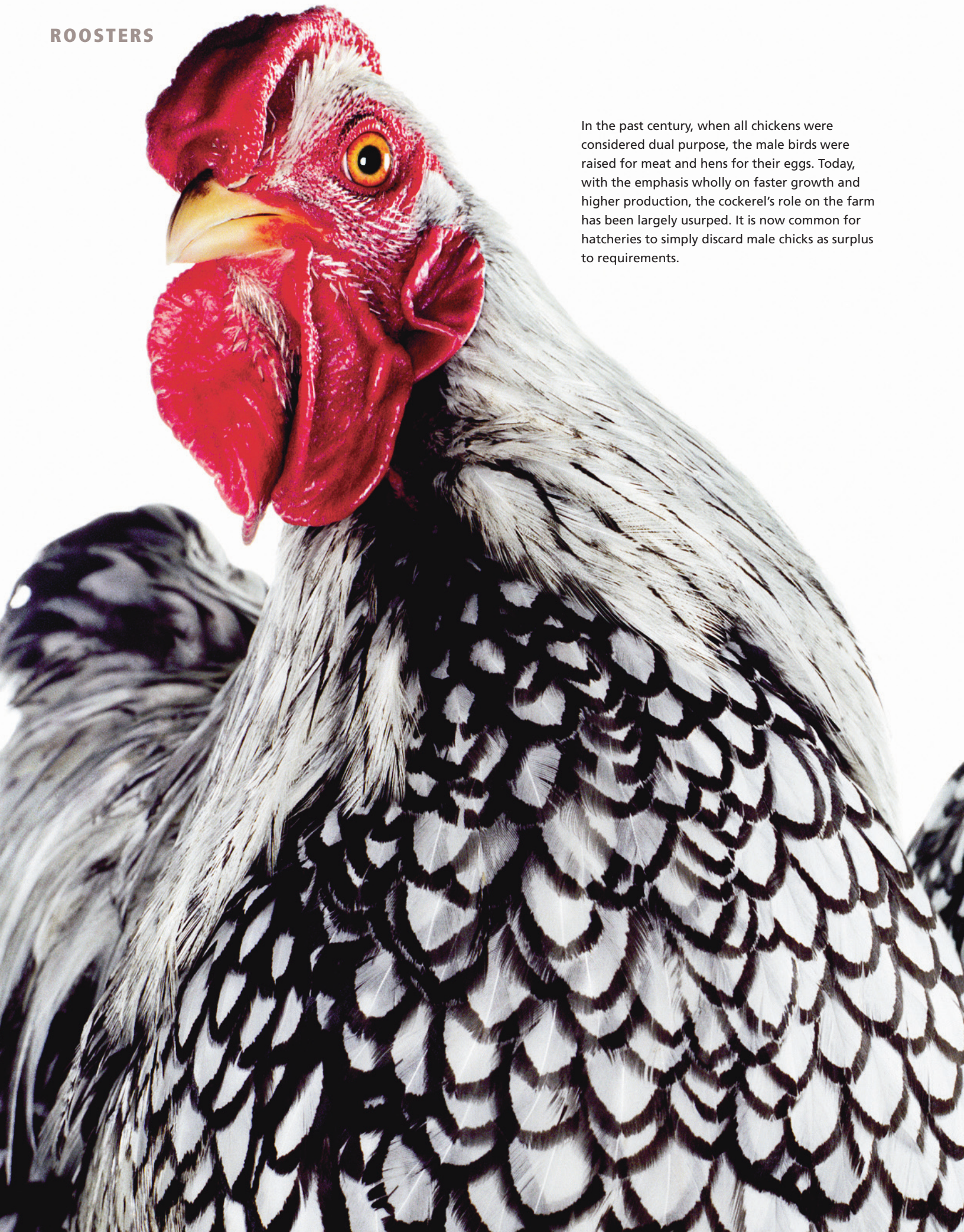
ROOSTERS





The rooster looks you straight in the eyes, but he sees you with one eye only; the other one is on its guard on the other side of his beak. In fact, says Schlienger, 'Looking straight in the eye of a rooster is a terrifying experience. You probe the entire depth of past ages, as if a prehistoric being in all its ferocity were suddenly surfacing after an interminable journey through time.'

ROOSTERS

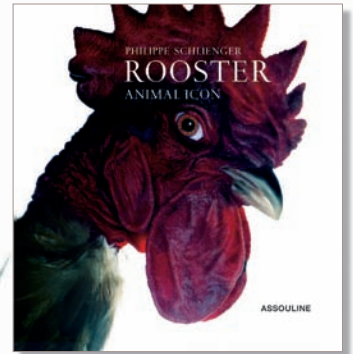


In the past century, when all chickens were considered dual purpose, the male birds were raised for meat and hens for their eggs. Today, with the emphasis wholly on faster growth and higher production, the cockerel's role on the farm has been largely usurped. It is now common for hatcheries to simply discard male chicks as surplus to requirements.



ROOSTERS

The rooster's distinctive crowing limits his existence in towns and neighbourhoods. There is no kind way to silence his musical talents. Castrated roosters, or capons, will cease to crow; but then they will also cease to be roosters.



Roosters by Philippe Schlienger, Assouline, £32.95

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Vanishing ENGLAND

How do we define ourselves in time and space? A new book **England In Particular** suggests it is the commonplace, the local and the distinctive that tells us where we are



Look around you. Local distinctiveness is everywhere.

Buildings, plants, food and landscapes are the elements that give a place character, that give people a sense of place and make us happy to return home from work or from our travels abroad.

Local distinctiveness is essentially about places and our relationship with them. It is as much about the commonplace as the rare; the everyday as the endangered, and the ordinary as the spectacular.

The charity Common Ground has been exploring and developing the concept and the result is the group's Campaign for Local Distinctiveness and a joyful book, *England in Particular*, which brings to life those distinctive local characteristics that together make England so English.

Although it is a celebration of England, similar volumes could easily be written about anywhere else in the world.

Every place is its own living museum, dynamic and filled with tributes to its own uniqueness.

As uniformity and monoculture threaten to engulf us all, it's worth asking some questions: How has it happened that we can stand in many high streets, factories, fields or forests and feel we could be anywhere? Why does MacDonald's force upon our high streets an idea born in corporate strategy meetings thousands of miles away? Why are we planting the same trees everywhere? Why does the pursuit of standards now result in standardisation?

Such questions inevitably trigger other questions: Why are only mountains 'beautiful' landscapes, and big and old buildings worthy of care and attention? Things need not be conventionally rare, picturesque or spectacular to be special. There is value and local meaning to be found in trees, beach huts, natterjack toads and village greens. God, as they say, is in the details.



FINGERPOSTS

Before 1964, when the Worboys Committee demanded their replacement by standardised signs, fingerposts varied considerably from place to place. This particularity lingers here and there. The oldest may offer quarters and eighths as well as whole miles left to travel.

West Yorkshire, Dorset and north Berkshire have some fingerposts with grid references; the Ministry of Transport commissioned them in 1930 as an experiment. Wartime saw a general removal of all signs to confuse the enemy (and the visitor – a rural sport still practised, together with the realigning of swivelling metal signs).

Somerset has retained about twelve hundred cast-iron fingerposts, usually round white posts with a pyramid-shaped

finial bearing 'SCC' on its four faces. Forty-two different sorts of road sign were counted in Devon in 1988, which included six kinds of finial — pyramid, ring-shaped, pear-shaped, onion-shaped, acorn and crown.

Lively representations of hands, some with the attitude of the 'ferocious flying glove' (a character coined by The Beatles), point the way in some places.

Even as they become more rare, the Department of Transport has commented that 'the wide variety of surviving regional and local designs helps to reinforce local distinctiveness, maintaining a sense of continuity in a rapidly changing environment'.

EXMOOR PONIES

Exmoor, an exposed area of wild, high moorland on the border of Devon and Somerset, faces the winds of the Atlantic, which bring penetrating rain, snow and cold as well as hot, sunny days.

In this rugged environment the Exmoor pony persists as one of the world's most ancient breeds, somehow surviving man's predations and interferences. The ponies are small, with double-thickness coats that keep out the cold and wet. They are consistent in colour and marking – shades of brown with darker points and characteristic pale muzzle and eye surrounds. They are round, with extensive and efficient digestive systems carried on strong legs and feet that work well in wet and rocky conditions.

They do not simply excite us as 'wild' creatures, they are, in some sense, the place itself. Full of stamina and strength, their lives were intertwined with those who made their living on the moor. They have been used for shepherding, driving, riding, agriculture and postal delivery.

But their future lies in finding new roles. For instance by conserving grassland habitat, such as the Sussex Downs and Askham Bog in Yorkshire. Exmoors are very good at eating the tough herbage – tor grass, thistles, invasive scrub – that crowds out delicate wildflowers. There is a positive symmetry in one highly endangered creature building its own survival on the saving of others.

HEDGES

'If we never win a Test match again, we shall still have the world's finest hedges!', Edmund Blunden exclaimed in 1935. 'Their white and red may, their bramble-roses, their wild-apple bloom, their honeysuckles, their traveller's joy, have been the spring of the year to most of us more inseparably than any other aspect of the season.'

Sad to say, since 1950, more than half of our hedgerows have been ripped out – condemned as old-fashioned relics that shaded crops, sheltered vermin, wasted space and got in the way of farm machinery. For years the government paid farmers to bulldoze them out of existence. At last, in 1997, the Hedgerows Regulations made it illegal to remove most countryside hedgerows without planning permission. But hedges continue to be lost through neglect, and bad management.



BEACH HUTS

Along parts of the coast, rag-tag gatherings of railway carriages, boats that have 'dunsailin', fishing huts and shacks link the land and the sea. Yorkshire, Cornwall, Essex and Devon all have their beach-hut fraternities.

Ranks of beach huts tend to be municipally owned and standardised, always in demand for hire by the season or the day. Where privately owned, rigidity of plot size and restrictive bylaws have not stifled the imagination. The variety and richness of decks and shutters, gable ends and roof lines, stilts and varnish make for seaside splendour even in winter.

The sadness is that these days they have become real estate. 'Werere' or 'Lazy Days' may change hands for £140,000, even where the threat of rising sea levels is almost palpable and insecurity is only a storm away.



DEW PONDS

The earth's eyes, these fine, saucer-shaped ponds were built on the tops of chalk hills, in defiance of local hydrology. With great skill and ingenuity, land famed for its drainage was made to hold water.

There is an art to making dew ponds. As late as the 1930s, small teams of professional men would still travel distances to mend and re-line, or dig new dew ponds above the spring lines on chalk and limestone uplands, where sheep and cattle needed water.

Today most survive only as ghostly, weedy depressions. The alloy troughs that have replaced them are not much use to wildlife. But in recent years, conservation groups on the South Downs have restored a few ponds by installing plastic linings. Free of predatory fish, revitalised dew ponds can be havens for newts, frogs and water beetles, providing watering holes for many more wild creatures.



CIDER & CIDER ORCHARDS

In the 1650s to 1750s much of Devon, Somerset, Gloucestershire, Herefordshire, Shropshire and Worcestershire were covered in orchards. Thirty- to forty-foot-tall cider-apple trees (and, in the last three counties, perry-pear trees) were spaced 30 to 40 feet apart so that grass could grow under them, allowing stock to graze. What a magnificent sight they must have been *en masse*.

Some of these traditional orchards survive in the main cider-making areas because they are home to many things: grazing sheep, cattle and pigs (in Gloucestershire, the Gloucester Old Spot is known as the orchard pig); chickens; beehives; mistletoe; and overnight campers.

From the late 1870s cider began to be made on a larger scale in small factories. Now two giants remain, controlling more than 80 per cent of the market. Whereas real cider is the pure, fermented juice of apples, cider made on an industrial scale and sold in kegs is carbonated and contains apple concentrate (often imported), water, sugar, yeast and other additives.

The big manufacturers buy apple concentrate on the world market and locally may buy only from farms contracted to them. As a result, hundreds of small orchards have become vulnerable. But in the South Hams of Devon, Orchard Link has been set up to help find markets for small growers; it has a mobile mill and press to enable growers to make their own juice and cider.

Elsewhere, the New Street Ciderists in Berkshire are showing what can be done by gathering apples from gardens and producing cider in a garage for domestic consumption.

VILLAGE GREENS

Parking, lighting, road widening, building, playgrounds and more lie in wait for the unsuspecting village green. And yet this tranquil, social place should belong to everyone, locally at least, as it has for perhaps fifteen hundred years for 'lawful sports and pastimes'. Many greens are commons and may technically be in the hands of the lord of the manor or the local authority, with rights shared to some degree.

The quintessential English village scene involves sunshine, a pub, and cricket on the green. And, given that greens are more common in the East and South, this is often the case. About a third of our village greens are in Bedfordshire, Berkshire, Buckinghamshire, Essex, Hertfordshire, Middlesex and Surrey. Some seem to have originated as clearings in the woods, but in the last two centuries many have been swallowed by extending cities and towns.

Hertfordshire sports more than a hundred greens, often triangular as at Coterred and Northaw. Hampshire's greens are often large... some, with enormous oak trees, have room for everything including Cricketers Green and Phoenix Green, which extends to 65 acres. Mallis Green in Suffolk is a mile long and runs to 174 acres.

Sometimes the blacksmith's shop was built on the green; churches situated away from the green suggest their younger age. Maybe a pond or two are kept puddled for grazing animals. The village pump or pant often still stands, and also the pub, hard by for drink after tug o' war, May Day celebrations, gala, fête or local sports.

NATTERJACK TOADS

The natterjack toad is the rarest of our amphibians, partly because of its exacting living demands, and we have not made its life easy. It is a creature of sand dunes and sandy heaths, requiring temporary, seasonally flooded, shallow, unshaded pools in which to spawn; short turf in which to forage, and sand to burrow in for hibernation. It spawns later than the common toad and frog, usually from April to June, when the pools have had a chance to warm up, and because of the danger of the pools drying out, the tadpoles develop more quickly than their amphibian cousins. Night-time social croaking of the males is for the benefit of females at the spawning ponds in spring, and can be heard a mile away on warm, still nights.

The natterjack toad was locally abundant on the heathlands of Surrey, East Anglia, Dorset and Hampshire and the dune systems of the Lancashire, Lincolnshire and other sandy coasts before twentieth-century incursions. Now only isolated populations remain and, to help its survival, English Nature is translocating toads to suitable habitats.



ANCIENT TREES

Just as rocks keep a deep memory of the evolution of the earth, trees also compress history into their very being. It is part of England's special heritage to have more ancient trees than anywhere north of the Mediterranean except Greece.

We share with the Greeks, south Asians and many other cultures an appreciation and awe of ancient trees. They are full of enigma, capable in deciduous forms of apparent death and resurrection. They are the biggest beings we know; with longevity and grace, they often organise the spirit of the place around them, and are the reason why some places are where they are. They are the repository of memory.

These trees tell us of continuity and give us a glimpse of the old wild wood and ancient wood pasture. In cultural and ecological terms, they are extraordinary.

Ancient trees are at the centre of their own ecological web. Some trees have lived so long that they harbour an extensive array of lichens and fungi as well as insects and microflora, some unique to themselves. Enormous and complex communities of symbiotic mycorrhizal root fungi are being discovered in the surrounding soil.

The world population of the beetle *Hypebaeus flavipes* lives in just six Moccas Park oaks in Hertfordshire. The oaks and beeches of Windsor Great Park and Forest make that area the richest in northern Europe for invertebrates (2,000 species) and for fungi (1,000 species and counting). For bats and birds, these trees offer habitation and food throughout the year.

Ironically, while wood folk who pollard and coppice have prolonged the lives of trees, foresters have been some of their worst enemies. The tunnel vision of those trained in timber growing during the twentieth century has defined 'over mature' trees as a waste of space. It is only in the past decade that the industry has begun to appreciate and champion their importance.

Any old tree is worth the space it occupies, whether a 300-year-old sycamore, a 150-year-old birch or a 1,000-year-old yew and they should have the same conservation status as cathedrals and ancient monuments.



OLD MAN'S BEARD

This precise indicator of underlying lime has many names. Traveller's joy is an apt description, for *Clematis vitalba* climbs most happily through hedgerows and along railway embankments, enlivening them with its feathery seed heads, so conspicuous in autumn and winter. These are responsible for the name old man's beard; local variants include grandfather's whiskers in Cornwall and Somerset, old man's woozard or maiden hair in Buckinghamshire, father time in Somerset, hedge feathers in Yorkshire and tuzzy-muzzy in Gloucestershire.



England in Particular

is published by Hodder and Stoughton, price £30. You can access the Common Ground web site at www.commonground.org.uk

To order your copy of *England In Particular* by Sue Clifford at the special price of £25 including p&p (RRP £30), please call 0870 755 2122 and quote offer code BSH291.

Alternatively, you can send a cheque made payable to Bookshop Partnership Ltd to: England In Particular, Offer BSH291, PO Box 104, Ludlow SY8 1YB. Please allow 28 days for delivery.



BEHIND THE LABEL

HANDWASH

Should you wash your hands? Yes. Should you use an antibacterial handwash? No. **Pat Thomas** explains

Hand washing is the single most effective way to prevent the spread of infections. Nevertheless, in the hygiene stakes, antibacterial soaps are a ridiculous form of 'overkill'.

Some soaps, which contain powerful

antibacterial chemicals like Triclosan, benzalkonium chloride or chlorohexidine, work in the same way as antibiotics and can contribute to the problem of bacterial resistance at home and in the wider community.

In addition, the chemical Triclosan is an ecological disaster that is toxic to aquatic life and breaks down into a carcinogenic dioxin compound in our rivers and streams.

As if that weren't enough, strong antibacterials simply don't work. Or rather, they work in a different way. Washing with soap and water does not actually kill 'germs' – instead it creates a slippery surface that allows them to 'slide off'. Antibacterial hand washes and soaps do kill bacteria and viruses and these are then washed away in rinse water.

But while antibacterial products may initially remove more organisms than soap and water, within 90 minutes or so there is generally no difference in the number of bacteria and viruses that have repopulated your hands. Given that we each touch around 300 surfaces every half hour, this is hardly surprising.

In 2000, the American Medical Association (AMA) went public with the opinion that antibacterial soaps were no more effective against germs than common soap and recommended that people stopped using them.

When all these facts first began to surface, some manufacturers continued to defend their antibacterial products as effective and necessary. To its credit, PZ Cussons, manufacturers of Carex, has reformulated Britain's best selling antibacterial handwash to remove Triclosan. But issues remain.

Special cleansers for hands are completely unnecessary products, so to boost sales Carex, which accounts for around a quarter of all antibacterial handwashes sold in the UK, is available in a range of enticing scents and pastel colours, encouraging use in both kitchens and bathrooms.

There is also the problematical message that special cleansers like this send out. Antibacterial handwashes like this are the bodycare equivalent of fast food. We use them to get something done quickly, rather than doing it properly ourselves. In the world of hand-washing, 'properly' means covering the hands thoroughly with soap and rubbing them vigorously together for 15 seconds before rinsing thoroughly. Slopping on some antibacterial cleanser for a five second wash, ironically, makes us less attentive to good hygiene, rather than more.

While Carex no longer contains Triclosan, and the detergents in it are relatively mild, it does contain a number of other worrying ingredients. First of all it is highly perfumed. In addition to the ubiquitous 'parfum', which in itself can be made up of dozens of chemicals, it also contains the fragrance ingredients citronellol, linalool and limonene – which must be listed separately on labels because they produce such a high rate of allergic reactions – as well as known neurotoxic fragrance chemicals butylphenyl methylpropional and alpha isomethyl ionone.

Then there are the antibacterial ingredients such as methylidibromo glutaronitrile, a formaldehyde-releasing chemical which can cause skin rashes; the solvents such as hexylene glycol – which is equally at home in paints and varnishes – and the preservatives such as tetrasodium EDTA, an environmentally disastrous chemical that binds with heavy metals in lakes and streams, and helps usher these back into the human food chain.

Because Carex is meant to be on display in your home, it also contains a

INGREDIENTS

Aqua, sodium laureth sulfate, lauramidopropyl betaine, glycerine, laureth-4, parfum, sodium chloride, sodium lactate, cocamidopropyl PG-dimonium chloride phosphate, polyquatium-39, citric acid, hexylene glycol, sodium citrate, sodium benzoate, tetrasodium EDTA, methylidibromo glutaronitrile, phenoxyethanol, methylparaben, propylparaben, sodium benzotriazolyl butylphenol sulfate, buteth-3, tributyl citrate, citronellol, butylphenyl methylpropional, linalool, alpha isomethyl ionone, hexyl cinnamal, limonene, CI 42051



trio of uninvestigated chemicals – sodium benzotriazolyl butylphenol sulfate, buteth-3 and tributyl citrate – which preserve the colour of products in clear packaging, but are of no particular benefit for your skin.

Do yourself a favour: invest in a good bar of soap, and return handwashing to the simple, dependable, non-invasive basic it is meant to be.

A GOOD BAR OF SOAP...

...isn't so hard to find. Instead of using harsh detergents to do a simple job, seek out these alternatives

Beauty Naturals

www.beautynaturals.com

Burt's Bees

www.burtsbees.com

Earthbound Organics

www.earthbound.co.uk

Faith in Nature

www.faithinnature.co.uk

My Being Well

www.mybeingwell.co.uk

Organic Options

www.dendera.net

Urtekram

www.urtekram.dk

Weleda

www.weleda.co.uk

INGREDIENTS	PURPOSE	ADVERSE EFFECTS
Sodium Laureth Sulphate	Detergent	Skin dryness, eye irritation, penetration enhancer. Laureth compounds can be contaminated with 1,4 dioxane, a carcinogen linked to breast cancer.
Lauramidopropyl Betaine	Detergent, foam booster, thickener,	Never been assessed for safety. Though milder than many other detergents it can cause skin and eye irritation; penetration enhancer.
Parfum	Fragrance compound	Allergenic; can trigger asthmatic reactions; skin irritant; central nervous system disruption (eg headache, mood swings, depression, forgetfulness); common fragrance chemicals like artificial musks and phthalates are hormone-disrupting.
Cocamidopropyl PG-Dimonium Chloride Phosphate	Surfactant, antimicrobial	Often used in surgical scrubs, it can cause contact dermatitis, sensitisation
Hexylene glycol	Solvent, moisturising agent	Can be mildly irritating to eyes, nose, throat and skin. Neurotoxin. Often found in paints, lacquers, varnishes and household cleaners
Sodium benzoate	Antimicrobial	Skin and respiratory irritant.
Tetrasodium EDTA	Preservative	Skin and eye irritation, contact dermatitis; penetration enhancer. Environmentally persistent, binding with heavy metals in lakes and streams aiding their re-entry into the food chain.
Methylidibromo glutaronitrile	Antibacterial agent	Formaldehyde-releasing preservative/antibacterial found in many cosmetics, shampoos, creams, and even some forms of toilet paper. Causes skin rashes and allergic reactions; medical literature shows that sensitivity to this chemical has increased over the years.
Phenoxyethanol	Antibacterial agent and solvent	Skin irritation, contact dermatitis.
Methylparaben, Propylparaben	Preservatives	Skin irritation, contact dermatitis, contact allergies; estrogen mimics. Environmental estrogen mimics have been linked to breast cancer.
Butylphenyl methylpropional	Synthetic fragrance	Skin irritant, sensitiser. In animals, skin applications at high concentrations caused sperm damage and central nervous system effects such as drowsiness and breathing difficulties.
Alpha-isomethyl ionone	Synthetic fragrance	Skin sensitisation; central nervous system disruption.
CI 42051	Synthetic colour	A coal-tar dye also known as Patent blue 5. Allergic reactions include redness of skin, itching and urticaria.



HUMANITY'S WORST INVENTION

AGRICULTURE

By radically changing the way we acquire our food, the development of agriculture has condemned us to live worse than ever before. Not only that, agriculture has led to the first significant instances of large-scale war, inequality, poverty, crime, famine and human-induced climate change and mass extinction.

By **Clive W. Dennis**

Whether despairing or merely philosophising, we humans often find ourselves trying to trace things back to a certain point in the past where the rot really set in, where it all started, where some innovation sent us spiralling into the noise and confusion of the present. Mobile phones, television, genetic engineering and supermarkets all draw a bit of flak, but those who really have problems with the world – the genuine connoisseurs of failure – prefer the grander scale of human history.

Some will say the nuclear bomb or the industrial revolution. Others will say capitalism, or money, or gunpowder. Still others will say that it is not inventions that cause problems, but the people using them; technology is neutral and it is up to us to ensure that it is used for good. Others counter that inventions really can be good or bad – some are designed with good intentions: others, not so.

But what matters here is not the

WINNER OF THE ANNUAL ECOLOGIST/COADY INTERNATIONAL INSTITUTE
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intended consequences – what matters is real ones.

Nobel was convinced that his invention would make war too violent and horrific to be contemplated. Unsurprisingly, dynamite was actually used to kill lots more people in much less time. Our attempts at legislating in order to take control of nuclear arms, or any innovation allowing the better harnessing of power, whether military, explosive, political or otherwise, have always foundered, since no society can ever afford to say no to a power advantage. However, even the most disastrous technologies usually have some benefits; nuclear holocaust and nuclear entente, anthrax stockpiles and smallpox vaccines.

The difficulty lies in deciding whether the balance of costs and benefits falls in our favour. Does it always balance out? Might there be an invention somewhere in our history so cataclysmically bad that we could call it the worst invention in the history of the human race?

There is. Conventionally thought of as the greatest, most significant innovation ever produced by humankind, agriculture is the invention that opened the gulf that we see between ourselves and mere nature. But by radically changing the way we acquire our food, the development of agriculture condemned us to live worse than we ever did before: losing our leisure time; eating worse; losing health, and losing autonomy. Not only that, but agriculture led to the first significant instances of large-scale war, inequality, empire, hierarchy, poverty, crime, famine and human-induced climate change as well as mass extinction.

Where it all started to go wrong

In the 1960s and 1970s anthropologists, such as Richard Lee and Yehudi Cohen,

noticed the strong correlation between how societies produce their food and how they are structured socio-politically. Years of accumulated anthropological research showed that those who live by hunting and gathering show a very strong tendency to live in egalitarian, consensus-based societies.

Hunter-gatherers depend on each other for food, and so co-operation and mutualism are institutionalised by necessity. A single hunter might only have a one in four chance of making a successful kill, but four hunters who agree to share whatever they catch have a much more reliable food supply. Moving around the landscape, from areas depleted in food to areas where the land is richer, hunter-gatherers allow nature to do the hard work for them and reap the bounty when it is ready. This mode of production means the !Kung and the Hadza, who live in the most marginal habitats of southern Africa, spend a mere three to five hours looking after their daily food needs.

Even in a harsh desert environment such as this, the Hobbesian conception of the life of pre-civilised humanity as being nasty and brutish could hardly be further from the truth. Hunter-gatherers live healthy lives of plenty, and have been quite rightly described as the 'original

affluent society'. Unfortunately, the myth of the 'war of all against all', and the savage, condemned to a life struggling with nature red in tooth and claw, is still deeply ingrained in the civilised psyche.

When a nomadic society ends up settling somewhere, the first possibilities for coercion come into being. A group of nomads, finding itself unable to agree on an issue of importance, can always split into two or more groups, each of which can go its own way and implement the decision they believe to be the best. Farmers, however, are stuck where they are, and the best kind of democracy that a settled community can produce is the tyranny of the majority.

Too much

Once a settlement produces a surplus, things get even worse; certain people stop being food producers and begin to specialise in other trades. This specialisation creates the beginnings of significant material inequality – some skills are simply more valued than others, and attract more wealth as a result. Among nomads, property becomes a burden if it accumulates. A society of equals, which places little value on what material wealth it does possess, is not fertile ground for property crime. The

'Hunter-gatherers depend on each other for food, and so co-operation and mutualism are institutionalised by necessity'



HUMANITY'S WORST INVENTION

material inequality of agriculture-based societies, however, does result in crime, and while some might specialise in metalwork, pottery or public relations, others come to specialise in violence, under the guise of crime prevention. These specialists in violence really spend their time maintaining the differentials in wealth that are appearing, and ensuring the security of another group of specialists – the nascent elite.

Archaeological digs at Neolithic sites neatly demonstrate the architecture of early hierarchy; the largest houses are always positioned next to the buildings used for storing grain. When the elite finds itself able to control the surplus in such a way as to have a monopoly on violence, for instance by paying off and arming the strongest and best fighters in a community, the transition is complete and a minority is able to hold power. Thus, when an elite is able to exercise violence with impunity within the geographical bounds of the society, tyranny ensues. When the same is done outside these bounds, war and empire ensue, since a food surplus also allows the fielding of a dedicated army, which can then be used to seize land and assets from neighbouring populations. Without a surplus of food, sustained military campaigns are simply not possible.

A food surplus also leads to higher, more concentrated populations. This causes increased incidence of disease. While in small populations a disease can die out once it has run its course, in a larger population there are enough people around for the disease to mutate into something new, and re-infect the population over and over again. Witness the common cold, measles, chickenpox and influenza – these diseases simply do

'We have specialised to the extent that we are no longer obliged to be mere farmers or soldiers – possibilities have expanded to include software engineers, office workers and toilet cleaners'

not exist in non-agricultural populations. Even worse, farmers live in close contact with their animals, which serve as a continual source of new pathogens.

The relatively limited and unvaried diet of the agriculturalist causes further problems, since the immune systems fed on an unvaried agricultural diet do not function as well as do those of hunter-gatherers, who eat a much wider variety of foods. Such an unhealthy lifestyle inevitably shortens the lifespan of the agriculturalist, and it is only in the last 100 years that medicine has raised the lifespan of agriculturalists back up to that of the hunter-gatherer.

When anthropologist Richard Lee visited the Bushmen of the Kalahari in the 1960s, he found that 10 per cent of them were over 60 years old. This compares well with the 20 per cent we now find in Great Britain, for example, especially considering the harsh environment the Bushmen inhabit. Unfortunately, the Bushmen of today cannot enjoy the lifestyle their parents could in the 1960s, since the Botswanan government is very keen to modernise them, by taking their land and giving them blankets, disease, alcohol and hopelessness in return – a procedure familiar to devastated hunter-gatherer populations the world over.

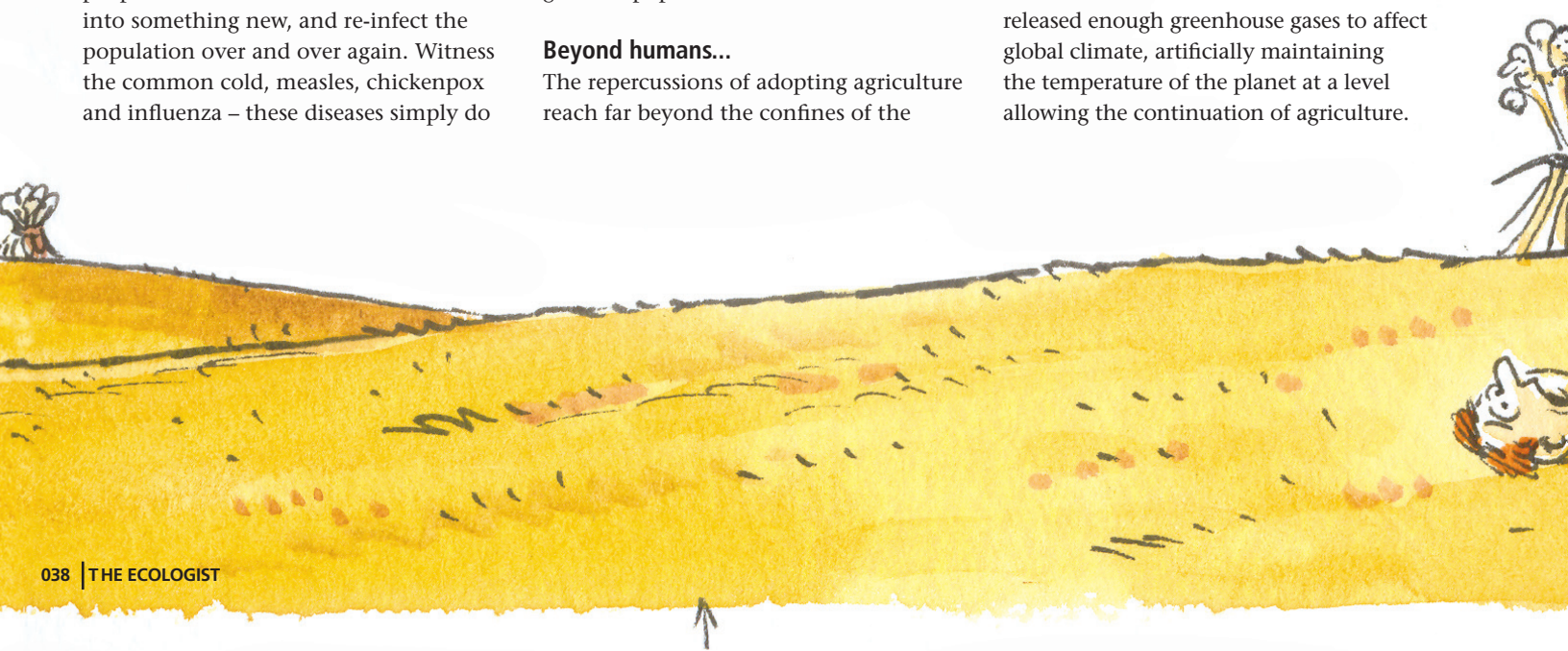
Beyond humans...

The repercussions of adopting agriculture reach far beyond the confines of the

human societies practising it – not only do hunter-gatherers suffer from the impact of ravenous agriculturalists, so does the environment. As more and more land is brought into production, more and more effectively, the rich and diverse habitat of the hunter-gatherer is pushed further and further into the margins, until the ever expanding frontier of farmland runs into uncultivable areas such as deserts, tundra and ice.

When 10 billion hectares of wild nature is replaced by 10 billion hectares of wheat, soya or ranch land, the consequences are predictable. They become 10 billion hectares that are no longer producing food for bison, for bears, or for ibex. This is the ultimate cause of the mass extinction we are beginning to witness. Agriculture turns land that feeds thousands of species into land that feeds one. It literally starves other species out of existence.

Estimates made by ecologist Paul Ehrlich suggest that at present humanity is appropriating approximately 40 per cent of the earth's terrestrial net primary productivity for its own uses. Compounding this devastation, research by Professor Bill Ruddiman suggests that the prehistoric burning of forests in order to create land suitable for cultivation released enough greenhouse gases to affect global climate, artificially maintaining the temperature of the planet at a level allowing the continuation of agriculture.



Office worker versus hunter-gatherer

However, if we are able to ignore the previous few paragraphs, and think only in terms of the pleasure we, personally, are able to derive from our modern lives, it is clear that things have improved for us farming types since the clumsy and unpleasant fumbblings that constituted the beginnings of agriculture. We have specialised to the extent that we are no longer obliged to be mere farmers or soldiers – possibilities have expanded to include software engineers, office workers and toilet cleaners. There is a whole new world of experience out there. But how do we like it?

We are clearly better off than our early ancestors who first took up farming. However, history goes a lot further back than when the first plough bit into the earth. Instead, we should contrast the day-to-day life of the office-worker with that of the hunter-gatherer.

An office worker spends at least eight hours at work per day in a job that is invariably boring and lightened only by the human contact it brings. Wanting to make the best of what is left after the hours of commuting and shopping, the office worker buys ready-made meals, employs a cleaner and slumps in front of the television. Such an extremely sedentary lifestyle, quite apart from being unenjoyable, damages the health, and must be countered with medication and exercise. Stress and depression are the inevitable consequence of wasting life in the office, and wasting money trying to keep up with the Joneses. Should our office worker be unhappy with the life that society has prepared for him, and want to do something about it, his part in politics is that of an observer, with one useless vote in several million every four

or five years. Meanwhile, hunter-gatherers work for three to five hours per day, often with friends, and are able to spend the rest of the day eating; visiting friends; making music; dancing; philosophising; playing with the children; relaxing and sleeping. This is the life we have lost.

Look back in anger

Agriculture has disinherited us from our hunter-gatherer heritage and made it impossible for us to live in the egalitarian, consensus-based societies of our ancestors. Instead, it forces on us a new set of social structures; structures of alienation and dominance which both support, and are supported by, the continuation and spread of agriculture. Our utopian visions

of the future, freed from present problems by human ingenuity and technical competence, might be possible on paper, but they are unlikely in reality. We have already made the biggest mistake, and spent 10,000 years perfecting a disastrous invention, then making ourselves ever more reliant on it. However, the archaeologists who give us glimpses of our ancestors, and the anthropologists who introduce us to our cousins, have been able to show us why we dream what we do. What we yearn for is not just our imagined future; it is our very real past.

The topic of the Ecologist/Coady International Institute essay competition 2007 will be announced in our Dec/Jan edition.



SPEAKERS



Anita Roddick



Deepak Chopra



Jonathon Porritt



Tony Juniper



Stephen Tindale



Caroline Lucas



Paul King



Zac Goldsmith



George Monbiot



Satish Kumar



Fred Matser



Herbert Girardet



Lesley Quilty



SPEAKERS



Annie Lennox



Barbara Stocking



David Whyte



Paul Allen



Susan Kay-Williams



James Vaccaro



Mark Mansley



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Nick Robins



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Patrick Holden



Sara Parkin

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The **B**ig **L**ifestyle **T**rade-off

The BLT sandwich is an icon, the ultimate symbol of convenience culture. Tesco alone sells 5 million a year. This is what the £1.80 you pay for your BLT buys...

Report by Jon Hughes & Pat Thomas

BACON

78,000

The number of pigs killed every week at one Danish slaughterhouse



MANURE

The Danish swineherd produces nine billion litres of manure a year. A sow producing an average 22 pigs for slaughter at 90 kg 'liveweight' can excrete around 100 kg of nitrogen and 18-20 kg of phosphorous a year. Most of this washes away from under the pig pens into rivers and aquifers. The OECD say, 'Impacts on the environment include the degradation of aquatic ecosystems, air pollution from odours and ammonia emissions, as well as impacts on soil quality and biodiversity.'

Danish Crown has developed a new slaughterhouse in Horsens, which is believed to be the largest in the world. It is equipped to kill 78,000 pigs a week. The whole process is automated, from when the pigs are stunned with CO₂ in

mini gas chambers through to being eviscerated and having their backs split in preparation for butchering. Either the whole carcass or the cured bacon will then be dispatched in refrigerated lorries to Tulip Ltd in the UK.

FARM

SLAUGHTER HOUSE

60 MILES

The bacon in your BLT will be Danish. 8,886 pig farms in Denmark produce 25 million pigs for slaughter annually. In 1985 there were 44,222 farms, but today 9% of farms have more than 4,000 pigs – a clear sign of industrialisation. Danish pigs are confined in a succession of sheds from birth, with the size of cage and

space they are allotted determined by weight. A pig weighing under 10kg is given 0.15m² space, just over half the width of this page, rising in six increments to 1m² for a pig weighing 90-100kg – slaughter weight. A century of breeding has created the Landrace pig, which is prized for its 'uniformity of product'.

FEED

Pig feed comes in the same dry, pelleted mix throughout the pigs lives. It comprises of barley, wheat, soya, minerals, fat, fishmeal and milk. Proportions vary as the pig nears slaughter weight – so the level of soya in weaner feed is 8% rising to 20% in finishers. Soya is liked because it's cheap and has a high protein content, which promotes weight gain. This ingredient, which is vital to industrial pig farming, travels 7,568 miles.

GROWTH PROMOTERS

It is illegal to use growth promoters except for 'health reasons'. As industrial pig farming causes stress and anxiety through premature weaning and over-crowding it is easy to see how this loophole is open to abuse. It might explain why they reach slaughter weight more rapidly than their traditional counterparts – in five months as opposed to around one year. The annual premature death rate of pigs on commercial Danish farms runs at just over 20%.

FISHMEAL

Fishmeal is made from what is known as 'lean' fish (haddock and cod) and 'industrial' fish (including herring, sardines and mackerel). Fishmeal is made by cooking, pressing, drying and grinding the fish, which can take place at sea on board factory ships.

SODIUM NITRITE

A recent study which followed 200,000 Hawaiian men and women over 7 years found those with a high diet of meat containing sodium nitrite had a 67% increased risk of pancreatic cancer. It has also been linked to colorectal cancer, leukemia in children and brain tumors in infants. The industry likes it because it enhances colour and texture and reduces waste by killing bacteria, mainly botulism. Sodium triphosphate is another preservative that performs a similar function.

FLAVOURING

A typical bacon flavour will consist of 12-20 chemicals. These chemicals will come from processing plants in either Germany or the UK. Sugar and apple are used to off-set the harshness of the salt required to cure the bacon. Alongside the other flavouring, smoke flavour is also injected.

STABILISERS

Stabiliser ingredients are not used in their natural form. For instance, honey will be dried as the liquid version is too difficult to handle. So the honey is put through a spray drier to replace the moisture with maltodextrin, producing a dry powder. Most honey for this purpose will come from the company Avebe in France or ICI in the UK. As with synthesising any chemical for food processing, this is an energy intensive process.

A PIG WEIGHING UP TO 10KG IS CONFINED TO A SPACE JUST OVER HALF THE WIDTH OF THIS PAGE

To make it palatable the bacon in your BLT is injected with salt, sugar, apple, flavouring, sodium triphosphate, honey, chicory and sodium nitrite. The different flavourings used by different manufactureres

are 'trade secrets', which, of course, denies us an informed choice about what we put in our mouths. These ingredients come from France and Germany, adding 1,049 food miles to your BLT.

TULIP LTD

502 MILES

Based in Warwick, Tulip is a wholly-owned subsidiary of Danish Crown, with 21 processing centres around Britain. Tulip is one of Europe's largest

manufacturers and processors of meat products. Carcasses will be delivered whole, then butchered, cured, sliced and packaged for sale to the retail and commercial sector.

170 MILES

CURE



PHOTOS BY VIVA

SOYA

In 1971 soya was farmed on 37,000 hectares in Argentina; now it covers over 14m hectares. It is predicted that 10,000 hectares of forest is being lost annually and that if this continues, in five years' time the country's native forests will disappear completely.

There are also increasing health concerns regarding soya in the food chain. The bean is high in phyto-oestrogens that have been linked to an increased risk of some cancers in humans and sterility in men. It has also been claimed that it damages brain function in men and causes hidden developmental abnormalities in infants.

GM

90% of the world's soya harvest – 200m tonnes – goes into animal feed. Denmark is a major purchaser of soya from Argentina, the world's third biggest producer of genetically modified (GM) soya after America and Canada. Food labels such as that on your BLT do not have to state if animals have been fed on a GM diet.

67%

The increased risk of cancer from eating meat high in sodium nitrite

LETTUCE & TOMATO

1,070

The number of dams used to irrigate horticulture in southern Spain



Ten per cent of lettuces in Spain are grown in polymer tunnels, the rest are grown in the open. In both cases, the lettuce is grown under irrigation due to the lack of natural water sources; rainfall in southern Spain is 2/3rds less than in the UK, at an average 300mm. Fertilizers and pesticides are drip-fed to the plants via water pipes. The average lettuce crop takes around 60 days from seeding to harvest.

During the growing period migrant labour is used to weed and thin the crop by hand. Finally the lettuce is cut by hand, wrapped or bagged and transported to a cold store where it is cooled to 0°C. This keeps it fresh-looking but destroys the nutrients. It will then be put on a refrigerated lorry, where it will be kept at temperatures between 0-5°C, on its journey to the UK.

SEEDS

FARM

983 MILES

Seeds for lettuce and tomato crops in Spain probably come from Syngenta (head office Cambridge), with a turnover of around \$2,000 million. Alongside seeds, Syngenta is one of the world's leading makers of pesticides. Seed companies develop new hybrids to meet the supermarkets' demand for innovation, or to suit their production and distribution processes – ie, something that lasts much longer on the

shelf. The seeds are patented and expensive. If a lettuce turns up at a supermarket depot with an aphid, blemish, or slug still on it, a farmer's whole batch may be rejected. Hence, seed companies such as Syngenta supply an agrochemical recipe to go with them. The farmer can't afford to risk not following the advice and Syngenta benefits twice. Many seeds now come with a seed dressing of pesticides applied.

The plastic-sheeted tomato greenhouses of Almeria can be seen from space. Inside the polymer tunnels tomato plants grow on perlite – a volcanic rock that retains moisture, which is mined and crushed for the purpose in Greece, 1382 miles away. As with lettuce, seeds are selected on the basis of yield, resistance to common diseases, and consumer preferences. For instance, tomatoes produce ethylene, a plant hormone which promotes aging. This is often

inhibited so that the tomatoes arrive looking red and firm but are unripened and consequently lack flavour. The seeds will be germinated for 15 days in a nursery before being transplanted to the greenhouse. They are drip-fed water, fertiliser and pesticides in the same way as lettuces, using the same feed ingredients in different blends. Harvesting is wholly manual and the tomatoes are again immediately cold-stored and chilled on their journey to the UK.

FERTILISERS

Due to the poor fertility of soil in southern Spain, fertilisers are heavily used. These contain nitrogen, potassium, calcium, sulfur, magnesium, iron, manganese, boron, copper and zinc. A study concluded that growers are applying 1 tonne of nitrogen per hectare, as opposed to 200 kg N/ha for crops in a rotation, which creates a vicious circle: the nitrogen causes the soil to deteriorate further meaning more fertiliser is required. The run-off causes algae blooms in rivers, causing 'dead zones'. In humans nitrate turns to nitrite which decreases the ability of the blood to carry oxygen. Excess levels of nitrogen in humans has been linked to heart-disease and numerous cancers. Roughly half of the inorganic nitrogen ever used on the planet has occurred in the past 15 years. The production and use of nitrogen also contributes to climate change. As a greenhouse gas, nitrogen is 300 times more potent than CO₂. Nitrogen use as a growth promoter is expected to double over the next 40 years.

WATER

Southern Spain is the driest part of Europe and is facing a water crisis. As there is not enough water to naturally sustain horticulture, Spain is one of the most irrigated countries in the world, with 3.5 million hectares relying on it as a source of water. Spain has 1,070 dams for this purpose. Increasingly, however, diverting water is causing friction between regions, which is why the construction of 20 desalination units is being considered.

Meanwhile, a report from the WWF has said Spain has over half a million illegal boreholes used to irrigate agricultural land, often paid for in part by EU agricultural subsidies. This means aquifers are being plundered causing untold environmental damage, destroying wetlands, causing soil erosion and allowing sea water to enter the water table. This combination of events caused by growing salad ingredients in a wholly unsuitable environment resulted in the International Soil Conservation Organisation Conference warning in 2004 that Murcia is on the brink of desertification. Waterwise has calculated it takes 10 litres of water to grow one tomato and 22 litres to grow one portion of lettuce.

DESALINATION

Desalination is an energy intensive process. 'It is estimated that a desalination plant that produces 50 million gallons of freshwater a day consumes approximately 35 megawatts of electricity a day, enough to provide electricity to approximately 35,000 homes,' a white paper for California American Water reported in 2005. Furthermore there is the problem of what to do with the brine, which is twice the concentrate of the seawater originally taken. Roughly 30 per cent of the water desalinated becomes brine. In Spain this could be allowed to evaporate or returned to the sea. Both threaten the environment in that excess salt in the sea can kill much of the marine life and lead to dead zones, and in the atmosphere salt will make the land more acid and less fertile, hastening desertification. When promoting the desalination plan Spain's environment minister said it would stop farmers using raw sewage to water their plants.

ILLEGAL BOREHOLES MEAN AQUIFERS ARE BEING PLUNDERED, DESTROYING WETLANDS AND CAUSING SOIL EROSION

LABOUR

1,011 MILES

PESTICIDES

Intensive pesticide usage, and repeated spray rounds, are necessary to protect both crops. More pesticides are applied to field grown lettuce than any other vegetable crop, with an average 11.7 applications each 'season'. Residues most commonly detected are of inorganic bromide, a metabolite of the soil sterilant methyl bromide. A worldwide ban on methyl bromide should have come into effect last year, but Spain secured exemptions for continued use. This is an ozone-depleting chemical, and kills the soil as well as the pests it is designed to attack. In 2005 random tests on lettuces from Spain by the UK government found Spanish lettuce contained the residue of 17 different chemicals related to pesticides, many of which are linked to causing cancers and heart disease. A Dutch study in 2004 found that Spanish tomatoes had 90 times more pesticides present than those from Holland or US.

Horticultural production in Spain depends on the use of large armies of migrant workers, most of whom hail from sub-Saharan Africa and have risked their lives crossing to Spain from Morocco. Without this cheap casual labour – they are paid the equivalent of around £20 a day – the system would collapse. These casual workers live rough as near as possible to where there is work. Over half have no access to drinking water or sanitation. According to official estimates some 70,000 migrants live this way. Once harvested the

lettuce and tomato will be sent to the UK. G's Marketing in Cambridge is the UK's largest supplier of veg to the retail and wholesale sector and owns 2,120 hectares in Murcia. They also have 20 suppliers in the region. 50% of lettuce in UK shops is imported, the majority of which, 67,000 tonnes comes from Spain. G's will sell their produce either direct to wholesalers and retailers or via a middle-man, such as Mack Multiples, which is one of the country's largest importers of salad produce.

£20

The average daily wage for the 70,000 migrant workers who keep Spain's horticulture sector from collapsing



BREAD

The UK is largely self-sufficient in wheat (likewise with barley). Domestic wheat accounts for 80-85 per cent of flour used in bread. The rest is made up of imported wheat from the US, Canada and Germany, each with different characteristics to help produce the high protein flour needed for industrially produced bread.

Factory bread requires a specific type of flour that is high in protein and produced from hard winter wheat. There are an astonishing 30,000 varieties of wheat in the world, but only 25-30

varieties are grown in the UK. Of these, only four are high quality bread making varieties (Malacca, Hereward, XI 19 and Paragon) necessary for industrial breadmaking.

An additional 10 varieties of lower quality wheat can be used in breadmaking blends, if they are combined with high quality wheat imported from elsewhere.

Only 25 per cent of the wheat grown in the UK is used for making flour. 50 per cent is used for biscuit making, distilling and export. The remainder is used for animal feed.

WATER

1000 tons of water is required to produce one ton of wheat. After cotton, wheat is the second most irrigated crop globally. Irrigation can lead to salinisation, erosion and the pollution of water supplies. In the past, and even today, wheat has caused severe soil degradation such as the 'Dust Bowls' of the US in the early 20th century. As an intensive crop, the continuous growing of wheat depletes nutrients and soil organic matter. The result is increasing use of artificial fertilisers and the resultant water pollution.

PESTICIDES

Wheat is treated with a variety of pesticides at every stage of its production. Around 4.7 tonnes of pesticides were applied in commercial UK grain stores at, or during, storage, accounting for 38% of the total weight of stored grain. Wheat is grown using a variety of pesticides and a study by the UK's Pesticides Residues Committee (PRC) in 2005 found that wholemeal bread contained more pesticide residues than any other bread type. Wholemeal bread contains more of the oily germ that acts like a magnet for lipophilic (fat-loving) pesticides.

WHEAT

MILLING

100 MILES

GM

Traces of the genetically modified crops have been found in both the unmilled wheat and flour used to make bread. Biotech soybeans and corn, the two most widely grown GM crops in the world, are the likely culprits. Rank Hovis imports US wheat to its mills and the company's own in-house testing has repeatedly found evidence of GM soybeans and corn particles mixed in with wheat supplies.

ADDITIVES

Modern mills can produce more flour more quickly, but they also alter the quality of that flour in fundamental ways. Nutrients are lost which is why by law flour millers must ensure that the following nutrients are added back into all wheat flour other than wholemeal flour:

Calcium carbonate	235mg/100g
Iron	1.65mg/100g
Thiamine	0.24mg/100g
Nicotinic	1.6mg/100g

The problem, apart from the ethics of forcibly medicating the population, is that these nutrients are often added in forms that are not as easily assimilated by the body as naturally occurring nutrients. In some instances, as with thiamine, the baking process can destroy the added nutrients.

The UK has some 31 companies operating 59 large industrial mills. The two largest, Rank Hovis McDougal and ADM, control around 50% of flour production in the UK. Rank Hovis is the UK's leading miller with factories in mills in Selby, Hull, Manchester, Southampton and Wellingborough, and is the likely source of the flour for this sandwich. The company mills one million tonnes of flour per year from 50,000 lorryloads of wheat containing 635,000,000 wheat berries. They supply flour in package sizes ranging from 1kg to 29 tonnes to plant bakeries such as its sister company British Bakeries.

Industrially processed flour is lower in nutrients than traditionally milled flour. And the longer the flour is stored before usage the more nutrients it loses. Flour can be stored for 15 to 60 days, although rancidity has been detected as early as 2-14 days after milling. Rancid flour and the bread made with it may have important health effects. In a study where rats were either fed freshly ground flour or bread made from freshly ground flour, or were fed rancid flour and the bread made from rancid flour, the animals eating the latter became infertile within just 4 generations.

PESTICIDES ACCOUNT FOR 38% OF THE TOTAL WEIGHT OF STORED GRAIN

BIODIVERSITY

High yielding and more profitable winter wheat has largely replaced spring-sown crops in the UK, with a disastrous effect on the environment. Farmland birds such as the grey partridge, turtle dove, skylark, linnet, tree sparrow and corn bunting have all experienced massive population declines due to habitat destruction. Plants that thrive in arable fields including the shepherd's needle, cornflower and corn cockle are also under threat and with them, invertebrates that depend upon them – around 2,000 (not counting micro-organisms) – are also in decline. The destruction of habitat spreads beyond the UK. Most industrial bread contains vegetable fat, often made from palm oil. Over 80 per cent of the world's production of palm oil comes from Malaysia and Indonesia, 6,530 miles away. Endangered species such as the Sumatran rhinoceros, Asian elephant, orang-utan and tiger are losing their natural habitat as the palm oil plantations encroach upon the tropical forests.

8,000

The number of loaves that industrialised plant bakeries can churn out every hour



GM ENZYMES IN BREAD NEEDN'T BE DECLARED ON THE PACKAGING

BAKING

100 MILES

Over half of the bread sold in the UK is produced by enormous plant bakeries. The two biggest Allied Bakeries and British Bakeries Limited control more than 80 per cent of the UK bread market. Supermarkets produce around 18 per cent of the bread we buy and at the bottom of the list are the craft or artisan bakers that account for only 2 per cent of the UK bread market. Plant bakeries can churn out bread at a rate of more than 8,000 loaves per hour, and at the largest bakeries around 1.5 million plus loaves per week. Today around 80% of the UK industrial bread market, which produces over 7 million large loaves per day, is operated by a dozen or so companies operating from around 60 industrial bakeries. Traditional bread takes 2-24 hours to make. Modern bread

is shortcut bread. Produced by what is known as the Chorleywood process, basic ingredients can be transformed to a sliced loaf in less than 3 hours. The British baking industry employs around 125,000 people, of which about 50,000 are bakers. Approximately 20,000 are employed in the plant bakeries, where wages are low: the basic rate for plant bakery workers is between £7,600 and £9,600 a year. The Chorleywood process is energy intensive, consuming 4-8 times the energy necessary to produce bread the traditional way. According to figures released by the European Commission, Allied Bakeries, emitted more than 100,000 tonnes of carbon dioxide into the atmosphere in 2004 – a figure greater than that of many small countries.

136 MILES

DOUGH (ADDITIVES)

Traditional bread needs nothing more than flour, water and yeast. Short cut bread needs lots of additives to turn the dough into a loaf.

Ascorbic acid, or E300 The main constituent of vitamin C is not necessary in traditional breadmaking. It's used as an 'improver' to increase the level to which the dough rises.

Yeast Levels of up to 1.75% of wheat are used in dough made by the Chorleywood process, compared with 0.5% 50 years ago. The increase in yeast is now being linked to a dramatic increase in yeast intolerance in the West. The yeast is cultivated in molasses, which comes from South America, 5,961 miles away.

Salt CBP bread is tasteless and so requires more salt to give it flavour. As a result modern bread is now considered a high salt food that increases our risk of high blood pressure.

Water Used as a cheap bulking agent that can account for 45% or more of a factory loaf. Modified fatty acids, with no nutritional value, are necessary to hold the water in the mix. The more water there is in bread the less nutritious it is.

Enzymes Often genetically modified, these are used to speed up the Chorleywood process and to enhance taste and keeping qualities. Because these genetically modified enzymes are classed as 'baking aids' they needn't be declared on the labelling of the bread. Most dough additives come from processing plants in France, Germany and Italy, adding a further 6,355 food miles to your BLT.

BUTTER & MAYONNAISE

Butter is made from cream which is obtained by separating whole milk into its major constituents: cream and skimmed milk.

There are two million dairy cows living on the UK's 21,000 dairy farms; 95% of these are now black and white North American Holsteins.

Since the 1970s high yield Holsteins, producing around 8,000 litres of milk a year, have replaced Friesians on most UK dairy farms.

A cow's natural lifespan could be 25 years, but most modern dairy cows are sent for slaughter at about five years old.

Calves born on dairy farms are weaned within days of birth.

A dairy cow spends seven months of every year simultaneously pregnant and producing milk. This physical demand requires her to eat four times more food each day than a beef cow.

Dairy cows are fed a diet of silage (wet, fermented grass) and high protein feed (a mixture of cereals, rape meal, sunflower meal, maize and soya, much of it GM; (see *Pig Feed*). Male calves are unwanted. 200,000 are shot at birth and incinerated. The rest are fattened for use in low-grade fast food products.

SUBSIDIES

The UK dairy industry is the most subsidised agriculture sector and is paid for producing a surplus. In 2004 Dairy Crest, the UK's largest dairy processor, received £19.8m from EU Common Agricultural Policy funds – despite making £85m. In total UK dairy processors received over £50 million. Since 2004 Dairy Crest and Nestle have claimed £126m of taxpayers' money for sending surplus butter and milk powder to poor countries.

Dairy Crest is the likely source of the butter in your BLT.

Approximately 20 kg of whole milk goes into 1 kg of butter. Churning cream into butter by hand could take half an hour or more. Industrially produced butter is churned in a giant cylinder fitted with a beater rotating at about 2,700 rpm, which converts the cream into butter in a matter of seconds. Industrial butter making is

energy intensive. Fossil fuels and electricity are necessary for powering electric motors on process equipment, for heating, evaporating and drying, for cooling and refrigeration, and for the generation of compressed air. Butter is usually packaged in plastic boxes in bulk quantities (25 kg) for long-term storage or large scale catering.

FARM

189 MILES

PROCESSING PLANT

346 MILES

102 MILES

Mayonnaise is an emulsion of egg yolk and oil. Companies producing mayonnaise for the sandwich industry generally source their eggs from the most competitive markets, so they can come from the UK but equally they may come from Spain, Germany or Holland. Similarly depending on the supplier the eggs may come from intensive farming and/or from free-range farming, or more likely a mix of both. As a consumer you may never know what you are eating unless the ingredients label makes a specific claim for organic or cruelty-free eggs. Intensively farmed chickens are amongst the most abused animals in the

farming system. Battery farms – where hens are stacked on top of each other in cages so small that they cannot stretch their wings, walk or scratch at the ground during their short lifetimes – exist to supply the food market with the cheapest possible eggs. On the largest farms 90,000 caged hens may be crammed into one windowless shed. Even if the eggs are free-range there are nagging welfare issues. In many commercial 'free-range' egg farms, hens may have little more than a single, narrow exit leading to an enclosure, too small to accommodate all of the birds at once. Many will never see the light of day.

Some makers of mayonnaise like Suffolk Foods produce their products in-house, others like the giant Unilever Bestfoods outsource some or

all of their production to other countries. It takes 15 minutes to produce 500-1000kg of mayonnaise and package it into 10-litre tubs.

SPIRIT VINEGAR

Real vinegar gets its sharp and complex flavours from a lengthy fermentation process. This cheap short-cut non-fermented vinegar gets its sharp taste from added alcohol.

SUGAR

British Sugar is the UK's largest supplier of sugar, processing some 9 million tonnes of sugar beet – the UK's entire crop – each year. Real mayonnaise does not require sugar. In industrial mayonnaise it is used to counter the strong taste of the spirit vinegar and also has stabilising properties.

IT TAKES 15 MINUTES TO PRODUCE 500-1000KG OF MAYONNAISE AND PACKAGE IT INTO 10L PLASTIC TUBS

AROUND 8% OF THE WORLD'S OIL PRODUCTION IS USED IN FOOD PACKAGING

MILK PRODUCTION

Milk production is land intensive. To produce a tonne of butter requires 30 hectares, compared to less than one hectare for a tonne of vegetables. Intense dairy farming generates solid manure and manure slurries. These along with the chemical fertilisers and pesticides used in the production of pastures and fodder crops, can pollute surface water and groundwater.

WATER

Dairy processing requires large quantities of fresh water – primarily for cleaning process equipment and work areas. At modern dairy processing plants, a water consumption rate of 1.3–2.5 litres water/kg of milk intake is typical. Between 0.5–4% of the milk coming into a processing plant is discharged as effluent, into public sewers in urban areas, or to irrigate land in rural areas. If not managed correctly, salts in the effluent damage soil, cause salinity and pollute groundwater.

SUPPLIES

Asda, Boots, BP, Co-op, Esso, Fina, Granada, Jet, Londis, Morrisons, Sainsbury's, Shell, Somerfield, Superdrug, Tesco, Total, Waitrose and Welcome Break

TOTAL 31,280 MILES

114 MILES*

Although it is called a bakery, Bradgate in Leicester does not make bread. It was established in 1993 specifically to make pre-packaged sandwiches. It started out making 11 varieties and now makes 60, producing over one million sandwiches a week for Tesco and its sister company Ginsters. Bradgate employs 800 people and is in production 24-hours-a-day, seven days a week and has a turnover of £20m a year. Bradgate is part of the

Samworth Brothers Group. The company has two distribution centres in Leicestershire and Cornwall with a fleet of over 60 articulated lorries, collectively covering over nine million miles each year. The two distribution centres handle over 30 million cases of product a year and will deliver to Samworth Brothers' customers and a number of third party customers at destinations from Aberdeen to Penzance.

* To Tesco in Fulham where we bought our BLT.

BRADGATE BAKERY PACKAGING

OIL

Mayonnaise is comprised of around 70% 'vegetable oil' – a generic term that usually means oilseed rape (also known as canola). Around 600,000 hectares is grown annually in the UK. While the UK is about 90% self-sufficient large refineries such as Cargill will supply manufacturers with raw materials from wherever the price is most competitive. Thus the oil in your mayonnaise may be from the UK, or from Europe or America, and therefore may be GM.



The plastic wedge, or 'skillet' that your sandwich comes in is only the tip of the ice-berg in terms of packaging. At the meat processing plant, in the lettuce fields and tomato greenhouses, in bakeries and chicken farms plastic packaging is required so that food can be transported. Around 4% of the world's annual oil production is used in food packaging and a further 3-4% in its production. Although it is technically recyclable this doesn't always happen. Due to the logistics of separating out such

packaging it either has to go to landfill or be incinerated (see *Ecologist*, July/August 2006). Waste from 'food on the go' such as sandwiches increased by 10% between 2004 and 2005, say DEFRA. Modified atmosphere packaging (MAP) – which removes some or all of the oxygen from packaging and replaces it with gases such as CO₂ and nitrogen – is used throughout the journey the ingredients take. It is a techno-fix to keep the food fresh looking, although it destroys many of its natural nutrients.

20 kilograms of whole milk is required to make 1kg of butter

WASTE

Prepackaged sandwiches have short sell-by dates and, according to the food surplus charity FairShare, there are more sandwiches thrown away each day in London than there are homeless people to eat them.



- 1 31,000 food miles
- 2 Chronic soil erosion and mineral depletion
- 3 Desertification
- 4 Excessive pesticide use
- 5 Excessive fertiliser use
- 6 Battery chickens
- 7 Pigs in crates
- 8 Cows in 24-hour milking sheds
- 9 Species extinction through destruction of their habitat for palm oil monocultures
- 10 Deforestation of the rain forest
- 11 Illegal immigration
- 12 Modern slavery
- 13 Excessive packaging
- 14 Toxic emissions from incinerators
- 15 Toxic landfill
- 16 Homogenisation and monopolies
- 17 Promoting genetic modification
- 18 Malnutrition
- 19 Excessive buyer power
- 20 Distorted subsidies and protectionism
- 21 Myth of convenience
- 22 Obesity
- 23 Bankrupting the NHS

Total £1.80

Every little hurts
Have a nice day

The ingredients of your BLT have travelled over 31,000 miles and left a trail of destruction in their wake. If that's what it takes to produce a BLT then it's not

too difficult to comprehend what's gone into your chicken tikka masala TV dinner or other processed foods. You will notice that there is no mention on the BLT label of nutritional value.

That's because there is none. You are getting energy alone and an unhealthy dose of fat (55% of your recommended daily intake) and salt (59% of your RDI). This is because of the way the ingredients are synthesised and grown to make them look nicer and last longer.

Foods high in such chemicals and fat and salt have been linked with heart disease and an increase in many forms of cancer. Indeed, the health effects of eating such foods are so widely known they feature in popular TV programmes such as *Honey, We're Killing The Kids*, where devastated parents are shown how their children will look aged 40 unless their diet and lifestyle change.

Yet we rarely hear of the food industry's role in this health crisis talked about in the corridors of power.

Indeed, the government under pressure from food industry lobbyists recently caved in and allowed many manufacturers to miss targets to reduce the level of salt in processed foods 'for manufacturing reasons'. The iconic BLT is a symbol of this process, which leaves a devastating health and environmental footprint. It's the money you pay for your BLT and other convenience foods that is supporting this insane trade. In the UK we spend nearly £3bn on 1.7 billion pre-packaged sandwiches annually.

As the government refuse to act against the food industry the only option open to us is to stop buying these ersatz products.

Instead, wherever possible, buy locally grown products – which means they will retain their nutritional value; even more if you can source organically grown – and make your own sandwiches and meals.

It's good for you and it's good for the planet.

Additional reporting: Sophie Hackford, Xenia Tolstoy, David Altabev.



This turbulent priest

Nobody meets John Papworth and forgets about it in a hurry. **Paul Kingsnorth** reports on a man who can inspire people – or get right up their noses

Pinned to the wall in the kitchen of John Papworth's large, sprawling house in rural Wiltshire is a black and white photograph. A lanky, white-haired priest sits cross-legged in the middle of the Abbey Road zebra crossing, made famous by the Beatles' LP cover. The priest holds a hand-scrawled banner that reads 'STOP CAR MADNESS USE BUSSES AND TRAINS'. Buses is spelt wrong. To the left of him, a car drives unconcernedly by. It's not clear that the protest is working.

'I'm making coffee,' says the guilty party. 'Would you like coffee? You look like you would. Yes, well, this was when I lived in London, you see. It was my idea. There was no-one else involved, I just thought it needed to be done. I rang up the police and said I'm going to stage a protest about traffic. And they said, oh please don't do that. So I did, and they arrested

me and took me to Paddington Green and kept me in a cell for a couple of hours. Then they asked, did I want to see the local vicar? And I said, well, that's me.' He chuckles and clatters about by the Aga with a coffee pot.

'Anyway, they took me into the charge room and the sergeant, a big burly bloke, said we can either charge you or we can let you off with a caution. And I said I've done nothing wrong, so I don't see how you can let me off with a caution. I'd prefer to be charged. And he glared at me and he said, "Look mate, we're not here to give crazy people like you free publicity. Just bugger off." So that was the end of it. Do you take milk?'

The Reverend John Papworth is not an ordinary man. In his 85 years he has been a communist, a cook, a beggar, an editor, a presidential adviser, an orphan, a runaway, a prisoner and a

priest. He has founded two magazines and several journals, been offered a parliamentary seat by the Labour Party, sheltered an escaped spy and taken tea with HG Wells.

He has led protests, founded organisations, written books and starred in TV documentaries. He was talking about localisation, community power and organic farming 30 years before anybody else. He has inspired people as diverse as EF Schumacher and Kenneth Kaunda, and got right up the noses of thousands of others. He has an unerring ability to cause trouble, and an open, unashamed delight in doing so. Nobody meets John Papworth and forgets it in a hurry.

Today, I am hoping he will tell me his life story, or at least the best bits of it. It's a story worth hearing on any terms. By turns, fantastically entertaining and bleakly sad, instructional and cautionary, it is the tale not only of one man's progress through a turbulent century, but of the birth and growth of a political movement. John Papworth is one of the unsung inspirations, founders and driving forces behind the green movement in Britain. If he didn't take such delight in making enemies, he would probably be better known for it, but I suspect he would not have it any other way.

John Papworth's journey began in an orphanage in Essex in the 1920s. Though he describes his time there as 'very miserable', he nevertheless looks back on the orphanage as a success story. It was, he tells me, set up by a group of working class people, with no guidance or aid from church, state or corporation, with the aim of solving a problem that existed in their parish. The Board of Guardians of the orphanage, according to Papworth, were successful in solving that problem for years, until the orphanage was taken over by people he clearly sees as middle class do-gooders. He still remembers the tears of the head of the Board of Governors as she gave away her life's work. These days the orphanage and the parish have gone. It's clear he is affected by the memory. As he tells it, this was his first experience of a successful local initiative being stifled by bureaucracy.

Papworth is full of stories like this, and they exhibit the curious paradoxes that inform his thinking. A working-class orphan, he could now pass as a well-off Anglican vicar. He is full of talk about the virtues of small communities, and yet he lived in London for much of his life. Now that he lives in a village he hates it. He sees civilisation as in rapid decline and human beings as 'fallen', yet remains optimistic and, even at 85, insistent on trying to put things right. For Papworth, there is always something that can be done – and something that must be done.

Perhaps this eagerness to change the world for the better comes from that early childhood misery. When Papworth left the orphanage he became a baker's boy. He also became 'psychotically depressed'. Failing to see any reason to keep

living, he attempted suicide three times. First he tried to give himself pneumonia by standing in front of an open window in winter for hours. Instead he ended up feeling 'fitter than ever'. So he threw himself onto the live rail at a London underground station – except that he got the wrong rail, and simply cracked his chin open. When he got back home he turned the oven on and gassed himself – but the meter ran out of money and he woke up in an ambulance.

It reads like something out of Dickens, but this wasn't the end of it. On leaving hospital he was taken to a Salvation Army shelter, from which he fled. He lived as a beggar for several days until the police picked him up and sent him to a Christian hostel. There he recovered the will to live, and took a job as a school chef. He was working there when the Second World War broke out.

It's hard to imagine a worse start in life. Many people would be floored permanently by this sort of existence, but Papworth not only picked himself up, he decided things needed to change. Tellingly, throughout our conversation, he keeps coming back

He has an unerring ability to cause trouble, and an open, unashamed delight in doing so. Nobody meets John Papworth and forgets it in a hurry

to children – his worries about today's schools, about the effect of video games and advertising on the young, about the kind of society today's kids are forced to grow up in.

It's not hard to see the connection, and he's not shy in admitting it. 'Look at the bloody world we've created for these kids!' he says. 'They're caught between the mighty wheels of a totally immoral commercialism, and grossly overcentralised governmental power, so that everything significant about their lives – their relationships, their feelings

and their awareness of things like beauty and truth – is steadily being crushed.'

This, it seems to me, is the foundation of John Papworth's politics. 'Something has died in the soul of man,' he says. It has been killed by 'the mass society'. Independence, individualism, community life, real human freedom – these are struggling to survive, like children in an adult's world. John Papworth struggled to survive, and succeeded. Now he seems to be paying something back.

After the British retreat from Dunkirk, John Papworth joined the Home Guard, where he realised precisely how much trouble the country was in. 'We were expecting invasion any minute,' he says. 'And do you know how I was armed? A broom stick! Nothing could convey more vividly how powerless our situation was. To think that the safety of the country was dependent on a 17-year-old bloke with a broomstick! Fortunately, there was no invasion. He tried to join the RAF, but was too deaf to become a pilot. Instead he spent seven years as a military cook.

After the war, his thirst for change came back to the fore. He tried to take an economics degree at the LSE but was 'completely out of my depth', and was thrown

out. Before the war, searching for answers, he had joined the Communist Party, but it hadn't been a happy move. 'It seemed to me that we needed a revolution to get rid of all these rich bastards who were oppressing us. I swallowed the Communist Party line wholesale. I hadn't read Marx at the time. Not many communists have in my experience. They'd be amazed to find how much he agreed with Adam Smith.'

Communism, he quickly discovered, was too top-down for him. Far from wanting to liberate 'the people', the communists wanted to control them too. 'I was really taken with the Russian revolution, and the talk about "all power to the Soviets",' he explains. 'That seemed to me a wonderful thing. The tragedy is that it was a wonderful slogan, but they never followed it. It was all power to the state. Just like the bosses. I said so and they didn't like it. They kicked me out after six months. They said I was disrupting the working class, whatever that meant.'

Communism having failed him, Papworth tried the Labour Party instead, then in its post-war heyday. They, too, let him down. 'First of all I was secretary of the local constituency party,' he recalls. 'It was all very Fabian and top-down. They thought they were meaningfully determining the direction of the Party, but in fact they were just so much voting fodder for the people at the centre. I became adopted as a candidate in Salisbury in the general election of 1955. It was a hopeless Tory seat. But that disillusioned me because I could see that the ordinary people in the Party, whenever any policy questions came up, instead of saying "well, we think this", they would say "we must inform the agent and see what he thinks". The agent would be a bridge to the powers that be in the centre, who would tell them what to think.'

Indeed, it was an experience in the Labour Party, according to Papworth, which cemented an idea that had been brewing in his head for some time: an idea that would form the basis for all his later thinking. 'My total disillusionment came from a conversation I had in the tea room of the House of Commons,' he remembers. 'I was having a conversation with an MP, Anne Kerr. She asked if I was interested in getting adopted as a candidate for a by-election seat somewhere in the north. I said, well I don't know anybody up there, and nobody up there knows me. And she said very smoothly, "well, these things can be arranged". And that just echoed in my head.'

All Papworth's experiences up to this point, from the orphanage to the Communist Party, had convinced him of one thing – the bigger an organisation, the more it disempowered ordinary people. Whether it be an orphanage, a political party, a state or an army, mass organisations inevitably destroyed both individual will and the institution that, until the dawning of the industrial age and the rise of capitalism, had been the prominent form of social organisation all around the world – the 'small community'.

'They were the oldest social unit in our history,' he says now, 'and they endured until about 100 years ago. The destruction of the small, local community has given way to the most dangerous, destructive and degenerate social organisation ever



Speaking out as a Labour Party candidate for Salisbury – 'a hopeless Tory seat' – in 1955 (top). In RAF uniform, 1945 (right); too deaf to be a pilot, he spent seven years as a military cook



Promoting the politics of the future in India, in 1985 (above). Papworth's passion for community empowerment is still evident in publications as diverse as his international journal *The Fourth World* (left), and his own local newsletter, *Purton Today* (below).



to have existed in history, which is the mass society. The whole thing is based on this idea of “democracy”, yet you can’t have democracy in a mass society. Why? Because the forces that control the mass are at the centre. They’re not in your hands or mine.’

Eager to explore this idea, in the 1960s Papworth got together with a group of thinkers and doers who thought the same way, and founded a magazine. With writer Leopold Khor, economist EF Schumacher and poet Herbert Reed, he founded *Resurgence*, a magazine dedicated to this new vision of society. It was in *Resurgence*, under Papworth’s editorship, that Schumacher developed the ideas that were to become the basis for his enormously influential book *Small is Beautiful*; one of the keystones of modern green thought.

‘I think we’ve got to introduce the idea of organic politics, organic economics, where each small cell is playing a vital part in the life of the entity,’ says Papworth now. ‘This means, it seems to me, the disintegration of centralised states, and the integration, if you like, of small villages and communities that have full powers to elect representatives to run the practical things, like regional police, water, gas, sewage. Small nations, governed by small communities – that’s the vision.’

Since founding *Resurgence* in 1966, Papworth has pursued this vision. He has been an activist in the peace movement, and has been jailed several times for his anti-war activities. His long experience has given him a typically frank view of this movement’s weaknesses. ‘If you want something, whether it be democracy or peace or any of the great virtues – well, if you think that you’re going to get it by campaigning for it with no understanding of the power structure that’s promoting the things you’re trying to oppose ... you see it in so many organisations now. It’s a waste of everybody’s time.

I’ve said this to some people in the peace movement. I said, when I started out working for peace, only one country in the world had nuclear weapons. Now there are 30. What does that tell you about how effective you’re being? But they don’t want to hear it. They prefer to hug their security blankets.’

John Papworth is not shy about telling people what he thinks they need to hear. He seems, indeed, to have a remarkable ability to fall out with his erstwhile allies. First the Communist Party, then Labour, then the editorial team at *Resurgence* who took over from him, then the peace movement. Perhaps his most famous public falling-out was with the church.

Papworth trained to be a vicar after the war, and became an ordained minister. After causing trouble in various parishes he was caught bang to rights in 1997, apparently encouraging his parishioners to steal from supermarkets.

‘I was on a neighbourhood watch committee in London,’ he explains, ‘and the area included the West End shops. And at a meeting we were having, shoplifting came up. I said, if somebody takes goods from their local store without paying for them, that’s illegal and it’s immoral. If they take goods from giant supermarkets, it may be illegal but it’s not immoral, because Jesus said love your neighbour – he said nothing about loving Marks and Spencer. Anyway, somehow or other the press got hold of this and for about five minutes I was internationally famous as the shoplifting vicar. And the archdeacon

of Charing Cross – why they have an archdeacon attached to a railway station I’ll never know – told me they could no longer allow me to function.’

Debarred from preaching, he turned his attention to his other interests, which for some time have focused around writing books and editing the *Fourth World Review*, the magazine he founded after leaving *Resurgence*. All his writings these days

The Reverend John Papworth is not an ordinary man. In his 85 years he has been a communist, a cook, a beggar, an editor, a presidential adviser, an orphan, a runaway, a prisoner and a priest



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propound that central idea of ‘small nations, governed by small communities – the idea that, in the title of his latest book, he calls ‘village democracy’. When he first started propounding such ideas in the 1960s, they were dismissed as archaic, antediluvian, reactionary and absurd. Today, they are at the forefront of a political and social movement that is trying to find answers to the problems thrown up by over-development and environmental degradation.

This is where Papworth’s ability to make trouble; to annoy people; to alienate himself, must be put into context. For five decades, John Papworth has been telling people things they don’t want to hear. He’s been telling them that their lifestyles are unsustainable, that the society they live in is heading for disaster, that their priorities are wrong and that things need to change. Much of the time he has been right. But people don’t like this kind of message. They don’t like it because it is challenging, uncomfortable and it threatens them. They prefer not to hear it; they prefer to curse the messenger. But John Papworth doesn’t mind being cursed. If anything, he enjoys it. This, it seems to me, is a great strength.

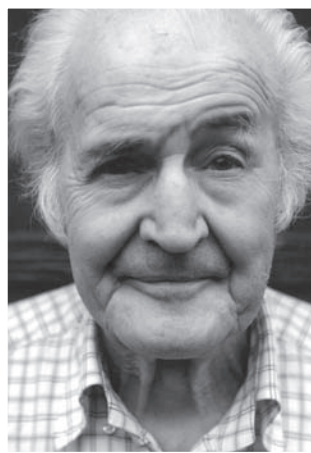
But it is something of a paradox – and not the only one. His focus on small communities and villages as the best form of social unit, for example, is complex too. He is full of praise for the virtues of the small community. Unfortunately, as he quite freely points out to me, he currently lives in one, and it’s a disaster.

In the Wiltshire village he lives in, Papworth has, in three short years, managed to get himself debarred from preaching – again; thrown off the editorial board of the village magazine; blackballed by the British Legion, and threatened with a lawsuit by the village headmaster. The latter problem stemmed from an article he wrote in his alternative village magazine – founded, edited and written entirely by himself – attacking the school for its expansion plans. I put it to him that should his current home be granted the full powers of his desired village democracy, the first thing they might use it to do would be to expel him.

‘I have no illusions about that,’ he agrees. ‘The people in this village can’t stand the sight of me, and I imagine that the minute they had power they’d drive me out. That’s life. But you know, the moment I start talking about an alternative, people start telling me I’m looking for an ideal society. I’m not looking for such a thing at all. I’m fully aware of the downside of human nature, and I simply want a society that promotes the upside. I’m fully aware that the downside will always be around as long as people are around, because we’re fallen creatures.’

Maybe this is the point. Papworth is not talking about how things are, but how they should – or could – be. In a genuine village community, things might be different. But his village, like so many in England now, is commuter-led, not land-based. There are few services and little of the traditional ‘community’ one might associate with rural life. It’s dangerous to idealise village life, or rural life – but it’s dangerous, too, not to consider alternatives to the current unhealthy social model.

And here, John Papworth can’t be faulted. At 85, he has more energy than many people a third his age, and he refuses to



A rare ‘middle of the road’ moment in 1991. Papworth stages a one-man protest against city traffic in London’s Abbey Road (centre). Today, at 85, Papworth is still going strong.



stop working for change. He probably doesn’t even know how to. Now, he has the immense privilege of having lived long enough to witness ideas that he has promoted for decades – dismissed in his youth as naïve, unrealistic or downright idiotic – becoming mainstream thought.

‘There’s a transformation of consciousness going on now that is absolutely beyond any measure,’ he says. ‘If you think back even five years, nobody talked about global warming, for instance. Things are changing fast, and much of what we have said is being proved right. I don’t know if it will be in time or if it will be enough. It seems to me that people are addicted to this world. But if you ask me if I have any hope I’m driven back to Nietzsche, who said – by all means have pessimism of the mind, but never lose optimism of the spirit.’ He grins, and looks decades younger than eighty five.

‘I think it might be time for some lunch,’ he says. ‘I’m going to give you an omelette. Would that be alright?’

WE ARE ALL ADDICTS

BY EDWARD GOLDSMITH

Once saw a film of a European doctor teaching Samoans how to brush their teeth. Particularly striking was the fact that their teeth were white and shiny, while his were black. The trouble is that once people start using toothbrushes and toothpaste there is no looking back. The self-regulating mechanisms that once kept the teeth clean become redundant and, in accordance with the law of economy, they cease to be operative. Toothbrush addiction has set in!

Unfortunately, the toothbrush and toothpaste are unlikely to be isolated phenomena. The sort of society that produces them is also likely to manufacture countless other mass-produced artefacts. Among these will figure processed foods of different types, made from, among other things, refined carbohydrates, which are increasingly associated with tooth decay. As these form an ever more important part of our diet, so must there be a corresponding increase in our addiction to toothbrushes.

Eventually, these clumsy devices are not sufficient to maintain our teeth in good condition. Hence the need for dentists who specialise in inventing and implementing other devices. As their services become more generally available, so tooth decay must become correspondingly more tolerable. In this way we become addicted to dentistry.

Eventually even dentists are of no avail. Our teeth fall out, false teeth are resorted to, and as these become generally available, so there is a corresponding decline in our preoccupation with the preservation of the real ones. Brushing one's teeth becomes less of a ritual. Refined carbohydrates can be consumed with a clear conscience, and dentists, rather than painstakingly repairing decaying teeth, can now indulge in an orgy of tooth extraction. In other words, we become false teeth addicts, and the

extent of the addiction can be gauged by the fact that today there are 17 million toothless people in this country!

In much the same way, our society is becoming ever more addicted to myriad gimmicks intended to ensure our survival in ever less favourable conditions.

Thus farmers now take far greater liberties with their soil than they did before artificial fertilisers were available. Everywhere farmers are neglecting to return manure to the land where it belongs. It is redundant, bulkier, messier and, in Britain at least, it doesn't benefit from government subsidies, as artificial fertilisers do. In the meantime the soil, saturated with inorganic nitrogen, no longer depends on manure for its supply on nitrogen-fixing bacteria. These slowly become inoperative, and the system's ability to ensure self-fertilisation is correspondingly impaired. Addiction to artificial fertiliser has set in.

In the same way, the more that pesticides are used, the more the natural mechanisms ensuring the control of insect populations become redundant. Since pesticides accumulate as one moves up the food chain, the predators that previously assured this control receive a far greater dose than do their prey, and their demise must lead to the latter's further proliferation, and so our crops become hooked on pesticides.

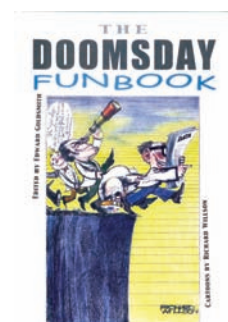
And so it is with all other aspects of our technologically dominated life. The result is that the satisfaction of our ever more numerous addictions makes it imperative that the economy be maintained on a course of continued expansion. If there is the slightest respite, withdrawal symptoms begin to appear. If 'economic stagnation' sets in, then these symptoms become so pronounced as to menace the survival of society. Unfortunately, economic growth cannot go on indefinitely, as our planet has a

finite capacity to provide the necessary raw materials and to absorb the industrial and agricultural wastes.

Still more unfortunately, we are now approaching that point where countless physical, biological and social factors must bring it to an abrupt end, unless we act to ensure a transition to some sort of steady-state society. To do this, we must contrive to recover from our addictions.

Clearly, recovery cannot be done all at once without causing the collapse of the whole system. To recover from them is not possible at all unless we gradually reintroduce the self-regulating mechanisms usurped by the modern technological intrusions to which we have become addicted. To create the conditions in which this recovery can occur must be the everyday goal of all those seriously seeking to solve the present environmental and social crisis.

Ecologist editorial, December 1971



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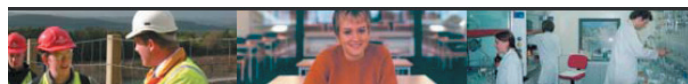
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reviews

RECOMMENDED BOOKS



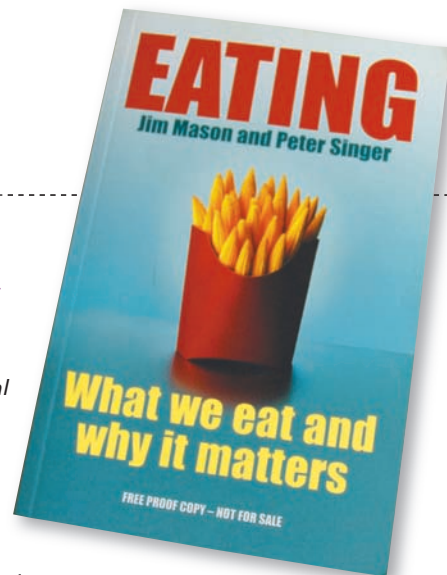
On Your Bike: The Complete Guide

Matt Seaton

Black Dog Publishing, £16.95

Thankfully more accessible than your average cycle route, *On Your Bike!* is an exhaustive look at cycling, past, present and future. A well-timed effort from the *Guardian's* own bicycle correspondent Matt Seaton, as we, the unwitting public, find ourselves drowning in a smog of soaring traffic congestion, spiralling fuel prices and a world showing the strain of global warming. Covering the history, maintenance, design and future of cycling, this is a must for both enthusiasts or first time peddlers. With information on everything from post-operative transvestite rickshaw drivers to cycle safety, it's a very good read.

Reviewed by Heather Darlington



Eating

Jim Mason and Peter Singer

Arrow Books, £7.99

Ethical heavyweights

Singer and Mason (*Animal*

Factories co-authors) are

back, this time armed

and ready to take on the

food industry.

Documenting corporate

deception, widespread waste

and human desensitisation to

the inhumane practices of the

global food industry, this book

is less about what we eat per

sé and more about thinking of

the wider implications inherent

in your choices. With chapters,

such as, 'A day in the life of a

turkey inseminator', it's not a

light read but it's a worthy one.

While Singer's characterisation

of less industrialised farming

methods as 'more humane' may

be over simplistic, the authors do make some pertinent points. Incorporating case studies along with their own ethical premises, the authors show how we can, and why we should, act 'to reduce the harm' that our food choices inflict on animals, the environment and other people.

Reviewed by Heather Darlington

Gone Tomorrow: The Hidden Life Of Garbage

Heather Rogers

The New Press, £8.99

A book about rubbish doesn't

seem an obvious page-turner,

but then you wouldn't expect

it to be named as Editor's

Choice by *The New York Times*

Book Review either.

Following the *Supersize*

Me style of social exposé

meets social commentary,

Gone Tomorrow traces the

connection between modern

industrial production,

consumer culture and our

disposable lifestyle. Rogers

explores just where the

millions of tonnes of waste

we produce goes and what

this is doing to our planet.

Documenting the economical

and humanitarian as well

as the environmental cost of waste disposal, Rogers teases out the politics hidden within each innocent-looking manufactured product.

Definitely not a book to throw away.

Reviewed by Heather Darlington



REVIEWS



Crude: The Story Of Oil

Sonia Shah

Seven Stories Press, £9.99

Shah writes with elegant clarity about the world's most indispensable mineral and our obsessive attachment to it. With scholarly references and a persuasive argument, she tells a geopolitical story of how oil has irreversibly changed the way mankind has lived since its discovery, making *The story of oil* a hugely relevant topic and a must-read. Compelling and informative, her balanced analysis of the economics, politics and ethics involved within this lucrative industry makes it all the more poignant considering the inevitability that this precious energy source

will not be around for ever. Shah makes us aware that society pays the high price of its greed for black gold with a rapidly changing climate, violence, war and corruption, and perhaps the bringing about of our own demise.

**Reviewed by
Hermione Bosanquet**

Design Like You Give A Damn

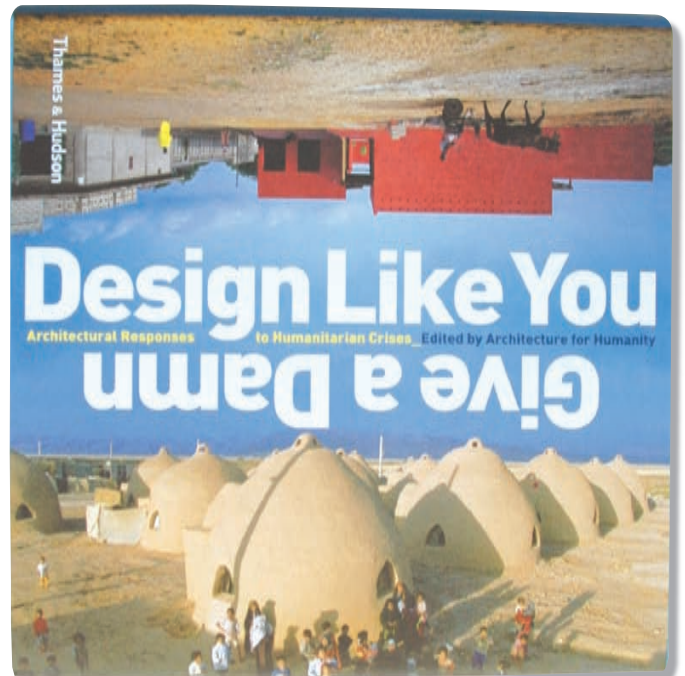
Architecture for Humanity
Thames & Hudson, £16.95

'Coffee Table Books' aren't often known for their ethical prowess. Although their owners may find an 'iconic history of shoes' pertinent, I fear they are alone. So *Design Like You Give A Damn* comes as a welcome exception. Predictably well designed, it

features the work of over 70 architects and firms, working to help solve the challenge of housing the 25,000,000 internally displaced people in 49 countries around the world. From a history of housing, the

authors expand out to document a compendium of innovative projects from around the world that demonstrate how good design really can save lives.

**Reviewed by
Heather Darlington**



Endgame Volume I: The Problem Of Civilisation & Volume II: Resistance

Derrick Jensen

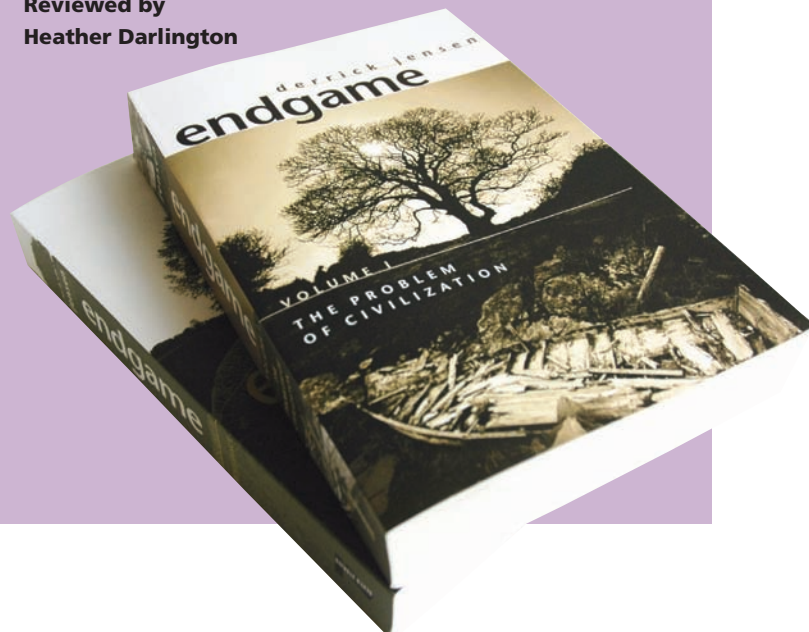
Seven Stories, £11.99

Derrick Jensen, activist, small holder, teacher, acclaimed poet of the ecological movement and voice of uncompromising dissent, returns with an encyclopaedic effort in his new, two-volume work, *Endgame*. Volume I launches a formidable attack on western culture through an emotionally compelling series of 20 premises, such as 'Love does not imply

pacifism' and 'Civilisation is not and can never be sustainable', that break through the chaos of our time, empowering the reader to redefine our world. Building on the revolutionary spirit of Volume I, Volume II raises the possibility of global resistance with incensed yet practical chapters, such as 'Bringing Down Civilisation, Part I'. As poetically elegant as it is devastating, *Endgame* is a stark representation of a world dying under the strain of a self-perpetuating system of exploitation that feeds off our unwitting compliance.

An empowering and lyrical must-read.

**Reviewed by
Heather Darlington**



green pages

Caught between a goat and a lawnmower Paul Kingsnorth gets to grips with a scythe

1,200 parts, 26 years, 1 man's obsession... Meet Andrew Ritchie, father of the

BROMPTON BICYCLE

Are you a sewing machine away from being the next Versace?

GREEN SHOPPING GUIDE



READER OFFERS

03 The Ecologist Big Prize Giveaway at Bristol Organic Food Fair
06 Wastebusting Worm Composter
09 20% off By Nature's Organic Clothing Range
12 15% off Ecotopia's Exfoliating Body Glove
04 No Excuse! Cloth Nappy Trial Pack



PLUS ECOLOGIST READER OFFERS: *The Ecologist's* Big Prize Giveaway at Bristol Organic Food Fair • Wastebusting Worm Composter • 20% off By Nature's Organic Clothing Range • 15% off Ecotopia's Exfoliating Body Glove • No Excuse! Cloth Nappy Trial Pack

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Burning fossil fuels to make electricity accounts for a third of the UK's carbon emissions.

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Last year our wind turbines saved an estimated 32,000 tonnes of CO2 emissions.¹

Over the next twelve months we're planning to more than double our electricity generation with new wind power projects.

ecotricity

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.

Contents

green pages green pages



64 Brompton Bicycle



74 Allotments

64 Local Hero: Andrew Ritchie

Paul Kingsnorth meets the man obsessed by weight, widgets and wheels

69 Ecologist Pick of the Month:

'made' jewellery

A gorgeous new line of fair trade jewellery based on traditional African and Middle Eastern designs

70 Fashion Survival Kit

Matilda Lee fights clothes closet boredom with inspiration from DIY Style Goddess Eithne Farry

72 This Month's Vineyard: Domaine de la Garrelière

Can you taste the moon in your wine?

Monty Waldin discovers the celestial influences of a French Biodynamic vineyard

73 Ecologist Organic & Biodynamic wine club

This month's case - 'Autumn Blazers' –for only £63. Twelve delicious bottles of organic / Biodynamic wine – delivered direct to your door.

74 Allotments (Month 7) : The Joy of Scythes

A tale of over-excitement, determination, possible foolishness and woefully under-used shoulder muscles. Paul Kingsnorth gets to grips with his scythe

76 Read the label: Fragrances

Every aspect of our lives is touched by a fragranced product. Pat Thomas asks whether it's a touch too much.

78 In Season: Three Steps to Food Heaven

79 GREEN SHOPPING GUIDE...

...making every £1 count

If we want to stop the destruction of this planet, and create local, vibrant communities we are going to have to stop shopping in supermarkets and multinational chain stores and make every £1 we spend count by shopping at local, independent and ethical retailers.

82 Food & Drink

86 Home & Garden

88 Energy

90 Clothing

92 Bodycare & Cosmetics

94 Baby & Child

96 Holidays, Property, Personals

96 Weddings, Office Resources & Funerals

97 Careers, Courses, Transport & Volunteering

PLUS! ECOLOGIST READER OFFERS

83 Ecologist Big Prize Giveaway at Bristol Food Fair

86 Wastebusting Worm Composter

90 20% Off By Nature's Range of Organic Clothing

92 15% Off Ecotopia's Exfoliating Body Glove

94 No Excuse! Cloth Nappy Trial Pack

LOCAL HERO: *Andrew Ritchie*

It might have taken 26 years to perfect, but now the Brompton folding bike has a devoted following. **Paul Kingsnorth** reports

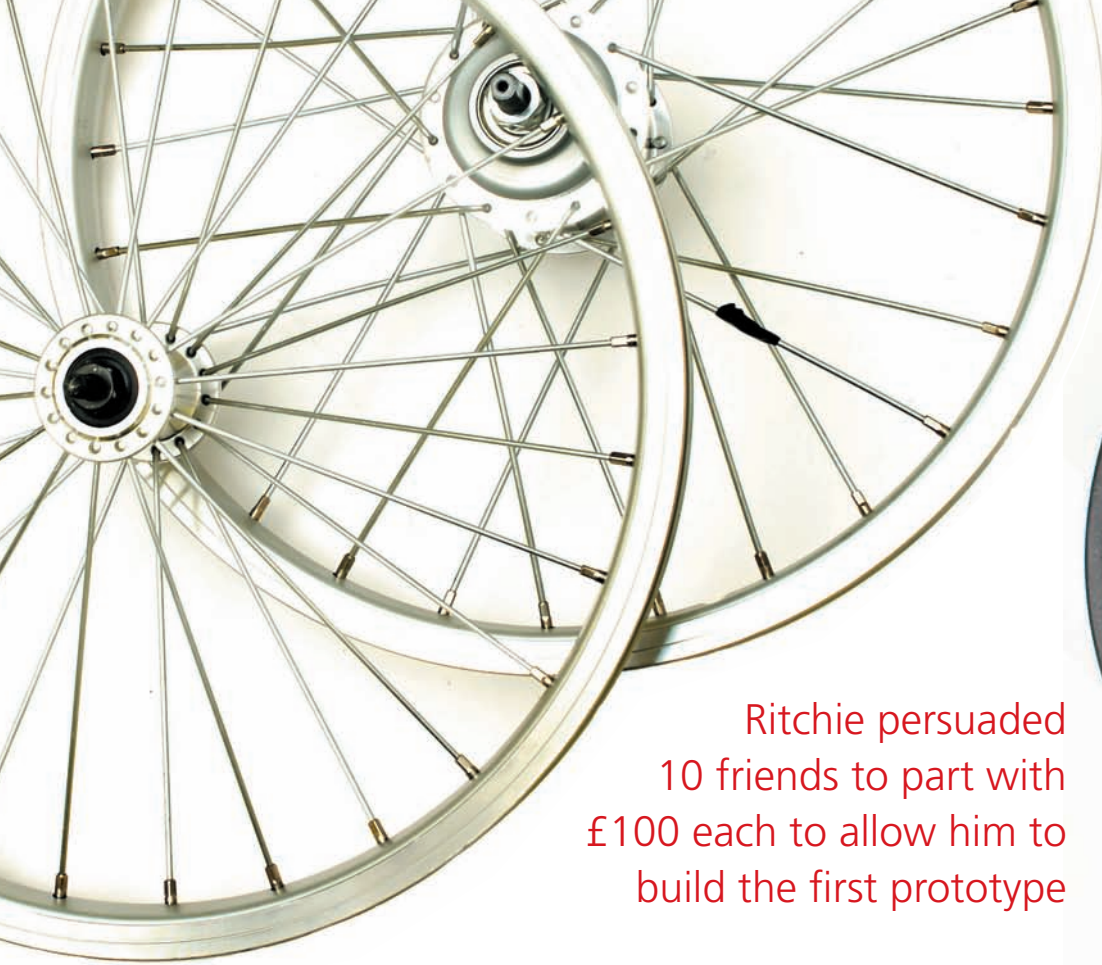


In the shadow of the M4 flyover, on an unremarkable industrial estate in West London, sits a company that shouldn't exist. A successful, expanding British manufacturing company, making expensive products which it barely advertises but can hardly produce fast enough to meet demand. A company that defies the outsourcing mania that characterises globalisation, and employs 57 British employees on decent wages instead of teenage Taiwanese sweatshop workers. A company that makes a unique product, much imitated but never bettered, whose inventor stumbled into its manufacture by accident, and now has a major success story on his hands.

Wall to wall bikes

Andrew Ritchie, founder, director and owner of Brompton Bicycle Ltd pours me a wineglass full of tap water and leads me upstairs to a small meeting room. We are in the Brompton HQ, which consists of a factory floor and a few small offices. Everywhere, be it boardroom, stairwell or shop floor, there are bikes or bits of bikes – folded up, opened out, in racks on the wall, boxed and ready to go.

Ritchie has something of the air of an eccentric professor about him. He is tall and spindly, dressed in a stripy pink shirt, blue shorts and socks and brown leather shoes. He has striking blue eyes and an upper-class accent. He doesn't look like a company director is supposed to look, which I suspect he is probably quite happy about. For at heart, Ritchie is an inventor.



Ritchie persuaded 10 friends to part with £100 each to allow him to build the first prototype

By his own admission he is ‘not a team player’, not a professional manager, never intended to run a business. Today though, he finds himself at the head of a successful company making innovative, even mould-breaking products.

The product is the Brompton folding bicycle, easily the best-known and most successful folding bike on the market, of which Andrew Ritchie is the begetter. He has dedicated over three decades of his life to this machine, and he is quietly proud of it. In the process he has proved that an essentially green product can be an economic success story.

The Brompton story began in the mid-1970s, almost by accident. Ritchie, a Cambridge engineering graduate,

was working as a landscape gardener in London (‘my heart was never really in it’) and using a bike to get around.

Pocket-sized but perfect

‘I’d never been a mad keen bikie,’ he says. ‘I’d always used one as a way to get about, but I’m not the kind of guy who goes in for races and the like. But I’d always thought how nice to have one that you could stick in your pocket, so to speak. I never did anything about it until, by chance, my father bumped into a guy who was trying to raise money for another type of folding bike. And my mother said, “my son Andrew’s very interested in inventions, better go and see him”. I saw his design and thought,

“that’s interesting, but I’m sure I could do a bit better.” With a free evening on my hands I sat down and sketched out some ideas, and I’m afraid I got hooked.’

After working his way through several designs, he persuaded 10 friends to part with £100 each to allow him to build the first prototype, which he put together in his bedroom in West Kensington, overlooking the Brompton Oratory church, from whence came his company name. He shudders when he thinks of it now. ‘It was thoroughly unattractive,’ he says. ‘It went into a skip a long time ago!’

But he persevered, because he was

THE BROMPTON BIKE: 4 simple steps





'People ring up and tell us how much they've carried on their front carrier, how many miles they've done in a day'

– and is – a perfectionist. Others might design a bike, produce it and hope it sells. Ritchie designed a bike – then redesigned it and redesigned it again, all the time looking for ways to make it lighter, easier to fold, simpler and more robust – while all the time maintaining the simple strengths of the original design. 'There are a lot of other folders out there,' he says, 'but no others with the folding mainframe that makes ours unique. That was a key part of the original, basic design, which we had up and running by 1980. But we've only recently got to the stage where I really think the thing is a fairly watertight product.'

Tweaked to perfection

For the record, that's 26 years of perfectionist tweaking; surely the reason for the Brompton's success. Today, that success is of a level that Andrew Ritchie initially would never have imagined. The company has sold around 100,000 bikes. Next year it plans to make 16,000, up from 14,000 last year. It employs 57 people, and expects to be employing 70 a year from now. Bromptons sell all over the world, and demand continues to rise.

What's the secret? Perhaps, I suggest, the company is benefiting from a growing eco-awareness among the public? Ritchie smiles. 'People have said this to me ever since I started!' he says. "What a good time to be producing bikes, everyone's

taking to bikes, there's ecological problems, cars everywhere...." Maybe there's more of a focus since the media homed in on global warming. Certainly it's written about more, if not acted on. So, we're right there, if you like, in the middle of that. Whether that endures, we shall see.'

But another reason for the company's success must be the fanatical devotion to the Brompton exhibited by many of its owners. The company spends virtually nothing on advertising and promotion – word-of-mouth sells its product. On its website you can flick through photographs people have sent in of them and their Bromptons at the South Pole, in Cambodia, in Afghanistan or up Himalayan peaks.

'People ring up and tell us how much they've carried on their front carrier, how many miles they've done in a day, that sort of thing,' says Ritchie, smiling. 'I think many people are so devoted to it because it does set you free, in an extraordinary way. You can pretty much go anywhere, and take the bike with you. Simply, it does the business of being a reasonably portable form of personal transport better than all the others. I know that sounds rather arrogant, but it's



are 13 billion possible permutations of the basic Brompton design. Ritchie, when asked precisely how many parts make up a single bike, replies 'God knows', but guesses that it numbers in the thousands.

Yet this is not the beginning. This is the Brompton's nerve centre, its assembly plant and distribution depot, but those thousands of individual parts, from spokes to handlebars, seats to ball-bearing joints, tyres to pannier bags, come from all over the world. Ritchie and his staff have spent decades sourcing the best parts from the best suppliers, all of which are required to create parts precisely to Ritchie's design. There are 150 suppliers, some in the UK and Europe, others as far afield as Russia. They are primarily skilled local craftsmen, supplying the intricate parts integral to the Brompton, which are made of everything from steel to plastic to lightweight titanium.

The question any economist would surely ask Ritchie is: why here? It would be cheaper, surely, to outsource this work



to low-wage economies like China, India or Taiwan?

'In a way it's crazy manufacturing in London now,' he concedes. 'Most people have decamped. The rents and rates are higher here, but in return for that you get some very good quality management staff. Partly for sentimental reasons, partly for strategic reasons we regard our 22,000 square feet as a centre of excellence. To uproot it now would be a major project. We've now got suppliers for some parts in Russia, for example, but it was a three-year development just to work with them to get a little part like the front fork right. The expertise and know-how that's here was needed. We could outsource it all, but it would be slower, less reliable and we wouldn't have control over the product in the same way.'

It is precisely that creative control that allows Ritchie to be apply his perfectionism to the final product – and it's that perfectionism that has made the Brompton what it is.

So is it as good as I'm told? It's time to find out. The company's marketing manager, Emerson Roberts, lends me his Brompton to test drive. (I've noticed that many people who work here own and use a Brompton themselves, which has to be a good sign.) It's tiny when folded, and surprisingly light; the weight of a small suitcase, and easy enough to carry around. Outside, he shows me how to fold and unfold it – a process that involves four or five simple movements, and takes under

a minute. There are no fiddly brackets or complex manoeuvres. It's easy, and quick.

Then I'm off, riding it around the estate, getting the feel of the gears and the handlebars. As a cyclist myself I suppose I've always assumed that folding bikes are very much second-class rides. Yet this one is quick, smooth and comfortable. I could imagine riding it through London's traffic, but it would also be a fine, robust machine for a long ride in the country. The idea of folding it up, sticking it in a bag, stowing it under the seat on a train and setting out for the day is exciting.

In short, this is a good-quality bike that just happens to fold up, not a folding bike that's an adequate ride: exactly as Ritchie always intended it. It certainly demonstrates that Ritchie's 30-year search for perfection has paid off. When he started, he never imagined it would take him this far, and though he says that he is looking to relinquish control at some stage in the near future, he seems to enjoy it too much to want to walk away.

'I do enjoy it,' he agrees. 'I enjoy it a lot. I've been very lucky. Though to be honest, you know, looking back – designing the bike was the easy bit.'

USEFUL INFO

Why not cycle to work?

'Cycle to work', the government's bike buying scheme will help you purchase a bike for up to 50% off.

Visit www.bikeforall.net for more information.

- Bicycles require no road tax, no MOT, no insurance, no licensing, no breakdown recovery services, no fuel bills, is twice as fast as a car in rush-hour traffic and easier and cheaper to park.

Why not start your own business?

For advice and funding, visit:

- www.princes-trust.org
- www.businesslink.gov.uk
- www.smallbusinessadvice.org.uk
- www.startups.co.uk
- www.smallbusiness.co.uk
- www.bgateway.com

The UK'S National Cyclists' Organisation Campaign


For links to local groups, information on equipment, accident advice, cycling holidays and more. Visit www.ctc.org.uk

CONTACT DETAILS


Brompton Bicycles

www.bromptonbicycle.co.uk

Tel: 020 8232 8484



Barakat Necklace £55,
Designed by Mona Mohanna
and made by families in
Middle Eastern war-torn areas.



Ghaliya Bracelet £69,
Made by Thaicraft, which helps village
artisans across Thailand gain a fair and
sustainable income whilst preserving
local traditions and cultural history.



Anyango Necklace £45
Made by Thamsanqa Shabangu, 26, from Rorkes'
Drift, South Africa. Thamsanqa was exposed to
traditional Zulu beading from an early age
and is part of Khumbulani Craft, which
works in rural communities.

PICK OF THE MONTH

'made' FAIR

Fair trade jewellery hits the high street

Inside info...


The market for Fair Trade products gets another boost with the launch of a gorgeous new line of jewellery by 'made' now selling at Topshop in London's Oxford Street.

Founded by Cristina Cisilino, 'made' jewellery is based on traditional African and Middle Eastern designs and given Western touches from a team of UK-based designers. Jewellery is hand-made by artisan producers using sustainable local resources such as precious metals, stones and recycled glass, wood and bone.

Money goes directly to the producers, rather than middlemen, and a percentage of all profits are invested back into community projects and further training.

'Made' pay all their craftsmen & women a 'living' wage, up to three times higher than the minimum wage of their home country.

'Made' jewellery is also available by mail order from www.thenaturalstore.co.uk



Chunky Brass Ring Necklace £65,
Brass Rings Link Earrings £25,
Designed by Stanley Nyoike, these brass
'coins' were used over 500 years ago as
African trading currency. The project
provides work for Stanley and others
living in the Kibera slums, home to one-
third of Nairobi's population.

'FAB SKIRT DAHLING...'

'Why, thank you...it's an original Matilda Lee'. Eithne Farry helps relieve clothes closet boredom with some priceless 'no-sew sewing' tips



They're everywhere. Piles I've nudged into the backs of closets, under sofas, hidden in cupboards and behind dressers. Why do I bother saving my old, worn out, and outsized clothes when a trip

to the local charity shop would give them a more respectable ending?

The answer is that I've had aspirations to become a DIY style goddess for years. Like any wannabe, I'm clinging to a vision of the day I have a wardrobe full of fabulous, original, stylish outfits that I've had a hand in creating. These old clothes help keep my dream alive.

But while the piles were growing, I wasn't getting any closer to unleashing my creativity on my old favourites. I'd planned on buying a second-hand sewing machine, but I needed to learn how to sew first. I know there are loads of sewing classes available, but between work, husband, and raising a son, do I really have time to take on such a time-consuming hobby?

Meanwhile, my husband suspects I'm in on some illegal smuggling activity, what with all those tightly tied innocuous looking parcels that are growing in our storage spaces, which I refuse to let him open and which periodically move from one place to another. If he knew what they were, it'd be straight to the charity shop for me. And my excuses are running perilously thin.

So you'll understand why I jumped at the chance to meet DIY style goddess, Eithne Farry, who's been re-fashioning her own clothes for many, many years. Her new book *Yeah! I Made it Myself* is a guide to 'no-sew

sewing' for the not so domestic goddess and makes doing-it-yourself look easy and fun. We agreed to meet for lunch near *The Ecologist's* HQ – I was to bring a selection of clothes I couldn't bear to do without and she would bring ideas on what I could turn them into FOR VERY LITTLE TIME AND MONEY.

Time and money, you see, is really the key. For someone like Eithne, turning a tattered but beloved old jumper into a gorgeous handbag is just a few minutes spent before going out on a Saturday evening. For most of us though, the gaping hole between a beginner and an experienced seamstress seems daunting. With all the on-line shopping portals selling designer cast-offs at cut rate prices, anyone with a good eye for a bargain can be 'fashionable'. So what exactly was I getting myself into?

Call it bull-headedness, a desire to be more self-sufficient, an innate frugality, or a rejection of our 'throw away' society - I couldn't get the idea of refashioning old clothes out of my head.

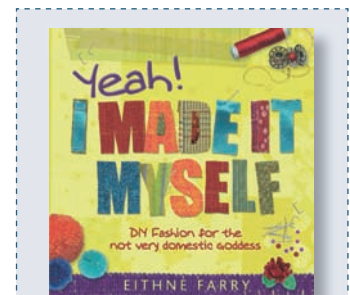
Meeting Eithne

You could tell Eithne's no slave to fashion, but wow did she have style. It threw me when she said not only did she make the fabulous dress she was wearing, but the carry-all handbag she brought had actually been refashioned out of old place mats. Despite her obvious talents, she was anything but intimidating and I felt at-ease instantly.

The ideas she had for the selection of pieces that I'd wanted fixed, altered, or made into something else were impressive. For the sari I bought years ago to go to an Indian wedding: 'With a snip of the scissor – that'd be a stylish beach kaftan'. The Paul & Joe silk chiffon shirt that was way too big: 'Just



BEFORE



DIY STYLE

A new guide to 'no-sew sewing'

Eithne Farry's new book *Yeah, I Made It Myself* is a simple, step-by-step guide to turning old curtains into frocks, making home-made knits and getting the best out of second-hand fabrics. (£10.99 Weidenfeld & Nicolson)

“Finally there was the denim pregnancy skirt with a huge elastic waist band – it didn’t even fit well when I was pregnant – could it be reincarnated too? ‘No problems. It’d be a cinch.’”



tie a pretty ribbon around it to pull it in’. The sweater I had a strange superstition against throwing away - despite the fact that it was so worn I actually hated it: after a quick look at the tag she said, ‘Yep, it’s 100% wool. Just felt it.’ What? ‘Throw it into boiling water, it’ll shrink and be perfect as a soft winter handbag’. Finally there was the denim pregnancy skirt with a huge elastic waist band – It didn’t even fit well when I was pregnant – so could it be reincarnated too? ‘No problems. It’d be a cinch to replace the waistband and hem it in. You could even add some embroidery.’

Sewing Ups and Downs

It was almost a blessing not having my own sewing machine – I needed a bit of hand-holding and didn’t want to be alone. I was a sewing virgin after all.

There I was inside the local The Sewing Rooms, in Putney, next to Claire, a veteran seamstress pointing to a panel of different stitches on the digitalised sewing machine in front of us. Five minutes into my lesson and I was sewing my way through a piece of practice cloth. But wait a second. Wasn’t this supposed to be difficult? Isn’t the point that only after toiling away, fingertips raw and brow wet with sweat, would I earn the DIY credentials I was so virtuously pursuing?

‘Not anymore’, Claire read my thoughts. ‘You can keep your hands busy by picking apart this seam here with an “unpicker”. That’ll keep you out of mischief for a while.’ Right. So not all aspects of sewing had been unfettered by technology.

After an hour’s one-on-one, I’d wound the bobbin, threaded the needle, practised a few stitches, and reversed. I was quite chuffed with myself.

With my very own £1.50 seam unpicker, I

set off home to unseam the waistband of my skirt - which I did throughout three 20 minute bus rides to work. The next week I was back during ‘Sewing Club’ hours to finish the job. With Louise, another Sewing Rooms aficionado just a yell for help away, I had carefully removed the zipper, measured and taken in the waist, sewn on a new waist band and re-sewn the zipper. In all, it took me two and a half hours, the length of a feature film.

A week later it was time to take a couple inches off the bottom of the skirt and add some embroidery (only a few buttons to push!). And I’d done it. With my first piece finished, I hungered for more.

My new skirt not only fitted, it didn’t look half bad on. No, it wasn’t a Marc Jacobs, but I didn’t expect it to be perfect. After all, who paints like Velasquez after one lesson? The thread on the waistband was the wrong colour, and I clearly had a shaky hand while doing the embroidery. While I’d go to lengths to show my originality, I don’t want to look like an unmade bed. The next piece I tackled would be better, no doubt. As for the dodgy jumper – that might actually go to the charity shop.

Want to share any of your clothes-making adventures with The Ecologist? Got any questions on what to do with an old favourite? Email GreenPages@theecologist.org

Next month... *The Ecologist’s pick of the best organic jeans PLUS Eithne Farry gives tips on how to salvage your favourite pair of old jeans*



AFTER



CONTACT DETAILS

The Sewing Rooms, 14 Lacy Road, London
SW15 1NL Tel: 020 8780 0126



THIS MONTH'S VINEYARD:

DOMAINE DE LA GARRELIÈRE

Monty Waldin discovers the celestial influences of a French Biodynamic vineyard

Domaine de la Garrelière is a 50-acre 17th century estate in France's Loire valley. Owners François and Pascale Plouzeau have used Biodynamic farming methods to produce their wines since 1993, making them one of the first Biodynamic vineyards in France. While Biodynamics involves more work, François believes it results in stronger grapes, healthier soil and gives their wines extra quality.

As a Biodynamic farmer, François uses an astronomical calendar to determine planting, cultivating and harvesting times. Highlights of the Biodynamic year include:

Autumn

'After harvest we plough the soil lightly to open it a little and then spray Biodynamic horn manure. We dilute a small amount of cow manure, which has been previously fermented underground in a cow horn for six months, in warm water. Spraying this on the soil has a softening effect and encourages healthy, structured soil and stronger vine roots.

Winter

In the new year, we prune the vines, targeting the descending moon period which happens two weeks out of every four. When the moon's position is getting lower each night, it means the vine sap

is underground, exactly where we want it to be when we prune. The sap contains all the goodness, like carbohydrates and energy that the sun delivered to the shoots via the photosynthetic effect it had on the leaves during the previous year. We would lose this sap by pruning the vines during the period of the ascending moon, and the vines would get weak, as the food they had stored from last year could not be used for the next year.

Spring

We spray another horn manure for the soil and the vine roots. Then the vines' buds burst, and from these emerge the new green shoots. As these shoots grow, the tiny bunches of grapes appear. Just as these produce their flowers or blossom, we spray horn silica over the tops of the shoots. Horn silica is ground-up quartz, fermented underground in a cow horn for six months. It concentrates the effect of the sun's heat and light.

The idea is that it encourages the vines to grow up as far as they can. This helps produce a more regular amount of grapes, and means we get more harmonious ripeness too, because the vine shoots on which the bunches are ripening are stronger, and so less susceptible to disease.'

The vineyard has been certified organic since 1993 by Ecocert France, but, because Biodynamic practices are used, the domaine is a member of France's only Biodynamic body for wineries, which uses the 'Biodivin' logo on its bottles.

To order a copy of Monty's new book *Tuscany* at the special price of £9.75 (RRP £12.99) including post and packing, please call 01903 828503 and quote the code MB14.



CONTACT DETAILS

Domaine de la Garrelière
La Garrelière, 37120 Razines
Tel 02.47.95.62.84
Email
François.Plouzeau@wanadoo.fr

DOMAINE DE LA GARRELIÈRE

Tasting Notes

Touraine Rouge AC Cabernet Franc

This dry red wine is made from 100% Cabernet Franc grapes. This grape is very much at home in the Loire, and ripens to perfection, producing ripe grapes with pleasing levels of alcohol. Vegetarian suitable.



Touraine Blanc AC Cendrillon

This dry white is a blend of Sauvignon Blanc and Chenin Blanc grapes. It is selected from the best vineyard blocks containing the oldest vines, and is hand picked. Vegan suitable.



Touraine Blanc AC Chenin Blanc

This dry white wine is made from 100% Chenin Blanc grapes. The Chenin Blanc grape has a thick skin and produces wines with plenty of mouthfeel or body. Vegan suitable.



Touraine Blanc AC Sauvignon Blanc

This dry white wine is made from 100% Sauvignon Blanc grapes. Its green-tinged berries are highly flavoured, producing wines with plenty of crispness, combined with gooseberry and blackcurrant flavours. Vegan suitable.



Touraine Rosé AC

A good quaffing dry pink wine made from Cabernet Franc and Gamay grapes. It is immediately appealing, showing clear, soft red fruit flavours and a mouthwatering aftertaste. Vegetarian suitable.



Touraine Rouge AC Gamay

This dry red wine is made from 100% Gamay Noir grapes, the same grape the red wines of the Beaujolais region are made from. Here though, the Gamay has a plummy richness, thanks to good levels of ripeness in the grapes. Vegetarian suitable.



ecologist

ORGANIC & BIODYNAMIC WINE CLUB



Why buy 'ORDINARY' wine when Organic & Biodynamic wines are...

- ✓ Intriguingly different and reassuringly delicious
- ✓ Grown without chemicals, using traditional viticulture methods
- ✓ Fighting the commoditisation of wine by multinational wine labels
- ✓ Lovingly produced by small-scale, family-owned and run vineyards
- ✓ Creating rich and diverse habitats for creatures great and small
- ✓ Excellent value

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AC 'Chenin Blanc' x2	5) Touraine Rouge AC	1) Côtes du Rhône
2) Touraine Blanc AC	'Cabernet Franc' x2	Villages Rouge
'Sauvignon Blanc' x2	6) Touraine Rouge	Valréas AC x2

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THE JOY OF *scythes*

Caught between a goat and a lawnmower, **Paul Kingsnorth** finds peace of mind with a scythe

Blimey' said the man on the plot next to me. 'You could do some damage with that!' He wasn't wrong. By the time he arrived I'd been there for an hour, and I already had blisters on each hand and a dull throbbing in my right shoulder. True, I had so far managed to avoid slicing my foot off at the ankle, but it could only be a matter of time.

This is the story of my brand new scythe. It's a tale of over-excitement, determination, possible foolishness and woefully under-used shoulder muscles. It started recently in Dorset, with a visit to a man called Simon Fairlie. Simon is a man of many parts: a former editor of this magazine, he is now an authority on rural land reform, a smallholder and undoubtedly the country's leading peasant philosopher. He is also a scythe obsessive.

Simon was one of the founders of the Tinker's Bubble project in Somerset, a remarkable attempt to run a serious low-impact farming enterprise not only organically, but with virtually no fossil fuel inputs. Its soil is turned with a horse-drawn plough, the cider apples are squeezed by hand – and the grass is cut with scythes. It's a bit too hardcore for me, but the principles behind it are admirable.

So why not try and put them into practice on my plot? I don't want to turn into some freaky purist, but as well as growing my food without any chemical fertilisers or pesticides, I want to try cutting right down on artificial and/or damaging external inputs of any kind. In an age of climate change and globalisation it makes perfect ecological sense.

Which is where Simon and his scythes come in. One thing any plotholder has to do is a fair bit of grass-cutting. This is where you make a choice. You could do what my neighbouring plotholders do



and bring along your strimmer or your big, green lawnmower. But you and I know better. We know that not only are these machines noisy and smelly, they use fossil fuels by the gallon. You and I, idealists that we are, have a better idea. We are going to learn to use a scythe.

So taken was Simon by the scythe as both a tool and a work of art, that he sought out the best scythes in Europe and began importing and selling them. You wouldn't think there'd be much demand in this age of battery-powered trimmers, but Simon Fairlie Scythes is having trouble keeping up with demand. Poking my head into his tiny scythe store room, I could see why. The long, curved pale wood handles; the crescent blades; the little sharpening stones ... a scythe is a beautiful and, these days, unusual thing. I couldn't help it. I bought one.

And so here I am, a scythe virgin, nervously learning the ropes. Simon sold me a little booklet with my scythe, which told me all about how to fix the handle to the blade, how to sharpen it (which you need to do every 10 minutes or so during a serious bout) and how to ensure it's at the right angle when you use it. Scything, it is clear even from these few pages, is an art that attracts its obsessives. They talk about snaths, peening, tangs and something called a neigung. They have a festival every year, dedicated solely to scything. They're like *Star Trek* nerds with grass in their beards. It's too much for me.

But how my scythe has improved my allotment experience! On a practical level it allows me to cut down the long grass and pile it into little haystacks, which I will dry out and use next year to mulch my plants – and to do so without using any petrol, or creating any noise or fumes. But there is also something hypnotic about swinging the handle around in arcs, working out its weight and feel.

There's something natural about the action, and a real sense of connection to a past age in which there were no Flymos or Qualcasts. The more you scythe, in fact, the more you want to. This is doing it for real. This is what it's all about. Hell, maybe I will go to that festival after all.

Simon Fairlie Scythes:

www.thescytheshop.co.uk

Email me: paul@paulkingsnorth.net

Paul's Allotment guide...

1. HOW DO I GET AN ALLOTMENT?

Every local council has an obligation to provide allotments. To find out where your nearest allotment is contact your local council.

If you're lucky, there won't be a waiting list and you can rent a plot straight away. There is usually a minimal annual rent (about £16). Each allotment association sets its own rules, which are worth checking out before you decide to rent a plot.

You may also find details of local allotment associations at your library.

USEFUL INFO...

The National Society of Allotment and Leisure Gardeners can tell you all you ever needed to know about allotmenting: www.nsalg.org.uk

Allotments UK will tell you how to get started, where to find allotments in your area, links and tips from other plotheolders. www.allotments-uk.com

2. GOT A PLOT, WHAT'S NEXT?

Choosing what to grow can be a daunting process but, for a start, you might go with whatever you like eating. For old, traditional and quirky varieties of fruit and veg, try the Henry Doubleday Research Association's Heritage Seed Library – it maintains a collection of 700 seeds you won't find in the shops. Annual membership is £16 and allows you six packets of seeds.

USEFUL INFO

The Organic Gardening Catalogue is a great place to buy seed, tools and more – you can order online and they're delivered to your home. www.organiccatalog.com

The Heritage Seed Library is an excellent place to stock up on interesting old varieties. www.gardenorganic.org.uk

3. THE CAMPAIGN TRAIL. WHAT'S MORE?

The 1908 Smallholdings and Allotments Act obliges local authorities to provide sufficient allotments to meet local demand. If you live anywhere outside of inner London (exempt from legislation), you can use this law to your advantage to campaign for more allotments in your area. The Office of Deputy Prime Minister explains exactly what you are entitled to – well worth a browse. Visit www.communities.gov.uk

USEFUL INFO

The Allotment Handbook by Sophie Andrews (Eco-logic books, £5) tells you how save allotments from developers. www.eco-logicbooks.com.

The Vegetable and Herb Expert by D G Hessayon (Transworld, £6.99) is my personal bible.



READ THE LABEL

FRAGRANCES

We are enamoured of fragrances, and virtually every aspect of our lives is touched by a fragranced product. But is it a touch too much? **Pat Thomas** reports.

A quick account of all the perfumed bodycare products we use is sobering: soaps, creams and body lotions, ointments, talcs and bubble baths, shampoos and sunscreens – just to name a few.

In an overcrowded market, where there is often little to differentiate the performance of one product over another, a product's scent is its unique signature and is often given greater prominence in advertising than performance.

Our love affair with the way things smell has given manufacturers free reign to manipulate our purchasing behaviour by linking the scent of a product with a desired quality such as love, sexiness, freshness, innocence and a wild, independent spirit. It's a tactic used in the marketing of all bodycare products, but which is used to particularly great effect in fine perfumes – witness how many are named after emotions.

Once upon a time, perfumes were derived from natural plant and animal ingredients. But these can be expensive and subject to the variations of season and availability.

As science progressed, manufacturers found ways of producing chemicals with 'nature identical' smells, which could be produced in high volumes without the need for worrying about the availability of natural resources. Today, nearly all fragrance chemicals are synthesised almost entirely from petrochemicals, and while they can be made more cheaply and the scent may linger longer than



that of naturally derived scents, they are problematical for human health.

First and foremost, many of these chemicals are considered hazardous waste. As far back as 1986, the US National Academy of Sciences identified fragrance ingredients as one of six categories of neurotoxic chemicals that should be thoroughly investigated so that we might better understand any potential harm to human health. This placed these chemicals right up there with insecticides, heavy metals, solvents and food additives as primary causes of disease in humans. But government and industry have been slow to demand or fund such research.

The word 'parfum' is used to denote fragrance in a bodycare product. Parfum is made up of dozens of chemicals containing solvents similar to those used in adhesives, as well as benzene derivatives, aldehydes

and many other known toxins capable of causing cancer, birth defects, and central nervous system disorders.

Inhaled fragrance chemicals can cause sore throat, runny nose, sinus congestion, wheezing, shortness of breath, nausea and muscle pain. They are also a major trigger for asthmatic episodes. Once in the body, they easily breach the blood brain barrier – the protective membrane designed to keep toxins away from sensitive brain cells – and produce symptoms resonant with central nervous system (CNS) disruption - headache, mental confusion, listlessness, inability to concentrate, irritability, seizures, restlessness, agitation, depression, sleepiness.

Many bodycare products are heavily perfumed, and at least one study has demonstrated links between heavy perfume exposure during pregnancy,

and learning disabilities and behaviour disorders in children. Studies have also shown that inhaling fragrance chemicals can cause circulatory changes in the brain.

In addition to being inhaled, fragrances can be absorbed through the skin – especially through children’s skin, which is thinner than that of adults. The greater the emollient quality of the product you are using (think skin creams, roll on deodorants, etc) the greater the absorbency. While fragrance chemicals can be quick to saturate the blood, they are slow to clear from the body. When they penetrate the skin they can cause discoloration of internal organs. They can also be toxic to the liver and kidneys. Still others accumulate in fatty tissue and leech slowly back into the system, or are passed on to our children through breast milk.

Fragrances add little to the function of the product. They are unlikely to provide the ‘aromatherapy’ experience promised, especially if they are synthetic. Yet we are obsessed with them. While it’s an unhealthy obsession, it’s not an inevitable one. Each of us has the power to reduce the number of synthetic fragrances we come into contact with on a daily basis. Start by reading the label.

Labelling rules have changed in the last couple of years and manufacturers of cosmetics – and household cleaners – must list any of the 24 fragrances that the EU’s Scientific Committee on Cosmetic Products and Non-Food Products (SCCNFP) has identified as common contact allergies (see opposite).

So now it’s easy enough to avoid these. But the fragrances not listed on the label are still potentially powerful enough to trigger more subtle emotional symptoms or longer-term health problems. Even some natural essences can cause allergic reactions in some individuals, though these are rare because natural essences are derived from the whole plant, and are believed to contain a variety of naturally occurring chemicals that mitigate any potential allergic reactions. If in doubt, or if you are very sensitive, you may wish to avoid scented products entirely.



ACTION ACTION ACTION ACTION ACTION ACTION

1 Go into your bathroom and look at the labels of your favourite products. Do any of them contain the following fragrances?



Amyl cinnamal
Amylcinnamyl alcohol
Anisyl alcohol
Benzyl alcohol
Benzyl benzoate
Benzyl cinnamate
Benzyl salicylate
Cinnamal
Cinnamyl alcohol
Citral
Citronellol
Coumarin
d-Limonene
Eugenol

Farnesol
Geraniol
g-Methylionone (3-methyl-4-(2,6,6-trimethyl-2-cyclohexen-1-yl)-3-buten-2-one)
Hexylcinnamaldehyde Lialal (2-(4-tert-butylbenzyl)propionaldehyde)
Hydroxycitronellal
Hydroxymethylpentylcyclohexenecarboxaldehyde
Isoeugenol
Linalool
Methyl heptine carbonate

2 If so, photocopy these pages, highlight the worrying fragrances you have found on the label and write to the manufacturer’s customer services department. Ask them why, given the following natural, non-toxic and equally effective fragrances exist, they are using these ingredients in their product.

Bergamot (*Citrus bergamia*)
Cedarwood (*Cedrus atlantica*)
Chamomile (*Anthemis nobilis* or *Chamomilla recutita*)
Citronella (*Cymbopogon nardus*)
Frankincense (*Olibanum*)
Geranium (*Pelargonium graveolens*)
Jasmine (*Jasmin grandifolium*)
Lavender (*Lavandula angustifolia*)
Lemon (*Citrus medica limonum*)
Mandarin (*Citrus reticulata*)
Melissa (*Melissa officinalis*)
Myrrh (*Commiphora myrrha*)

Neroli (*Citrus aurantium*)
Palmarose (*Cymbopogon martini*)
Patchouli (*Pogostemon patchouli*)
Peppermint (*Mentha piperita*)
Pettigrain (*Citrus aurantium*)
Rose (*Rosa centifolia*)
Rosemary (*Rosmarinus officinalis*)
Rosewood (*Aniba rosaeodora*)
Sandalwood (*Santalum album*)
Sweet orange oil (*Citrus aurantium dulcis*)
Tea tree (*Melaleuca alternifolia*)
Ylang ylang (*Cananga odorata genuine*)

Ask the manufacturer to send a copy of their reply to the Ecologist, or failing that, pass the reply you do get on to us, as we will be monitoring all feedback for future investigations and campaigns.

September In season...

FRUIT:

Apples
Blackberries
Blueberries
Damsons
Loganberries
Plums
Raspberries

VEGETABLES:

Asian greens
Asparagus
Beans – (broad, French, runner)
Beetroot
Broccoli
Cabbage
Carrots
Cauliflower
Celery
Courgettes
Cucumbers
Fennel
Garlic
Kale
Kohlrabi
Leeks
Lettuce – indoor and outdoor
Mushrooms
Onions
Parsnips
Peas – (shell, mangetout, sugarsnap)
Peppers
Potatoes
Pumpkins
Radishes
Shallots
Spinach
Spring onions
Summer squash
Swede
Sweetcorn
Swiss chard
Tomatoes
Turnips
Watercress

3 STEPS TO FOOD HEAVEN

Make the most of your September harvest. Pickling, preserving and freezing means you can enjoy a wide variety of flavourful foods throughout the winter

Remember when grandma used to keep apples fresh by stuffing them into old stockings and hanging them from the garage ceiling? There are many ways to preserve seasonal produce and with an abundance of delicious and nutritious fruit and veg, September is a great month to stock up. For your in-season produce, why not try a farmers' market (www.farmersmarkets.net), organic farm shop or 'pick your own' farm (www.wellbeing-directory.co.uk) near you?

1 Jams and conserves
With just fruit and sugar, you can make homemade jams that'll be tastier and more flavourful than anything you can buy at the shop. They also make great gifts.

2 Pickling The essential preservative for most pickles is vinegar, used with either sugar (for pickled fruits and chutneys) or with salt.

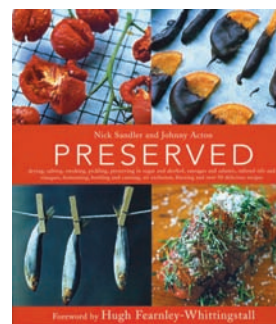
Pickled tomatoes make an excellent ketchup and pickling is also great for onions, beetroot, cauliflower, courgettes, cucumbers, red cabbage, peppers and walnuts.

(From *The Jams, Preserves and Chutneys Handbook*)

3 Freezing A straightforward process but there are few tips to bear in mind. Before freezing, vegetables often need to be blanched to stop the active enzymes from working and keep its taste and texture at its best. They should be chilled immediately after blanching to prevent them becoming soft and pulpy.

Try to freeze fruits as soon after picking as possible. Blackberries, strawberries, blackcurrants, redcurrants and plums are best if they are they sugared before freezing. Some fruits such as cherries and plums might even need to be precooked a little.

(From *Preserved*)



READER OFFER

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Johnny Acton**

(published by Kyle
Cathie Ltd)

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RASPBERRY JAM – UNCOOKED

Ingredients

450 g/ 1 pound
caster sugar
450 g/ 1 pound raspberries

Method

Put the sugar into an oven proof dish and place it in the oven at the lowest heat for about 15 minutes. Put the raspberries into a bowl, add the sugar and mash together

until the sugar has melted. Spoon into hot jars and seal down. This jam should be kept in the refrigerator. It can be frozen, in which case allow about 2.5 cm space at the top of the jars for the expansion during freezing. (From *The Jams, Preserves and Chutneys Handbook: All you need to know to prepare and store over 200 of the world's best preserves* by Marguerite Patten (Grub Street, 2005, £7.99)

GREEN SHOPPING GUIDE

Make every £1 you spend count



READER OFFERS

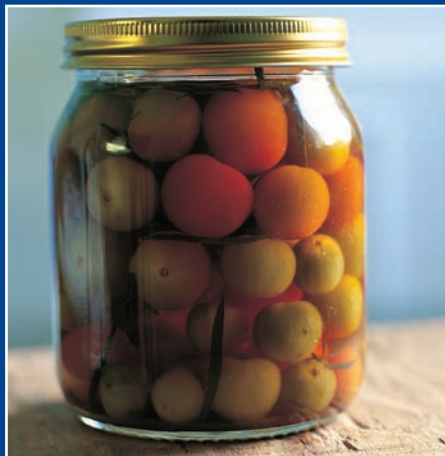
83 *The Ecologist's* Big Prize Draw at Bristol Organic Fair

86 Wastebusting Worm Composter

90 20% off By Nature's Clothing Range

92 15% off Ecotopia's Exfoliating Body Glove

94 No excuse! Cloth Nappy Trial Pack





The history of **The Natural Shoe Store** now spans four decades. Much of what we do is based on tradition, tried and tested to offer you good quality footwear using materials and production methods which are least harmful to the environment.

We are passionate about fair trade and sustainable living, and support craftsmanship and threatened communities by supporting their industries and skills.

Why not join us for a walk...?

the natural shoe store

Dear Reader

At the *Ecologist*, we have a vision of vibrant, self-sustaining communities, full of locally owned and supplied independent shops and businesses providing all of a community's diverse needs.

Yet today's reality is something altogether different. Chain stores and supermarkets are choking the life out of communities. Money, which once circulated within communities, now lines the pockets of distant head offices and shareholders. Where once there were towns and villages with unique identities, there are now identikit, one-size-fits-all high streets.

So what can we do?

First off, we all can make a difference by shopping from our local independents whenever we can. For those of us bereft of genuine local shops, use this guide to shop ethically via the web and bring us one step closer to the vibrant real communities we long for.

This guide has been carefully put together to include inspiring and independent producers and retailers who are committed to offering products and services that:

- are non toxic to you and the environment
- ensure highest standards of animal welfare
- support local communities
- offer a fair wage and decent working conditions to all parts of the supply chain
- use minimal packaging
- minimise transport miles.

Finally, if you've already shopped at one of the retailers listed in this guide, tell us (gsg@theecologist.org), and them, what you think. If you're unhappy, don't move on silently. We need all the support we can get!

Matilda Lee
Editor, Green Pages

ADVERTISING IN THE ECOLOGIST... WHY BOTHR?

'We are a family-run natural health and beauty mail order company. What really surprised us was getting more new customers from the *Ecologist's* 400,000 readers than we did from national newspapers.'

– Damian,
www.beautynaturals.com

'The ad has proved fruitful and I have had at least 4 orders which I know came directly from the *Ecologist* and thus paid for the advertising!!!! Yippee!'

– Jo Ordonez,
www.earthbound.co.uk

ADVERTISING RATES

Lineage	£2 per word
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1/16 page	£125 [series of 10, £65 each]
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1/4 page	£375 [series of 10, £220 each]
1/2 page	£700 [discounts negotiable]
Full page	£1,200 [discounts negotiable]
Double page spread	£2,200
Inside front cover	£2,500
Inside back cover	£1,500
Outside back cover	£1,750

So if you are a small, independent producer or supplier of ethical products and services and want to reach 400,000 committed readers of the *Ecologist* call Zayda now on 020 7351 3578.

FOOD & DRINK



SOIL ASSOCIATION ORGANIC FORTNIGHT

A nationwide celebration of all things organic from the 2nd to the 17th of September.



Organic Fortnight events will take place across the UK in high streets, shops, restaurants and schools. Organic Experience weekend (9 to 10 September) will see farms host open days with tractor rides, delicious organic barbecues and walking trails on the agenda.

For information on events in your local area visit the Soil Association website <http://www.soilassociation.org/organicfortnight> or call 0117 314 5000.

Organic Fortnight is sponsored by Crazy Jack Organic, Whole Earth and Seeds of Change.



Soil Association Organic Food Festival (Bristol): 2 & 3 September 2006

The Soil Association's fifth Organic Food Festival, sponsored by Yeo Valley Organic, is the biggest celebration of organic food in Europe. The event will see Bristol's stunning harbourside converted into a vibrant food extravaganza with over 300 exhibitors and thousands of products from the UK's leading organic producers. Last year's Festival attracted an astounding 150,000 visitors.

Organic food and drink, textiles and health and beauty products will be available for visitors to try and buy. Hugh Fearnley-Whittingstall will lead the chefs cooking an organic feast in the celebrity demonstration kitchen. An exciting schedule of talks and tastings, and an intriguing arts Festival Fringe complete the programme

Admission is £3.50 (free to under 16s). Advanced tickets can be purchased on 0870 4444 400 or online. Visit the Soil Association website for more details: <http://www.soilassociation.org/festival> or call 0117 314 5000.

FRESH PRODUCE

Why not free yourself from the overly packaged, non-ripe, out of season and tasteless varieties of supermarket produce and visit one of the excellent online producers below? They will deliver their genuinely fresh, seasonal fruit, veg, fish and meat direct to your door. And you can feel safe in the knowledge that you're buying environmentally sound, locally sourced, delicious produce that meets the highest animal welfare standards.

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 greengrocers, farmers' markets are a great source for locally produced, fresh, seasonal fruit and veg. If, however, you don't live near a greengrocer or farmers' market, the next best way to get your fruit and veg 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

ORGANIC BEEF, LAMB, PORK & POULTRY

No local butcher? Reliant on heavily processed, packaged and factory-reared supermarket meat? Find out what meat should really taste like – order your next steak online . . .

Daylesford

www.daylesfordorganic.com

Graig Farm Organics

www.graigfarm.co.uk

Helen Browning Organics

helenbrowningorganics.co.uk

Higher Hacknell Farm

www.higherhacknell.co.uk

Sheepdrove Organic Farm

www.sheepdrove.com

The Real Meat Company

www.realmeat.co.uk

Well Hung Meat

www.wellhungmeat.com



How can I be sure my meat will arrive

fresh? Fresh meat and fish is carefully wrapped in insulated boxes with ice packs, ensuring that frozen goods stay frozen and chilled items stay chilled.



Experience your food!

- Never shop in supermarkets
- Buy local fresh food
- Cook more
- Grow food at home
- Support the small, independent and ethical producers and retailers in these listings.

FRESH FISH

No local fishmonger? Want your omega-3 fatty acids without further endangering chronically depleted fish stocks? Have your sustainably caught/reared fish delivered to your door.

Inverawe Smokehouses

www.smokedsalmon.co.uk

The Organic Smokehouse

www.organicSmokehouse.com

Deverill Trout Farm

www.purelyorganic.co.uk

Graig Farm Organics

www.graigfarm.co.uk

Loch Fyne

www.lochfyne.com

ECOLOGIST BIG PRIZE GIVEAWAY AT THE BRISTOL ORGANIC FOOD FESTIVAL

Come and meet the Ecologist team at the Bristol Organic Food Festival on September 2-3. Our stall is in the Organic Food Market. We'll be giving away three fabulous food prizes. For your chance to win just fill out a slip and pop it in the box at our stall.

1st Prize A residential 2-day cookery course with Daphne Lambert at Penrhos Court in Herefordshire.

How to create a healthy diet

This practical course is suitable for everyone seeking to learn how their choice of foods determines their health, well being and quality of life. Participants prepare their meals from whole, fresh, organically grown and seasonal food.

The course covers:

- Acid and alkaline balance in the body, the importance of whole-foods and having the right fats in your diet
- Visit www.greencuisine.org

2nd Prize A luxury food hamper worth up to £100 and one month's weekly fruit and vegetable box from Farmaround

Visit www.farmaround.co.uk

3rd Prize A Meat Box full of delicious, organic meat cuts from Devon-based Well Hung Meat Company.

Visit www.wellhungmeat.com





STORE CUPBOARD ESSENTIALS

What could be more convenient than having all your cooking 'essentials' delivered to your door once a month...

Buxton Foods

www.buxtonfoods.com

Community Foods

www.communityfoods.co.uk

Graig Farm

www.graigfarm.co.uk

Goodness Direct

www.goodnessdirect.co.uk

Hider

www.hider-foods.co.uk

Meridian Foods

www.meridianfoods.co.uk

Naturally Good Food Ltd

www.goodfooddelivery.co.uk

Real Food Direct

www.realfooddirect.co.uk

ECOLOGIST ACTION FOOD-BUYING GROUPS

Why not club together with a bunch of friends and buy from the following food wholesalers – and save huge amounts of money on good, local, organic 'essentials'.

Clearspring

www.clearspring.co.uk

Community Foods

www.communityfoods.co.uk

Eostre

www.eostreorganics.co.uk

Essential Trading

www.essential-trading.coop

Organico

www.organico.co.uk

Suma

www.suma.co.uk

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www.OrganicProbiotic.com
Free report: www.ClickForReport.com
Telephone enquiries: FREECALL 0800 074 8703

ecotip

What happens if my delivery arrives and I'm not in?

Carriers can be instructed to leave your delivery in a safe place. The companies listed in this guide will do their utmost to cater to your specific needs.



CRAZY JACK
Organic

CRAZY JACK ORGANIC READY TO EAT MANGO 75G

There are hundreds of varieties of mango – we select just one and cut whole slices which are air dried without any preservative. The mangos come from Burkina Faso, one of the world's poorest nations and from a Good Food Foundation project that promotes sustainable organic agriculture.

Find out more at www.crazyjack.co.uk and
www.communityfoods.co.uk

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natural goodness – now delivered nationwide

DRINK

BEERS, ALES & CIDER

Beers in a Box

www.beersinabox.com

Black Isle Organic Beers

www.blackislebrewery.com

Broughton Ales

www.broughtonales.co.uk

Dunkerton's Cider and Perry

www.orchard-hive-and-vine.co.uk

Freedom Organic Beer

www.freedombeer.com

WINE

Festival Wines

www.festivalwines.co.uk

Pure Wine

www.purewine.co.uk

Vinceremos

www.vinceremos.co.uk

Vintage Roots

www.vintageroots.co.uk

SPIRITS

Juniper Green Organic Gin

www.junipergreen.org

Stonelink Farm (organic sloe gin)

www.stonelinkfarm.co.uk

COFFEE

A Lot of Coffee

www.alotofcoffee.co.uk

Café Direct

www.cafedirect.co.uk

Equal Exchange

www.equalexchange.com

Origin

www.origincoffee.co.uk

The Bean Shop

www.thebeanshop.com

TEA

Clipper Teas

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HOME & GARDEN

ecologist
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Midi WasteBuster Worm Composter

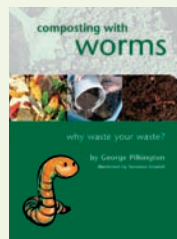
Made from FSC wood, 64cmH x 45cmW x 54cmD. Includes worms, worm bedding and full instruction manual. Perspex viewfinder lets you watch the worms' progress. Suitable for 4-6 family members and for school groups and classrooms.

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Composting with Worms by George Pilkington. He's packed 20 years of experience into a family guide that explains: how worms turn waste into compost, the best uses for worm compost and what to do when good bins turn bad. The perfect companion for your WasteBuster. Call **0117 942 0165**

BUILDING & MAINTENANCE

DIY ESSENTIALS

Building materials, flooring, insulation, paints and windows & doors

Construction Resources

www.constructionresources.com

Ecomerchant

www.ecomerchant.co.uk

Green Building Store

www.greenbuildingstore.co.uk

The Green Shop

www.thegreenshop.co.uk

The Healthy House

www.healthy-house.co.uk

Nigel's Eco Store

www.theinsightecostore.com

CONSTRUCTION/RENOVATION

Cob in Cornwall

www.cobincornwall.com

Concept Timber

www.concept-timber.co.uk

Finch Macintosh Architects

www.finchmacintosh.co.uk

Gale and Snowden

www.ecodesign.co.uk

Insideout Buildings

www.iobuild.co.uk

Nicholas Hare

www.nicholashare.co.uk

Mike Wye and Associates

www.mikewye.co.uk

Quattro Design

www.quattrodesign.co.uk

PAINTS

Auro Organic Paints

www.auro.co.uk

Earth Born Paints

www.earthbornpaints.co.uk

Ecomerchant

www.ecomerchant.co.uk

Ecopaints

www.ecopaints.co.uk

Eco Solutions Ltd

www.ecosolutions.co.uk



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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%), coal (30%), nuclear (20%), oil (5%) – 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** our energy SUPPLY to ECOTRICITY
- 2 **REDUCE** our energy DEMAND
- 3 **LOCALISE** our energy SUPPLY... individually, and in our communities.

We can't wait for politicians to act, and 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 ease your transition from expensive centrally supplied energy to clean, locally supplied energy at home (and at work). Our combined research and practical expertise will ensure that the options we recommend for reducing demand and generating your own supply will work without costing you a fortune.

ECO POWER CAMPAIGN SWITCH TO ECOTRICITY

No matter where you live you can switch your electricity supply to Ecotricity.

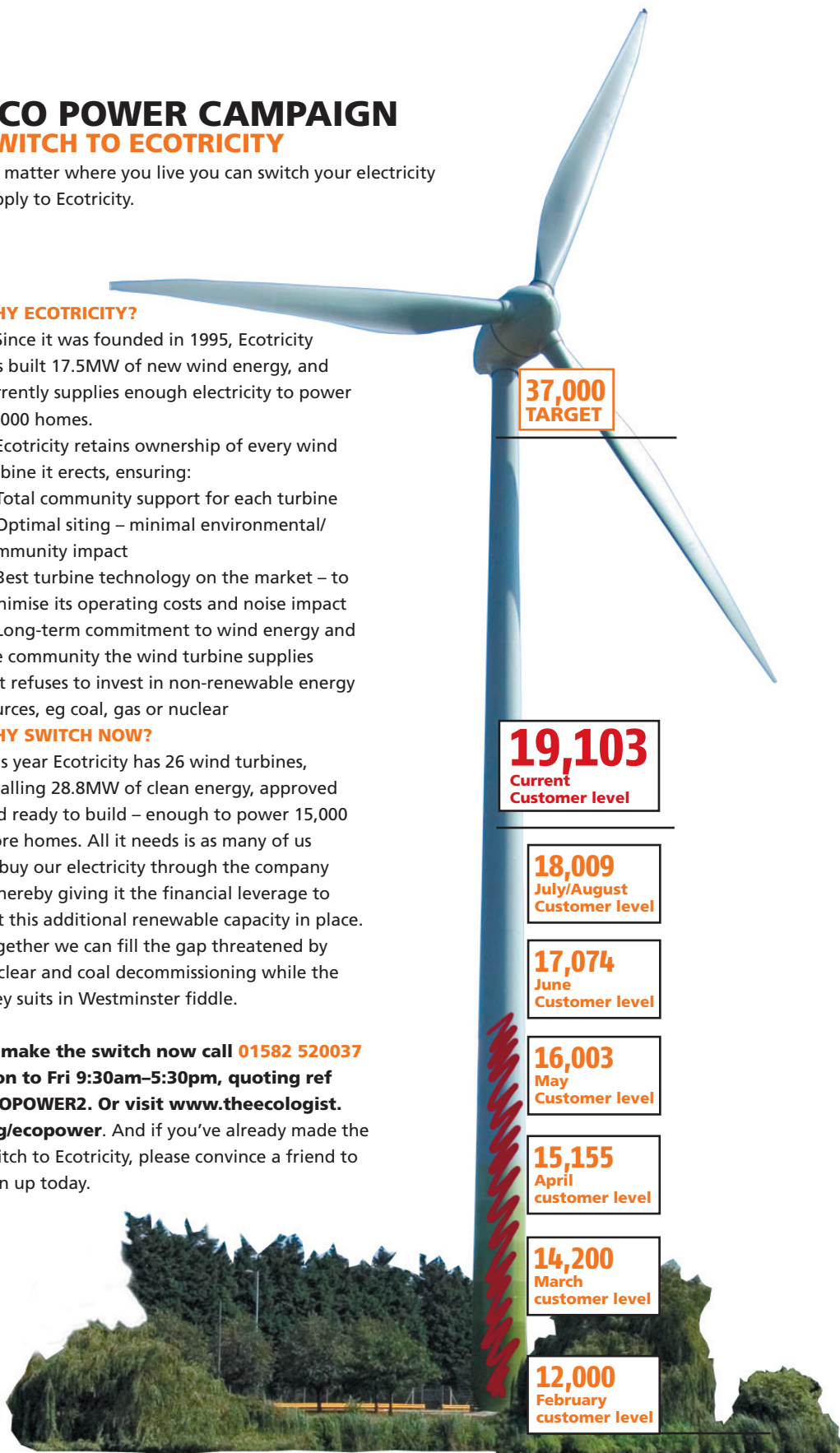
WHY ECOTRICITY?

- Since it was founded in 1995, Ecotricity has built 17.5MW of new wind energy, and currently supplies enough electricity to power 12,000 homes.
- Ecotricity retains ownership of every wind turbine it erects, ensuring:
 - Total community support for each turbine
 - Optimal siting – minimal environmental/ community impact
 - Best turbine technology on the market – to minimise its operating costs and noise impact
 - Long-term commitment to wind energy and the community the wind turbine supplies
- It refuses to invest in non-renewable energy sources, eg coal, gas or nuclear

WHY SWITCH NOW?

This year Ecotricity has 26 wind turbines, totalling 28.8MW of clean energy, approved and ready to build – enough to power 15,000 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.

To make the switch now call **01582 520037** Mon to Fri 9:30am–5:30pm, quoting ref **ECOPOWER2**. Or visit **www.theecologist.org/ecopower**. And if you've already made the switch to Ecotricity, please convince a friend to sign up today.



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ELECTRICITY

RENEWABLE ENERGY TECHNOLOGIES

(wind, hydro, solar PV)

Dulas Ltd

www.renewable-resources.com

HiTech Energy Ltd

www.hitechenergy.co.uk

Wind and Sun Ltd

www.windandsun.co.uk

LIGHT BULBS

Energy Saving World

www.energysavingworld.co.uk

Energy Savers Direct

www.energysavers-direct.com

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

Ice energy

www.iceenergy.co.uk

Kensa Engineering Ltd

www.kensaengineering.com

Powertech Solar

www.powertech-solar.com

INSULATION

Second Nature

www.secondnatureuk.com

SOLAR WATER PANELS

Solar Twin

www.solartwin.com

Sustainable Energy

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www.sustainable-energy.org.uk

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www.powertech-solar.com



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www.5050clothing.com

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www.ciel.ltd.uk

ClothWORKS

www.clothworks.co.uk

Ecobtq

www.ecobtq.com

Enamore

www.enamore.co.uk

Junky Styling

www.junkystyling.co.uk

Keep and Share

www.keepandshare.co.uk

Natural Dye Company

www.naturaldyecompany.com

Natural Store

www.thenaturalstore.co.uk

Pachacuti

www.pachacuti.co.uk

Pierre Garroudi

www.pierregarroudi.com

Sari

www.saricouture.com

MEN & WOMEN'S CASUALWEAR

Bishopston Trad. Comp

www.bishopstontrading.co.uk

Green apple

www.the-green-apple.co.uk

Green Fibres

www.greenfibres.co.uk

Howies

www.howies.co.uk

Inbi Hemp

www.inbi-hemp.co.uk

Natural Collection

www.naturalcollection.com

Pakucho

www.pakucho.co.uk

People Tree

www.ptree.co.uk

Seasalt

www.seasaltorganic.co.uk

Schmidt Natural Clothing

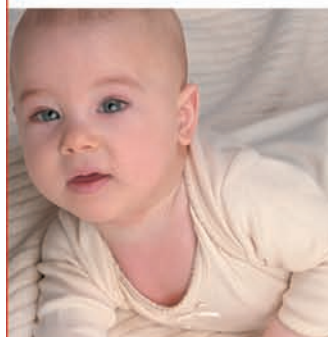
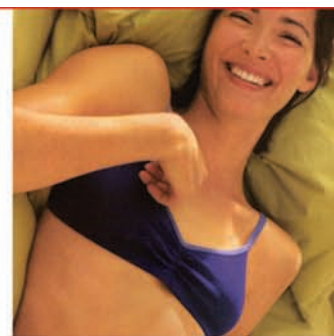
www.naturalclothing.co.uk

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DON'T PANIC – IT'S ORGANIC

Natural bodycare and cosmetic products are just as effective as their conventional counterparts but, because they don't rely on plastics, synthetic colours and chemicals preservatives, you will find that their range, application and usage can be different. Here's what to bear in mind when using natural products:

Natural cosmetics

- Lip glosses are safer than lipsticks because they contain less potentially toxic colour, but they won't last as long because they don't contain plastics and film formers
- Mascaras won't dry as quickly, lengthen or be waterproof like conventional mascaras because they don't contain synthetic fibres or ingredients such as plastics
- Eye shadows will come in a more limited range of 'earth' colours because they will be based on a pallet of mineral and plant dyes
- Choose cream blush instead of powders to avoid potentially cancer-causing talc
- Avoid sparkly make-up, which can contain ecologically unsound mica

Natural bodycare products

- Choose moisturisers based on single oils (plant or animal based) rather than complex mixtures of oil, water, preservatives and film forming ingredients. These may feel more oily on your skin at first but will be fully absorbed fairly quickly.
- Natural toothpastes should be fluoride-free and won't foam as much as conventional ones because they won't contain detergents like sodium lauryl sulphate.

BODYCARE & COSMETICS

www.ecotopia.co.uk

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BODYCARE ESSENTIALS

ASPIRE TO LESS – *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 below carry products that have not been tested on animals; they contain no parabens, no petrochemicals and no synthetic ingredients.*

Akamuti

www.akamuti.co.uk

Barefoot Botanicals

www.barefoot-botanicals.com

Earthbound Organics

www.earthbound.co.uk

Essential Carewww.essential-care.co.uk

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

PERFUME

Aromasciences

www.aromasciences.com

Ascent

www.hayspace.co.uk

Dolma

www.veganvillage.co.uk/dolma

HEALTH & HOMEOPATHY SPECIALISTS

Ainsworths

www.ainsworths.com

Helios Homeopathic Pharmacy

www.helios.co.uk

Optima

www.optimahealthcare.co.uk

Pure Potions



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If you're stressed, can't sleep or are simply feeling under the weather, try an alternative treatment before reaching for the pills or ringing the doctor. Homeopathy works by stimulating a person's immune system and resolving problems from within. People have turned to homeopathy for almost 200 years as a natural alternative and a specialised treatment. To find your local homeopathy practitioner visit the Society of Homeopaths website at www.homeopathy-soh.org.

ecODIY

Mango Body Butter

You need:
1 saucepan
Hand Whisk and/or electric whisk

Ingredients:

Joboba Oil - 44 g
Mango butter - 22 g
Emulsifying wax (steareth- 20) - 32 g
Cetearyl Alcohol - 36 g
Clean water - 150 g
Essential oils as preferred - 5 ml

Method:

Put all ingredients into one saucepan. Put the saucepan over a gentle heat and wait till the mango butter has almost completely melted. At this stage, the emulsifying wax and cetearyl alcohol will be melting as well. Whisk preferably with an electric hand held whisk on a low

setting. Continue whisking over the heat until all the ingredients have completely incorporated and you have a complete emulsification. Take off the heat and continue gently whisking until the liquid thickens to a more creamy consistency. Pour into a container and leave to cool, stirring or shaking periodically. Once completely cool you should have a good quality cream.

For more simple at-home bodycare & cosmetics recipes like these visit www.cosmeticsathome.co.uk



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

DON'T KNOW YOUR GLYCERYL LAURATE FROM YOUR DECYL GLUCOSE?

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Nivea moisturiser

Clairol Nice 'n Easy Hair Dye

Radox Herbal Bath with Juniper

Oil of Olay



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the mission

The amount of baby gear we purchase in the name of 'good' parenting – nappies, wipes, bottles, car seats, pushchairs, clothes, shoes, toys and other nursery items – is staggering. Given the ongoing expense of raising a child and the heavy competition that exists between different manufacturers for parents' custom, it's little wonder that many of the most common baby and child accessories have been made in sweatshops using chemicals that harm both our children's health and the environment.

THIS IS NOT ACCEPTABLE

We challenge the **BABY & CHILD** industry to make products with:

- No potential carcinogens, neurotoxins and reproductive toxins
- No artificial additives, colourings or perfumes
- No petrochemicals
- No synthetic fibres
- Minimal packaging
- Organic ingredients
- Stop marketing to children under 16 years old

What we can do as consumers

- Read and understand the label
- Buy fewer products
- Buy reusable products, eg cloth nappies
- Make our own, eg food
- Challenge stockists to sell safer products
- Support the small, independent and ethical producers and retailers in these listings.

BABY & CHILD

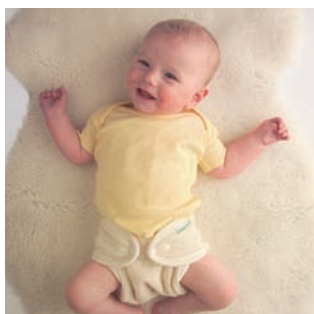
Why use disposables when cloth nappies are easy to use, easy to clean and best for your baby?



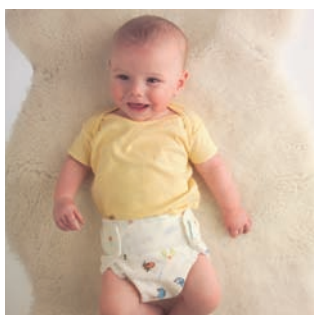
1 Lay open baby-shaped cotton nappy



2 Place flushable liner on top for easy removal of poo



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Born

www.borndirect.com

Green Baby

www.greenbaby.co.uk

Greenfibres

www.greenfibres.co.uk

Hejhog

www.hejhog.co.uk

Little Green Earthlets

www.earthlets.co.uk

Natural Collection

www.naturalcollection.com

Natural Nursery

www.naturalnursery.co.uk

See Saw

www.seesawnappies.co.uk

CLOTHING

Aravore

www.aravore-babies.co.uk

Baby Organics

www.babyorganics.co.uk

Bishopston Trading Company

www.bishopstontrading.co.uk

Gossypium

www.gossypium.co.uk

Huggababy

www.huggababy.co.uk

Natural Child

www.naturalchild.com

Schmidt Natural Clothing

www.naturalclothing.co.uk

Tatty Bumpkin

www.tattybumpkin.com

CLOTH NAPPIES

Sam I am

www.nappies.net

Snazzypants

www.snazzypants.co.uk

The Nappy Lady

www.thenappylady.co.uk

TOYS & GAMES

Arujo

www.arujo.co.uk

Escor Toys

www.escortoys.com

Gaia Distribution

www.gaiadistribution.com

Holz Toys

www.holz-toys.co.uk

Lanka Kade

www.lankakade.co.uk

Myriad

www.myriadonline.co.uk

Toyworm

www.toyworm.co.uk

Tulip Toys

www.tuliptoys.co.uk

GIFTS

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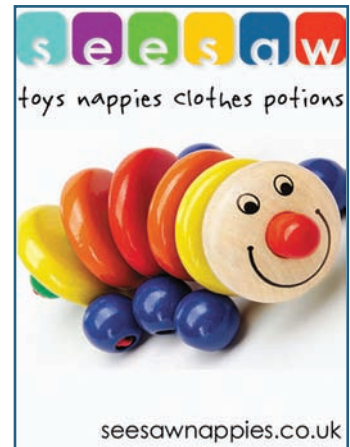
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CASSANDRA

Built-in obsolescence has made this country a throwaway society, and sadly we throw it at people and countries less fortunate than our own. Maybe we should educate our schoolchildren about just what is happening before we turn the entire globe into one large rubbish dump

RECENTLY I VISITED the local 'Household Recycling Centre'. It is really a quite frightening industrial vomit centre. Rows of enormous, red room-sized containers: some for computers; some for monitors; some for cables; some for TVs; for refrigerators; for cookers; for washing machines, and so on. All waiting to be filled with hundreds of discarded wares before being shipped off to some less happy land where underpaid, non-unionised and frequently, alas, under-aged labour strips off what can be recycled, even if, like lead for example, it poisons them as they work – in order to further enrich the rich.

Perhaps school pupils should be given conducted tours of such centres, to see what is involved in the vast barrage of consumerist advertising that daily (often hourly) invades their consciousness with the need to buy, buy, buy. The amount of land needed just to dump this stuff is truly colossal; we are transforming the globe into a gigantic garbage bin. It would be splendid to think there is some benevolent guru out there, taking account of the environmental and other costs of an industrial system, yearly churning out millions and millions of high tech items, from cars to mobiles, that have a life-span of less than a decade. But there is no such statesmanship in sight, so each consumer must become his own guru.

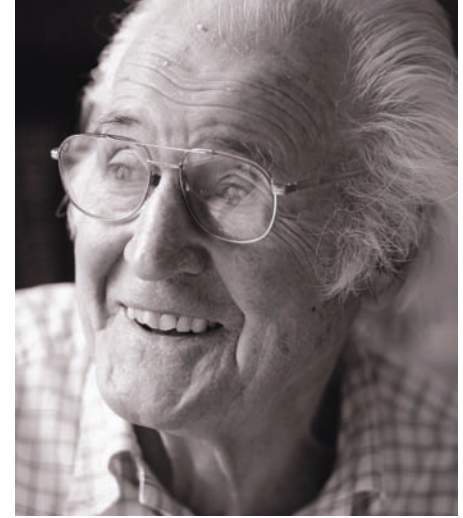
I DON'T SUPPOSE you have ever voted for anyone to represent you on a planning committee, even though such committees are busy making decisions that shape building developments of any neighbourhood for a generation or more ahead. It points to yet another yawning gap in what ought to be the democratic process, and prompts one leading local

environmentalist to say, 'It is no use complaining about the results in 20 years time, let us make our views known now'. So we consult several reports, including 'draft' proposals inviting comment, which may run to 80 or more pages loaded with unfamiliar acronyms, and then proceed to fill in a multi-page questionnaire. Do we agree with this or that? Do we approve one of the following options? And so on.

The trouble is, one becomes fenced in by the assumptions behind the questions: Which way do you want to be executed? Hanging? Drowning? Poisoning? sort of thing. After a lot of report-perusing, I finally binned my questionnaire.

The real trouble is that this whole planning process starts at Westminster, instead of in my village. So we are confronted with a remote exercise that makes any democratic input quite accidental, and dependent on whether local views slot in with what has already been decided. The idea that hundreds, perhaps thousands, of those completed questionnaires, after scrutiny by a man in a suit, are consolidated into a report of the views of the electorate, allowing for his own subjective input of course, is to ignore the reality of yet another example of Fabian fascism on the march. Workers of all lands unite! You have nothing to lose but your compensation claims!

WHAT ARE WE to do with the problem of the peace movement? It absorbs the energies and loyalties of a large number of people who ardently believe in 'peace'. But to what effect? The war danger gets worse and worse, and our 'peace movement' activists, after more than a century of campaigning, are confronted with more and greater dangers of war than when they began. Does this impel



PHOTOGRAPH BY MARTIN USBORNE

them to rethink their tactics or their strategy? Not a bit of it; they have not had a new idea in their beautiful heads since they started. No attempt to question the nature of the forces making for war and how they might be circumvented or otherwise negated.

They carry on with their street demos, their campaigns and their pamphleteering as though one fine day their dearest dream will be realised; that the multitude will at last listen and vote for peace so that we may then all live happily ever after. Wars will cease when men refuse to fight. How true, how very true, but why then do they fight at all? Male aggression? Excessive testosterone? Or is it that in giant states ordinary people have no say at all on war and peace decisions and find themselves fighting each other when not a shred of personal animosity is involved?

Giant states cannot enable to exercise such power; the enormity of scale inevitably disempowers the individual. When will our peace lovers wake up to the fact that a mass democracy is an oxymoron, as the futile massive demonstrations against the invasion of Iraq so amply demonstrated? And that if you are serious about wanting peace, you must help to build the small-scale local government power that is the only way your moral option for peace, or anything else's, can be asserted. All else is words in the wind.

Cassandra is an Anglican priest who has been shown the red card three times by his church superiors because he insists on challenging their unorthodox views. He lives in a Wiltshire farmhouse and describes himself as a High Anglican Quaker.



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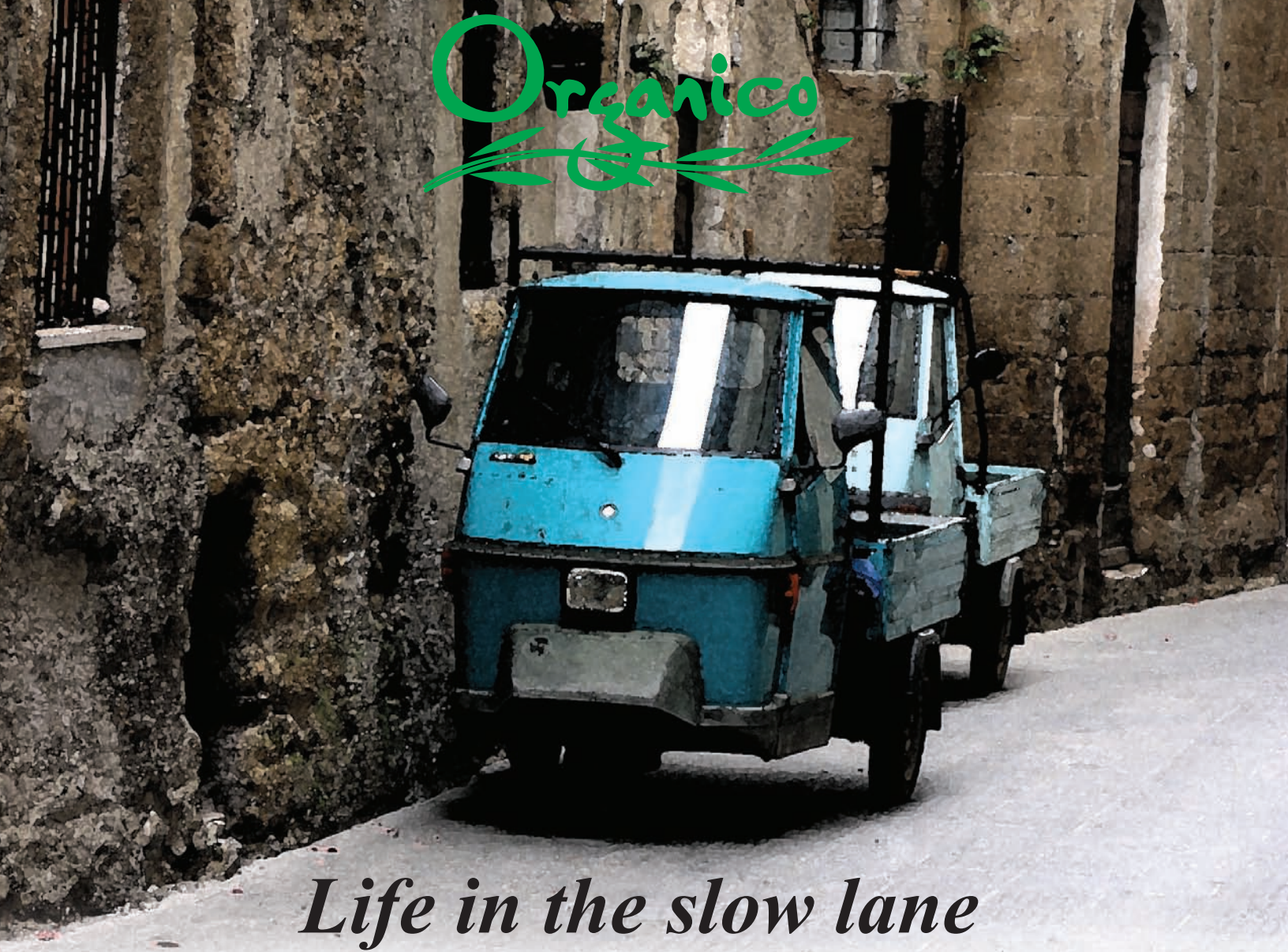
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