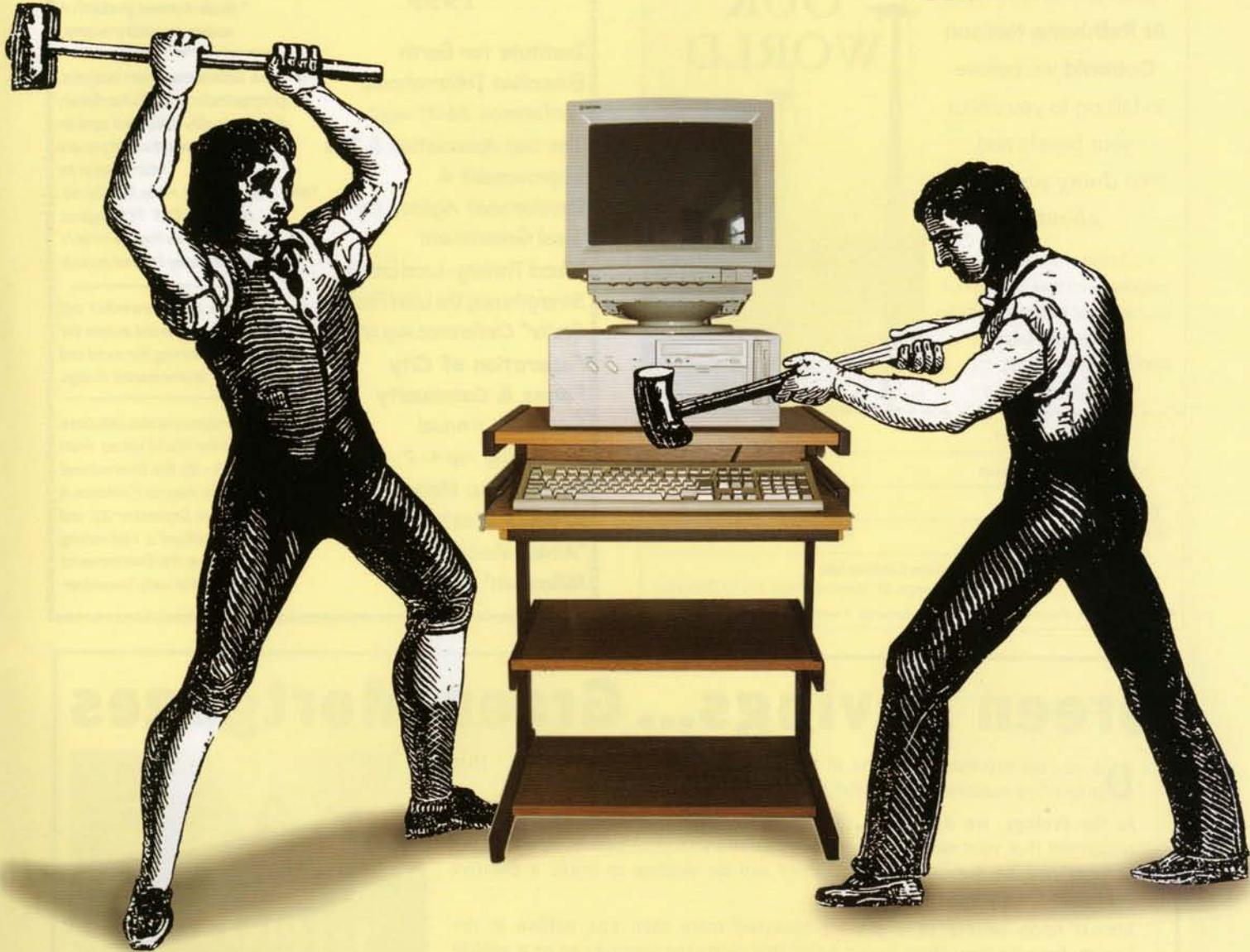


Rethinking Basic Assumptions...

The Ecologist

Volume 29 No 5. August/September 1999

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Rebels Against the Future

Kirkpatrick Sale on why we must learn from the Luddites

Mobile phone masts and cancer

The Wal-Martians have landed

Big business buys up the UN

The legacy of Rachel Carson



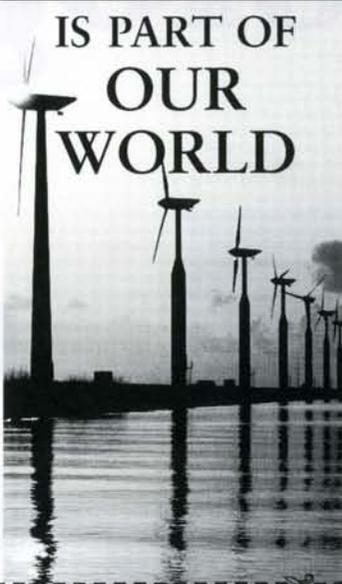
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Editorials

The Trouble with Transmitters

In response to a burgeoning market for their products, mobile telephone companies are racing to install transmitter masts across the UK. Many of these masts have been erected within urban areas despite emerging evidence of long-term risks to public health caused by electro-magnetic fields. Faced with growing public opposition, the industry has been quick to assure us that their masts are safe. But can they be trusted?

By Robin Whitlock

Like many churches and cathedrals across the country, St John's church in the centre of Glastonbury needs money, to pass on to its various charitable projects and also to maintain the ageing architecture. A long-term contract with the mobile telephone company Orange must have seemed like an opportunity too good to miss, and so, perhaps inevitably, four mobile telephone masts, known as 'base station transmitters', were installed on the top of the church tower, carefully screened in order to hide their presence from public view.

But Glastonbury is no ordinary town. It is a thriving community, well-known for its environmental sympathies; and, faced with the possibility of long-term health risks to the children in the school almost right next to the church, a local group of concerned parents called a public meeting to debate the issue. That meeting was to be the beginning of a local campaign against the masts, which continues today.

Recent years have seen a number of serious concerns emerging about the health effects of mobile phone masts. The main one focuses on the potentially damaging effects of the electromagnetic fields emitted by the masts. Several recent scientific studies have suggested that these fields are dangerous to humans. For example, in 1996, a study into the effects of television and FM radio transmitters in North Sydney, Australia, which had been 18 years in the making, revealed a 2.74-fold increase in deaths from childhood leukaemia in the vicinity of the transmitters. A collection of research projects carried out in Sweden, known as the 'Skruna Radar Study' revealed cases of impaired academic ability among children, chromosome damage among cows, growth reduction in pine trees situated some four kilometres away from the transmitter in question and chromosome and reproductive damage in plants. In Poland, reports produced in 1988 and



Siting mobile phone masts near living areas is a serious health risk.

1996 showed that Polish servicemen exposed to electro-magnetic fields (EMF) over the period 1971-1985 had an increased risk of developing cancer, notably neoplastic disease and cancers of the haematolymphatic systems (blood and bone marrow and leukaemia).

And the evidence does not end there. A 1990 US Environmental Protection Agency (EPA) study drew attention to possible links between EMF radiation and cancer. A leaked copy of the draft report described extra-low frequency magnetic fields as "probable human carcinogens", a statement subsequently withdrawn from the final report because of its 'political sensitivity'. The findings were later supported by another leaked EPA report of 1994, repeating warnings of a link between EMFs and cancer. Neither of these reports would have reached the public had they not been leaked.

In response to the locals' campaign, and despite the mounting evidence, Orange quickly issued a statement:

"There is no current substantiated research that makes a link between radio

waves, transmitter masts and long-term public health risks. Orange has always operated and will continue to operate within the stringent national standards set for radio networks by the National Radiological Protection Board (NRPB), an independent UK agency that advises the Government and the public on relevant safety issues and sets the safety level of radio emissions for all users of the radio spectrum. Orange also operates well within European and International Safety Standards. Orange takes its responsibilities very seriously, and fully complies with all health and safety regulations. One of our health and safety representatives will shortly be visiting St John's Infant School to take readings of the radio emission levels in the playground, which we anticipate will be well within the NRPB's guidelines."

An Orange representative duly visited the school to take readings of the emission levels as promised. But the new campaign group decided that the figures quoted were, in all probability, measurements of *thermal* radiation as opposed to



STEPHEN WHITEHORN/ENVIRONMENTAL IMAGES

Glastonbury's environmental community is fighting back against the phone companies.

non-thermal radiation – on which the current controversy over such transmitters is focused. In other words, they believed that Orange were deliberately missing the point.

This whole episode is being mirrored throughout the country as awareness of this issue grows. Assurances given by mobile phone companies and the National Radiological Protection Board (NRPB), the government body responsible for monitoring radiation, contradict increasing evidence regarding the effect of non-thermal or non-ionising radiation: something that the industry and the government doesn't even seem to be considering. Even in the discussion over thermal radiation – the preferred area of debate among industry representatives – differences in policy exist between the UK and other countries worldwide. Levels of thermal radiation over the surface area of the body are expressed in Watts per Kilogram (W/Kg), termed the 'Specific Energy Absorption Rate' or SAR. According to a report produced by Friends of the Earth (Scotland), the NRPB favours a maximum SAR of 10W/Kg whereas in the US the level is set much lower at 1.6W/Kg.¹ Six years ago, according to Friends of the Earth, the NRPB informed concerned citizens that there was no risk associated with transmitters: yet last year it launched an investigation into possible occupational hazards – a considerable shift in policy.

The NRPB's reluctance to examine the evidence concerning the non-thermal effects of base station transmitters arises from the lack of categorical proof. But as Friends of the Earth points out, and as any scientist knows, such proof may not arise for some time, if ever. In the inter-

im, according to growing numbers of concerned people it is best to adopt a precautionary principle based on the evidence available so far.

It is the lack of this precautionary principle that sets the UK apart from other countries, which are already adopting a policy of 'prudent avoidance' – whereby transmitters are sited away from urban areas until further information on their effects becomes available. In New Zealand, for example, legislation

Because of their smaller size, children tend to absorb higher levels of radiation and so they effectively act as aerials. It's hardly surprising, then, that the Glastonbury parents are so concerned.

now prevents transmitters being located near to schools. This is particularly important since, because of their smaller size, children tend to absorb higher levels of radiation and so they effectively act as aerials. It's hardly surprising, then, that the Glastonbury parents are so concerned.

Such policy decisions implemented by foreign nations merely increase the concerns already felt in the UK. With the growth of the mobile phone market, currently worth £14 billion, the number of transmitters will inevitably increase. According to the BBC News website, there could soon be as many as 14,500 transmitters erected across the country in order to cope with the burgeoning market, which will mean these health con-

cerns will inevitably affect millions of people.²

A similar campaign to that being fought in Glastonbury has recently emerged in Manchester, where the same network operator, Orange, has managed to site a transmitter on the roof of St Margaret's Church of England Primary School which, like the unfortunate Parish Committee in Glastonbury, is tied into a long-term contract. The agreement with the company means that if the school considered pulling out of the deal, it would have to pay a heavy financial penalty in order to do so.³ Because these transmitters fall under the category of 'Permitted Development', which enables operators to apply considerable pressure for their transmitters to be erected in particular locations, even local authorities find themselves in an awkward position when faced with planning applications. This situation is not likely to change under a government that essentially favours the mobile phone market and wishes to see maximum national coverage.

It seems that while other countries around the world recognise the possible risks of base station transmitter radiation, and take action accordingly, the UK is content to remain ignorant of the issue. In the US the former Executive Secretary of the New York Power Lines Project, now employed as the Dean of the State of New York School of Public Health has commented:

"In my view, it is totally irresponsible to position a cellular antenna near a site where children spend significant periods of time. While I am not saying that the association between these exposures and childhood cancer is proven beyond any shadow of a doubt, I do see evidence to be suggestive."⁴

There is already enough evidence available to justify implementing a precautionary principle preventing the location of transmitters within and around urban areas. So why isn't the UK acting on such evidence? The only real question remaining seems to be how long it will take for the UK to sit up and take notice. □

Robin Whitlock is a full-time researcher/writer. He lives in Somerset.

References:

1. *Blot on the Horizon or Health Threat?* Friends of the Earth (Scotland), April 1999.
2. BBC On-Line News <BBC News/Health/Mobil Phone Transmitter HealthFears>, 21st April, 1999.
3. *Ibid.*
4. Dr. David Carpenter, as quoted in Bridlewood Electromagnetic Fields Information Service, 15th May 1999.

Paradise Lost

The Millennium Dome is not the only absurd public project coming your way. In Cornwall, another Millennium project threatens to destroy the environment in order to save it.

By Dorianne Robinson

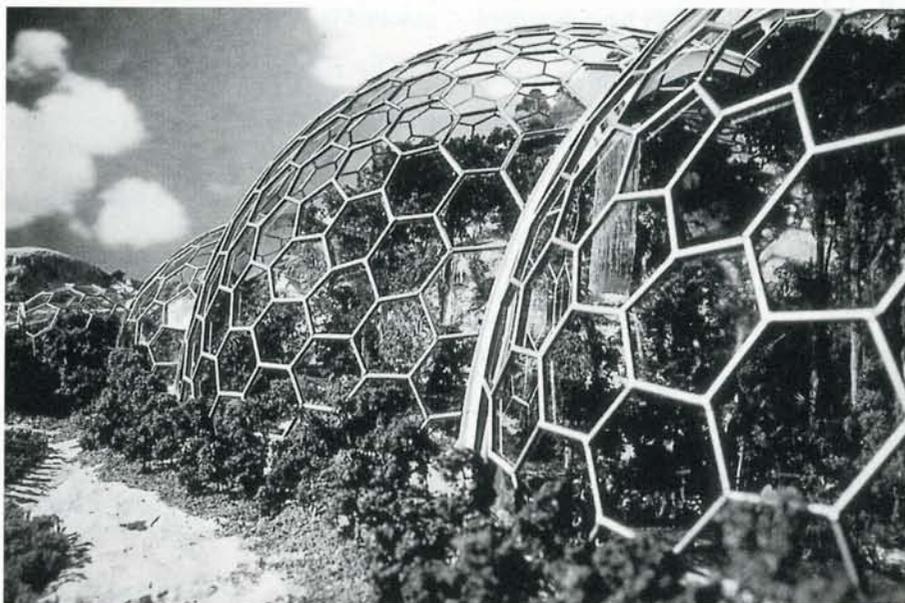
The approach of the Millennium seems to have brought out previously-hidden degrees of megalomania in otherwise normal people. Everywhere you look, someone has come up with a way to tell the generations to come that people today are irresponsible hedonists with more money than sense. How many luminous monoliths are planned for the gateway to your town?

Here in the UK, the most well-known and of these inspirational ideas has to be the grotesque Millennium Dome. But at least the Dome is being built on a brown-field site, and visitors have the opportunity of using public transport if they wish. This gives it slightly more credibility than the other Millennium Dome presently being foisted on Cornwall.

In financial terms, at least, and measured by conventional benchmarks, Cornwall is a poor county. On the EU scale of poverty, it is worse-off than some of the more remote Greek islands, and with a lot less sunshine to compensate. So, for a long time now, Cornwall has had its begging bowl held out towards anyone who might consider some inward investment. Anyone who has an entrepreneurial bent and who fancies being a big fish in a small pool heads for Cornwall. One such person was Tim Smit of the now famous Heligan Gardens – a 'lost' Victorian garden now restored to something like its original state.

I knew Heligan before it was tidied up and turned into the gardens that have recently been seen in books and gardening programmes across the UK. It was certainly wild, but it did provide cover and habitat for an amazing variety of wildlife that has since moved on to less well-manicured places. Today, though, in accordance with the accepted model of 'development', the gardens provide jobs, and are a well-established visitor attraction. And I know that a lot of people are glad of the income that comes from them. But then, one dark night in The Crown at St. Ewe, spurred on by the success of the Heligan restoration, its creators ran a new idea up the flagpole which would have been better left unfurled. A project that would ride on the back of Heligan's success: The Eden Project.

The Eden Project was the brainchild



THE EDEN PROJECT

The Eden Project aims to demonstrate human dependence on the plant world.

of Tim Smit and John Nelson, who were partners in the Heligan Gardens. To some, it initially sounded exciting; pioneering; even 'green'. The project's *raison d'être* was to show and exemplify Man's dependence on the plant kingdom. It would demonstrate through imagery, text and *example* how human development has been symbiotically connected to plants since our first emergence on to the surface of the planet.

The developers are prepared to destroy two SINCS, 80 acres of medieval field systems, 1.5 miles of ancient hedgerow and two badger setts, one of which is more than 200 years old – all in the name of an 'environmental' project.

There were to be four 'biomes': domes which would house four separate and distinct ecosystems. The main biome would be taller than St. Paul's Cathedral. Visitors would enter the Eden Project through a giant leaf, which was designed to be photosynthesising as they walked through it. It sounded wonderful – until the details began to come out.

Smit and Nelson began developing their idea, and eventually identified what they thought would be an ideal location:

a 'disused' clay pit at Bodelva, St. Blazey. Plans were drawn up, and the project submitted its application for planning. But the rot started to set in on the project's credibility when the developers were challenged by the Green Party to explain how they were going to get the predicted one million visitors a year to the site.

The Bodelva pit is in a rural setting and accessed by small 'B' roads. The County Council said that they wanted an access road wide enough for two coaches to pass at all times, and planning permission hung on this. The project tried to buy land from residents along the route to the site but were rebuffed. Very few of the people who live close to the project want it built, or want to put up with the extra 2,000 cars daily passing through their lanes. They were certainly not going to allow the hedgerows to be grubbed out in order for the roads to be widened. So the project had to find another way in. It consulted with a company called English China Clay International (ECCI) and were granted an alternative route into the site across ECCI land.

This was by no means the only concern. Most of the rest of the proposed site is a mixture of Sites of Important Nature Conservation (SINCS) and medieval field systems. In total, the developers are prepared to destroy two SINCS, 80 acres of medieval field sys-

tems, 1.5 miles of ancient hedgerow and two badger setts, one of which is more than 200 years old – all in the name of an ‘environmental’ project. This information has been ignored by the local media, who pay excessive lip service to the project. For a long time they have described the Bodelva pit as ‘disused’, though in fact it has at least 15 years’ life left in it, with possibly another 15 years to run after that. There were between 30 and 40 full-time employees at the pit whose wages were the envy of the county. They had well-paid company jobs averaging about £300 per week, plus pension schemes and health-care. These jobs are being replaced by the usual low-waged tourism-linked opportunities that are seasonal and without prospects.

The project’s original cost, before downsizing, was £105 million. Its job creation projection was 300 jobs. There is a maximum recommended investment for job creation which hovers around £15,000 per job created. Yet the Eden Project is spending close on £250,000 per job – hardly a sound investment. Since the downsizing, which means that it doesn’t qualify as a ‘national’ project any longer, it needs £74 million. To date, it has been promised £37 million from the National Lottery, £10 million from Europe (providing they can prove that 60 per cent of their visitors are new visitors to the county) and various amounts from other small funds.

The downsizing process got rid of the reedbed sewage system, two of the four biomes, the scientific research, the education centre (the project has denied these accusations in the local papers, but what counts is what is currently at the planning department), the biomass boilers and about half the jobs. So, at the last

count, the project was promising between 100 and 150 jobs on completion, with as many as you like promised for the future. The new job creation sum looks like £74 million divided by 150 potential jobs, which equals another very unsound investment.

The Eden Project has been, from the word go, a destructive, pointless fiasco.

In addition, the project has had a lot of problems in securing private-sector funding, the mark of a viable project. No-one with money to invest is going to invest in a dead duck. The criteria for investment from public funding bodies, on the other hand, is quite different. They might want you to exemplify the true spirit of the next millennium (or possibly the spirit of the one that we are all very glad to leave behind) but they do not necessarily put profits at the top of their list.

Because the project found it had a financial shortfall, and the time had come to stump up the money to buy the Bodelva pit, the project leant on the County. This is where the project organisers should really receive a pat on the back. Because they had played the project up as being the eighth wonder of the world, because they said it would put Cornwall “on the map” and because they had promised such high job-creation figures, they won the public support of both the County and the Borough. In a closed session of the Policy Resources Committee of Cornwall County Council, a small group sanctioned the giving of £3 million to the project to help it buy the pit. They described the money as a ‘loan’, though no repayments are

requested before the site is up and running, and only then if they are showing a profit.

Yet, despite a huge grant from the tax revenues of the UK’s poorest county, the project is still short of funds. So it has now advertised the fact that it is actively seeking partners from multinational biotech companies, inviting them to join with Eden in plant research programmes. Two years ago, I asked Eden’s head of horticulture, Philip McMillan Browse, formerly of Kew Gardens, what Eden’s policy was on genetic engineering. He replied that there was much good work going on in the realms of animal modification, so why not extend this to the plant world? So much for sustainability.

Cornwall has an excellent and hard-working anti-GMO group called GAFF (Genetically Altered Food Fiasco). I asked GAFF if they would engage the project to establish what its standpoint was on GMOs. GAFF communicated with the project and received several replies. On no occasion did the project say that it would not engage in genetic modification research. It carefully circumnavigated the subject and left itself on show as a project that was prepared to engage in “any science that could benefit man and the planet”.

At the time of writing, the site is still a china clay pit. McAlpine, the project’s developer, is pushing a lot of claysand around to establish the foundations. Despite the requirement of the Millennium Commission that a Millennium Project must open in the year 2000/2001, The Eden Project is planning to be operational by 2002. That gives them about a year and a half to build the eighth wonder of the world on a sloppy bed of liquid clay. And in another destructive move, McAlpine bulldozed the land for the road route during the bird-nesting season, although the first visitor to the site will not need access for perhaps another two years.

The Eden Project has been, from the word go, a destructive, pointless fiasco. So what will happen if it goes on like this? If they don’t fulfil the time requirement, as laid down by the Millennium Commission; if it is discovered that the overwhelming tide of public opinion is against them; if it is proven that they are neither a sustainable development nor environmentally-friendly (neither of which is hard to do) – will they have their funding withdrawn? I doubt it – they are too big a fish in a small pool. □

Dorienne Robinson is an active Green Party campaigner in the county of Cornwall.



CHARLES FRANCIS

In the name of the environment, the Eden Project is destroying important wildlife sites.

The CAP Doesn't Fit

The Common Agricultural Policy is as damaging to the European environment as ever – but politicians still shirk from radical reform.

By Ros Coward

It's strange that in the same week of March this year, European ministers were able readily to agree to war against Serbia but came to blows over the reform of European finances, especially over the critical issue of reform of the Common Agricultural Policy (CAP). Such was their acrimony on this issue that attempts at radical change were quickly abandoned in favour of minimal, watered-down reforms.

Perhaps it would be more appropriate to describe this as ironic than strange. For the failure to agree reform of the CAP in favour of more environmentally-friendly, more sustainable agriculture could be interpreted as just as great a betrayal of internationally agreed treaties as Milosevic's breaking of the agreements over Kosovo. At the Rio Earth Summit, after all, most European governments signed up to support the Biodiversity Convention. But this appears not to be worth the paper it is written on if governments fail to put them at the front of their thinking when it is both timely and expedient to do so. And nothing could have offered a more important opportunity than reforming European agricultural practice.

CAP reform is one of those issues guaranteed to make the eyes glaze over. It seems impossible to discuss the subject without getting bogged down in its complexities, and most people feel that these pan-European taxes – their levying and distribution – affect them in such marginal ways as not to be worth the considerable effort of trying to penetrate their complexities. Yet it is the Common Agricultural Policy – not road-building or urbanisation – which has been the single most destructive force for British environment and wildlife over the last 25 years.

It is the practice of intensive farming which has led to the countryside being doused in pesticides, hugely damaging the complex ecology which once flourished there. Ninety per cent of damage to protected wildlife sites has been caused by farming, as in spring 1997 when farmer Justin Harmer ploughed parts of Offham Down SSSI to grow flax, a crop for which EU subsidies of almost £600 a

hectare are available.

The huge monocultures encouraged by subsidies for arable farming have been responsible for the destruction of species-rich environments. The biggest blow to bird populations was delivered when farmers abandoned the practice of ploughing back winter stubble into the ground in the spring in favour of burning off the stubble to grow a second crop. This change devastated the populations of ground-feeding birds that previously survived through the winter on the fallen grain.

Intensive farming and monocultures have also been responsible for the loss of 50,000 kilometres of hedgerows, which previously sustained a huge variety of birds, plants and insects, and for the draining of flood meadows and marshes which has all but wiped out once abundant species of lapwing. East Anglia,

It is the Common Agricultural Policy – not road-building or urbanisation – which has been the single most destructive force for British environment and wildlife over the last 25 years.

which once sustained a huge variety of different bird and mammal species, is now a green desert. Even the most unobservant have begun to notice the effects, wondering why they no longer see the black clouds of flocking lapwing or why the dawn chorus, once such a deafening and miraculous performance, has now been reduced to a few cheeps and the odd coo.

The Royal Society for the Protection of Birds (RSPB) points out that birds are key indicators of a healthy environment, and that the catastrophic decline in the bird populations in the last decade is a symptom of a real sickness. The skylark and the song thrush have declined by 75 and 66 per cent respectively since the 1970s, while the lapwing population has been halved in the last 11 years. They have no doubt about the culprits, and have moved into campaigning very directly for reform of the CAP in more environmentally-sym-

pathetic ways, claiming that the central principle of the CAP – that farmers should be subsidised to maximise agricultural output – irrespective of market forces, has flogged the countryside to within an inch of its life.

The case against this kind of farming and its effect on wildlife is cast iron. Nor is this its only negative effect. The Common Agricultural Policy, which is expensive for the individual taxpayer, is grossly unfair, allocating subsidies on the basis of amount of land in use for arable farming. It was introduced to increase 'efficiency' and productivity in agriculture after the war, and was certainly effective in ensuring that Europe would not have to be reliant on food imports.

What this has meant in practice, however, is that the larger the amount of land given over to cereal production, the larger the handout, so that the already rich grain barons are receiving the bulk of the subsidies. This has driven up the price of land and in effect destroyed the possibility of small-scale agriculture. Even the grain barons themselves have begun to note the absurdities, Lord de Ramsey pointing out in a recent House of Lords debate that he was grateful for his half-million pound pay cheque for growing cereal. The case against the quality of the food provided is also well known.

So it is shocking that, in spite of heavy lobbying and clear alternative proposals from various environmental organisations, the government has failed to fight this cause. Tony Blair came back from the European Heads of State meeting in March crowing about preserving the British rebate. But, says Jim Dixon of the RSPB, he couldn't have got a worse deal on CAP. He had done nothing to shift compensation to farmers from wasteful over-production of certain foods into schemes which would support sustainable food production (organic farming), and which would compensate farmers for protecting or enhancing the environment and for helping tackle rural unemployment. Critically, no timetable was agreed for scaling-down subsidies to both arable and livestock farming. Indeed, shockingly, farmers now have guarantees that compensation for arable areas will continue for the next six years.

The CAP has turned much of European farmland into a dead landscape.



JAN-PETER LAHAL/STILL PICTURES

So we have been left with a system where 75 per cent of subsidies will go to 25 per cent of farmers; an inequitable system compensating the already rich for producing food we no longer trust, using methods which are destroying our environment.

This is not only potentially catastrophic for our own environment, wildlife and food quality. There are dire implications for Eastern Europe too. The main impetus behind the current round of reforms was to sort out finances before Eastern European countries joined the EU. The current levels of agricultural subsidies can't be stretched to include these countries. Neither would it be desirable to leave them to follow the

free-market model pursued by the USA and Australia, where pressure to produce food cheaply has led to equally horrendous consequences of intensive farming, like genetically modified food and overuse of hormones in animal rearing.

Eastern Europe is already under pressure with the introduction of large, Western-style monocultures, sometimes even by Western companies. In Hungary, a country with abundant and wonderful bird species, there are already severe losses of some grassland species like the Great Bustard, as the traditional meadows are converted into intensive arable farms. So the future of these countries depends on our ability to work out an environmentally-sensitive model of agri-

culture which doesn't cost the Earth.

The only glimmer of hope offered by the spring reforms was the designation of certain funds for rural development schemes. The amounts are small – 4 billion, compared with the 40 billion on subsidies to environmentally-destructive arable and dairy subsidies. But some environmentalists believe that if the government are held to account over their rhetoric on the environment, they could be pressurised to ensure that this money is funnelled into schemes that both produce food safely and protect the environment: in other words, into supporting a real expansion of organic farming and environmentally-sensitive rural schemes.

The public has to wake up on these



Genetic Engineering: the View from New Zealand

Monsanto is homing in on New Zealand. Its first move has been to co-opt the government's food regulatory body. But resistance is mounting.

By Jeanette Fitzsimons

The last thing I want to think about during the rare, precious time at my organic farm in a remote New Zealand North Island valley is the food and chemical giant Monsanto. But I sometimes do. Because my gardens, the native birds, and the rainforest-covered hills around our home are, like every species of life as we know it today, ultimately under threat from unchecked genetic engineering.

Right now, I am most worried by the time and money Monsanto and other large foreign genetic engineering companies are investing in New Zealand, and their huge effort in keeping government ministers and bureaucrats on side as we reach a crucial crossroads in this debate.

Monsanto is preparing an application for the country's first commercial release of a genetically engineered plant or animal – its oilseed rape (canola) – which the firm plans to have planted over hundreds of hectares in the lower South Island by next year. We know this because Monsanto has already gone public with plans and is working on softening up the authorities.

Our Prime Minister, Jenny Shipley, whom British tabloids have dubbed a South Pacific Maggie Thatcher, is trying to get as close to the United States' Clinton administration as Mrs Thatcher was to the Reagan one. Mrs Shipley's ministers, desperate for a US-NZ free-trade agreement – while admitting such an agreement is a long-shot – are openly backing genetic engineering. As far as the food giants are concerned, to count New Zealand's bureaucratic guardians among their champions is a great blessing. Few countries in the world have cultivated so green and clean an image. If it's good enough for them, it must surely be good enough for everyone else!

Our Health Department, in a document just published, calls the Monsanto-part-sponsored public relations organisation Gene Pool a "New Zealand organisation whose function is to ensure the widespread dissemination of balanced, accurate, credible and timely information



New Zealand PM Jenny Shipley and her ministers are desperate for US/NZ free-trade agreement and are openly backing genetic engineering.

about gene technology issues". Last year Coca-Cola South Pacific's Brian Lowe and Nestlé's Lynette Finlay were officially and temporarily co-opted by our food regulatory body – the Australia New Zealand Food Authority (ANZFA) – and given the title "independent experts". The food authority, which as its name suggests sets food regulations in both countries, contains longer-term directors from the food and chemical industries. One of them is a former chairman of Nestlé New Zealand. I have been told by European anti-GE campaigners that Coca-Cola and confectionery giant Nestlé both produce genetically engineered products and I have a letter from Nestlé New Zealand showing that it is, or was, a passionate advocate of the technology.

Despite its membership, the authority initially proposed labelling genetically engineered food on our shop shelves, but came under pressure from New Zealand ministers to back off. This kind of pressure is best seen by recently obtained minutes of a New Zealand cabinet meeting of 19 February, 1998, which was publicised far more widely in Britain than here. The minutes include the words: "The United States, and Canada to a lesser extent, are concerned in principle about

issues before it is too late. There has been great progress on consumer awareness about food safety and environmental issues in the last few years. But now we also need to confront the complexities of agricultural politics and finances, so that ministers can be held to whatever small gestures they make towards reform. Otherwise, policy in this area will continue to be driven by those with vested interests. And who wants a countryside where the only things moving are the farmers shovelling piles of Euros from one trough to another? □

Ros Coward is a writer and journalist and a regular contributor to *The Guardian*. Her latest book *Sacred Cow: Is Feminism Relevant to the New Millennium?* is published by Harper Collins.

the kind of approach advocated by ANZFA and the demonstrable effect this may have on others, including the European Union. The United States have told us that such an approach could impact negatively on the bilateral trade relation-

The most public result of pressure from the US government is that no genetically engineered food is labelled as such in New Zealand supermarkets, although there have been half-hearted official promises that this will happen.

ship and potentially end any chance of a NZ-US Free Trade Agreement."

It is not surprising, therefore, that a food authority 'Fact Sheet' says: "it's important that Australia and New Zealand remain at the forefront of this technology" and, "Some of the benefits of gene technology include reduced use of agricultural chemicals, better control of pests and diseases, more efficient use

of land, and increased food security..."

The most public result of 'free-trade' pressure is that no genetically engineered food is labelled as such in New Zealand supermarkets, although there have been half-hearted official promises that this will happen. There is evidence that change will come faster through market pressure than through officialdom or Parliament, which has twice rejected a bill providing for labelling. Green Party members are making progress in persuading several local food manufacturers to promise "GE-free" products and supermarkets to ask questions of their suppliers.

But the main fight is on the land.

Monsanto knows that if a promiscuous genetically engineered brassica such as canola becomes widespread, New Zealand growers and processors of other brassicas such as cauliflowers, cabbages, turnips and broccoli may have trouble with the "GE-free" promise. Several big South Island canola growers have complained about Monsanto's plans, saying that for market reasons they would prefer to stay GE-free: but again, Monsanto has powerful allies.

The Government's Crop and Food Research Institute was paid by the Belgium-based company Plant Genetic Systems (PGS) to field-trial herbicide-resistant canola in Canterbury on the South Island's east coast in the summer of 1996 to 1997. Other government authorities – the Agriculture and Forestry Ministry and Environmental Risk Management Authority (ERMA) – admitted in April this year that officials knew for nearly two years that containment might have failed. ERMA chief executive Dr Basil Walker said: "The netting used to cover the crop developed holes at one point which posed a risk of escape." He said a weedy brassica crop was found nearby.

If agricultural and ERMA officials, at the end of their paper war on the issue, do test and destroy surrounding brassicas, there's still a chance of stopping any spread. But precedents suggest we will once again give way to genetic engineering; unless we change governments at the general election late this year. Labour, the opposition party likely to lead a new government, have variously sat on the fence, extolled the virtues of



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the new technology (provided it is 'safe'!) and now just recently embraced my call for a Royal Commission of Enquiry, similar to one we held on nuclear power in 1977-78. They will not, however, (yet!) agree to a moratorium on field-growing.

To keep political pressure on, I have collected 40,000 signatures in a few weeks calling for such an enquiry and moratorium, and numbers are snow-

balling. I am averaging two meetings a week on the issue around the country, with a turnout of hundreds of people at times – something rare for New Zealand politics.

The enquiry must discuss ethics, ecology and economics, as well as risk and benefit. It needs to set the 'big picture' framework within which the case-by-case applications can be considered. It might well decide to treat medicines differently

from food. It might accept laboratory work, but not outdoor release. But we must act quickly. Monsanto's application threatens New Zealand's \$65 million organic export industry, with certified suppliers, at present, unable to meet demand. Genetic Engineering could infiltrate my crops, as it has, I fear, my public servants, and – damn it – my head. □

Jeanette Fitzsimons is a Member of Parliament and Co-leader of the New Zealand Green Party.

Now Monsanto is After Our Water

For years now, Monsanto has been buying up seed, plant and biotech companies in order to establish control over the world's food. According to Mr Robert Farley of Monsanto, "what you are seeing is not just a consolidation of seed companies, it's really a consolidation of the entire food chain. Since water is as central to food production as seed is, and without water life is not possible, Monsanto is now trying to establish its control over water. During 1999, Monsanto plans to launch a new water business, starting with India and Mexico, since both these countries are facing water shortages."

In other words, the crisis of pollution and depletion of water resources is viewed by Monsanto as a business opportunity: "The business logic of sustainable development is that population growth and economic development will apply increasing pressure on the natural resource markets... These are the markets that are most relevant to us as a life sciences company committed to delivering food, health and hope to the world, and there are markets in which there are predictable sustainability challenges and therefore opportunities to create business value."

The crisis of pollution and depletion of water resources is viewed by Monsanto as a business opportunity.

By 2010 about 2.5 billion people in the world are projected to lack access to safe drinking water. At least 30 per cent of the population in China, India, Mexico and the U.S is expected to face severe water stress. By 2025, the supply of water in India will be 700 cubic km per year, while the demand is expected to rise to 1,050 units. Control over this scarce and vital resource will, of course, be a source of guaranteed profits. As John Bastin of the European Bank of Reconstruction and



MARK EDWARDS/STILL PICTURES

Once again, Monsanto is aiming to privatise the very basis of Indian agriculture.

Development has said, "Water is the last infrastructure frontier for private investors."

Monsanto estimates that providing safe water is a several billion dollar market. It plans to earn revenues of \$420 million and a net income of \$63 million by 2008 from its water business in India and Mexico. This market is growing a 25 to 30 per cent in rural communities and is estimated to rise to \$300 million by 2000 in India and Mexico. This is the amount currently spent by NGOs for water development projects and local government water-supply schemes, and Monsanto hopes to tap these public finances for providing water to rural communities and convert water supply into a market. The Indian Government spent over \$1.2 billion between 1992 and 1997 for various water projects, while the World Bank spent \$900 million. Monsanto would like to divert this public money from public supply of water to establishing the company's water

monopoly.

Another new business that Monsanto is starting in 1999 in Asia is aquaculture. It will build on the foundation of Monsanto's agricultural biotechnology and capabilities for fish feed and fish breeding. By 2008, Monsanto expects to earn revenues of \$1.6 billion and a net income of \$226 million from its aquaculture business. While the corporation's entry into aquaculture is through its 'sustainable development' activity, industrial aquaculture has been established to be highly non-sustainable. The Supreme Court has banned industrial shrimp farming because of its catastrophic consequences.

However, the government, under pressure from the aquaculture industry, is attempting to change the laws to undo the court order. At the same time, attempts are being made by the World Bank to privatise water resources and establish trade in water rights. These trends will suit Monsanto well in establishing its water and aquaculture businesses. The Bank has already offered to help. As the Monsanto strategy paper states: "We are particularly enthusiastic about the potential of partnering with the International Finance Corporation (IFC) of the World Bank to joint venture projects in developing markets. The IFC is eager to work with Monsanto to commercialise sustainability opportunities and would bring both investment capital and on the ground capabilities to our efforts."

Monsanto's water and aquaculture businesses, like its seed business, aim at controlling the vital resources necessary for survival, converting them into a market and using public finances to underwrite the investments. A more efficient conversion of public goods into private profit would be difficult to find. Water is, however, too basic for life and survival and the right to it is the right to life. Privatisation and commodification of water are a threat to the right to life.

– Vandana Shiva



The Global Pastry Uprising

By Special Agent Apple, General Command – Ecotopia

A political statement issued by the Biotic Baking Brigade

The shadowy world of underground eco-activism is exemplified by the activities of the legendary Biotic Baking Brigade, who in recent years have attacked global capitalism full in the face with culinary cunning. Here, *The Ecologist* prints in full the BBB's political manifesto.

As multinational corporations accelerate the plunder of our world during these last days before the millennium, a militant resistance has formed in response. Diverse in philosophy and targets, diffuse in geography and structure, the movement comprises freedom-loving people with a sense of aplomb and gastronomics. Fighting a guerrilla media and ground war with the titans of industry, these revolutionary bakers and pie-slingers have achieved in short order what can truly be called a global pastry uprising.

This uprising has its roots in the belief that our planet is not dying, it is being killed; and the ones doing the killing have names and faces. Since last October, over 40 prominent corporate executives, politicians, economists and sell-out NGO 'leaders' have received their just desserts for crimes against

people and the land. The groups and individuals involved in this unique form of Pie-rect Action have declared their opposition to the neo-liberal platform: clear governments out of the way; deregulate financial markets; hoodwink citizens into trusting 'the invisible thumb' of the market to protect them; and legislate corporate dominance through such trade agreements as NAFTA, GATT and the MAI.

A SPANNER IN THE GEARS

As the Zapatistas have made clear, in a global economy, we all live in Chiapas. The Biotic Baking Brigade (BBB) builds on that connection: under neoliberalismo, we all can throw a pie in the face of economic fascism. No bosses, offices, foundation grants, never-ending consensus meetings, or CFLAs (Confusing Four Letter Acronyms) are needed: as the Nike corporation says, "Just Do It!"

I can only speak for the activists involved with the BBB, not for the other pastry militants active with l'Internationale des Anarchos-Pâtisseries (the notorious Internationale of Pie-throwing Anarchists). However, I think most of my comrades would agree that pie-slinging is just one tool in a large toolbox of resistance to the dominant paradigm. They have tried everything within the spectrum of non-violent protest to effect positive change, and will continue to do so. Pieing has broadened the scope of protest, not replaced other methods. Having said all that, we also believe that it's far better to pie on our feet than live on our knees.

NO PASTRY, NO PEACE!

BBB agents are experienced activists. The stunning array of targets on our 'Tried and Pied' list reflects the theory that it's impossible to have a healthy environment without social justice, and we can't have a sustainable society without intact ecosystems.

We direct most of our efforts toward ecological issues, which cause some to wonder what the mayor of San Francisco has to do with wilderness defence. By pieing him, what the Cherry Pie Three (as they came to be called) demonstrated through their background in social/ eco/animal issues, is that



The Biotic Baking Brigade flans Renato Ruggerio, Director of the World Trade Organisation.

we have in front of us one struggle, and one fight. The same corporate forces behind industrial resource extraction are the same that make life miserable for humans in cities and animals in laboratories. An objective observer cannot dispute that the global market has brought the globe to the brink of economic collapse, and the export-orientated 'free trade' model has also been devastating for people and the environment alike.

When it comes to defending the Earth from the corporate universe, the pie's the limit!



GUERRILLA MEDIA

If he were alive today, Sun Tzu might have written in his treatise *The Art of War* that the twofold way of the modern warrior is no longer that of the sword and pen, but rather the pie and keyboard. We've found few things as effective to subvert an event (shareholders' meetings, legislative hearings, press conferences, keynote speeches, etc.) as a well-placed pie and a captivating press release.

On behalf of the corporations that own them, mainstream media outlets present a spectacle that bamboozles and distracts its viewers. To state the obvious, it is extremely difficult to get a dissenting message through the mass media filters and into the hearts and minds of the public. If we hold a rally in demonstration-jaded San Francisco, the media usually won't cover it. If we write letters to the editor, they don't get printed. However, the visual of a pie in the face makes a sizeable chink in the media armour through which we can then discuss the reasons why a figure deserved to be pied. It allows us to communicate our message to a greater extent than traditional means currently allow.

SPEAKING PIE TO POWER

One aspect of our campaign that distinguishes us from other Irregulars is that our weapons hurt nothing except the image and ego of our targets. We feel that at this point in time, given the hysteria over 'domestic terrorism', this is the way to go. Although we don't claim to be 'non-violent' in the pro-active Gandhian sense, we do claim to be not violent. If the people pie, the leaders will swallow, as the recent entartements demonstrate. Federal, provincial, state and local officials have all been creamed, with one county supervisor calling it an organised "attack on government". We couldn't have said it better ourselves.

And as Dr. Martin Luther King once proclaimed, "If a man [sic] hasn't found something he will pie for, he isn't fit to live."

An advantage to our form of dissent is that over here, across the big pond in Yankland, pie-throwing enjoys an illustrious history... it's as American as apple pie, one could say. And satire has always been one of the last weapons of the dispossessed in England as well. Judging from Tesco plc's recent field tests to determine which of their pies are best to serve in an unconventional fashion, there is clearly widespread public support for this brand of pielitical pressure. Tesco spokeswoman Melodie Schuster concludes that custard beats lemon meringue and fruit largely because "the custard tart gives total face coverage", but she advises customers against using frozen ones.

LET SLIP THE PIES OF WAR

The technocrats who dominate industrial society may call us radical and unrealistic, but the dream of a biodiverse future is one we will fight for until the day we pie.

And as the Digger Gerrard Winstanley might have written to conclude this treatise:

"Here I end, having put my Arm as far as my strength will go to advance Righteousness: I have Writ, I have Acted, I have Pied, I have Peace: and now I must wait to see the Spirit do its own work in the hearts of others, and whether Amerika

shall be the first Land, or some others, wherein Truth shall sit down in triumph."

From somewhere in the mountains of Northwestern California, I remain faithfully yours,

Special Agent Apple

The best way to contact us is via email at bbb_apple@hotmail.com If you can contribute to our legal/media/jail/baking expenses, please send cheque/money orders to our treasurer Jeff Larson at: Friends of the BBB: 3288 21st. #92, San Francisco, CA 94110, USA

Whispered Media recently announced the release of their latest activist video production, *'The Pie's the Limit.'* This 28-minute video features a cornucopia of political pie-throwings in San Francisco and beyond, including a brief history of consumable comedy and behind the scenes interviews with real underground pie tossers... Plus, corporate media analysis and in-your-face politics.

TO ORDER a copy of *'The Pie's the Limit,'* please send US \$18 (\$15 donation + \$3 for shipping and handling) by cheque or money order payable to:

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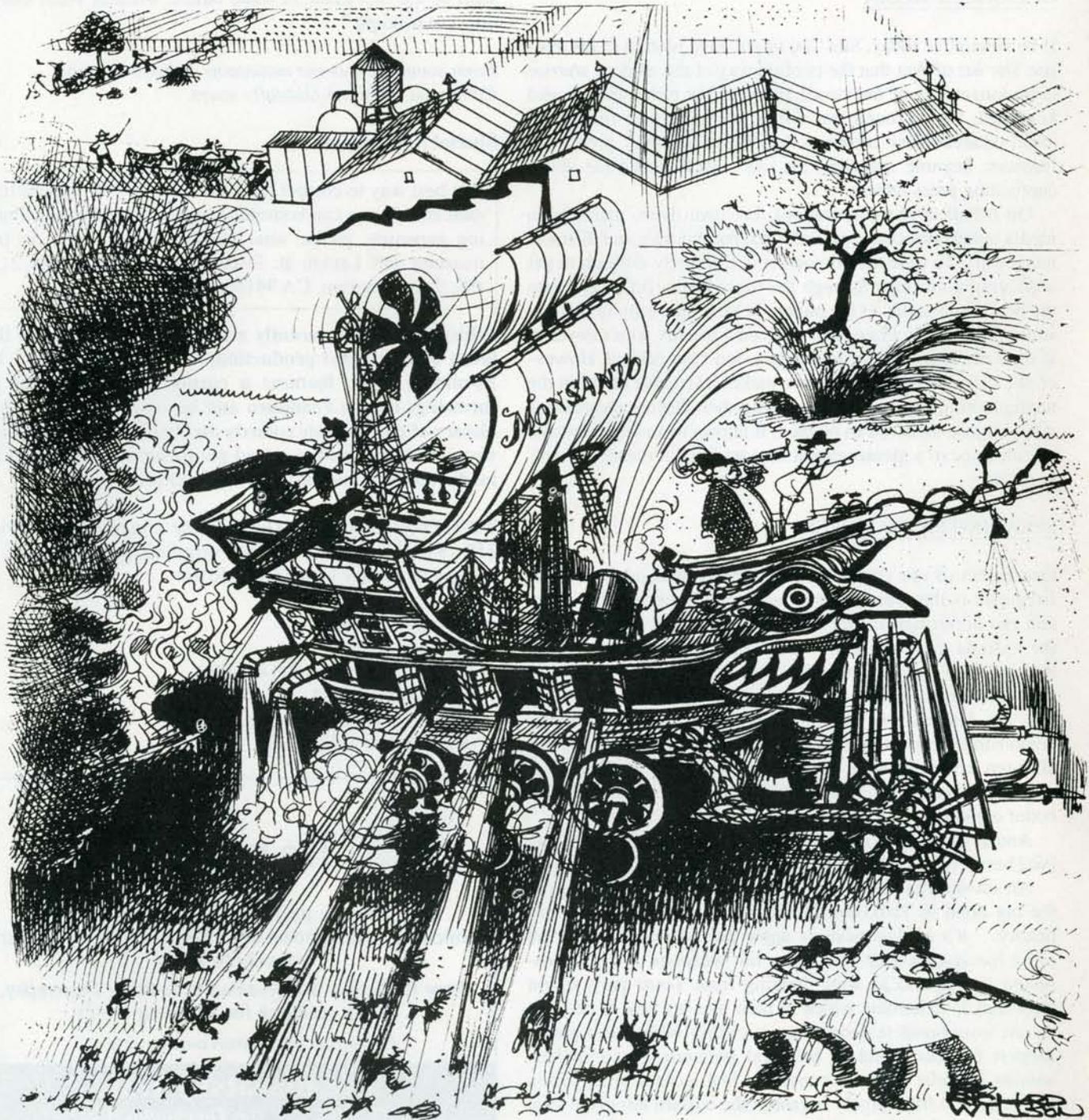
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Gulliver in Automobilia

*Part II. Wherein the Author recounts
his Observations on Agriculture.*

– By Nicholas Gould –



The King of Brobdingnag, as I related in an earlier volume of these Travels, gave it for his Opinion, that whoever could make two Ears of Corn, or two Blades of Grass, to grow upon a Spot of Ground, where only One grew before, would deserve better of Mankind, and do more essential Service to his Country, than the whole Race of Politicians put together. The Truth of this Proposition, which indeed seems self-evident, I never disputed until I came into Automobilia; a Land which seems like to overthrow at once all the Beliefs common to Mankind from the Days of Adam up to our own Age. Who would doubt, that it is better to be rich than poor? Or that the Duty of the Physician is to preserve, not to curtail, Life? Or that it is well to relieve irksome Labour by whatever mechanical Means may be devised? Or that the Man who leaves to the World a numerous Progeny is to be deemed happier than he who dies without Issue? Yet all these Tenets, the Fruit of the accumulated Experience of our Race, I am now led to believe to be no more than peculiar and temporary Effects of the usual Condition of Life: for my Observations in this Land have dispelled my Belief in their universal Applicability. It may be thought Pre-sumption in me thus to set myself up against the Wisdom of the Ages: but the unprejudiced Reader, who shall follow attentively my Account of the Polity and Oeconomy of the Automobilians, will come at last to a like Conclusion with myself.

Since I made Mention above of the Propagation of Corn and Grass, I will touch straight-away upon the agricultural State of this singular People, reserving their other Peculiarities for later Consideration. They pride themselves hugely on the Beauty and Fertility of their native Land: but it is agreed among those expert in such Matters that the Former is grievously diminished of recent Years, while the Latter cannot be long maintained in its present rank and unnatural Exuberance. There are, throughout the Country, Villages of good brick Houses, which one would suppose

the Abodes of a sturdy Yeomanry and Peasantry; but the Inhabitants work for the most part in distant Cities, and divide their Days between the alternate Pains of Toil and Travel. During the Hours of Labour, these Villages seem scarcely more populous than the Ruins of Tyre or Nineveh; the Men being absent in the City, the Women in the Market Town, and the Children collected from far and wide into a single School, like Felons into a County Gaol.

The Work of the fields, therefore, is in the Hands of a few hired Labourers; two or three of whom suffice for the Cultivation of a Farm of several hundred Acres in Extent. This Herculean Task they easily perform by the Aid of diverse mighty engines, whereby they plough, sow, and harvest, milk the Kine and feed the Swine, with as little Sweat and Dirt as a housemaid shelling Peas. Their Beasts are not suffered to roam the Meadows and graze at

'In their Farming they employ the alchemical Arts to great and terrible Effect.'

their Will; rather they are penned Side by Side in Stalls; Summer and Winter alike, with no more Sight of the Sun than Slaves at the Oars of a Moorish Galley: while their Masters, being resolved not to take the Cow to the Pasture, are at Pains to take the Pasture to the Cow. It is a sad Fact, that the Beasts so nur-

tured lose in Flavour what they gain in Flesh: but the Generality of Automobilians hold this of very little Account, being accustomed to esteem Quantity in all Things more highly than Quality.

In their Farming they employ the alchemical Arts to great and terrible Effect, and there is no Husbandman here but has in his Barn Poisons enough to gratify the murderous Passions of a Nero or a Borgia; with these baneful Essences they ever and again drench and douse their Fields, for it is a Maxim with them that it were better ten innocent Creatures should perish, than that one Pest or Weed should live unpunished. So by Degrees they are eradicating from the Land all living Things, whether Beast or Plant, save only those which exist by their Sufferance and for their Service. But whether they be wise or no, thus to destroy the Creator's Gifts, and at great Expense build a Desert, where it has not

World's First GM-Free Zone

Brazil's southernmost state has declared itself a GM-free zone.

Brazil is the second largest soya producer in the world. Last year, the government's Ministry of Agriculture decided to turn the country's soya production over to Monsanto's genetically modified herbicide resistant seeds. But in June, in an unprecedented move, Agricultural Secretaries of all 27 of Brazil's States voted against the commercialisation of GM crops.

Rio Grande do Sul, the country's second largest soya-growing state, is leading the fray. In January, a new state government came to power, to secure sustainable agriculture for the region. Allowing farmers to become dependent on a foreign corporation for their seed and subsequent herbicide requirements didn't seem wise.

"We have a very clear objective and [Monsanto] has a very clear objective, so it's like a war," says Jose Hermeto Hoff-

man, the state's agricultural minister. Hoffman was quick to stamp out the area's 79 GM crop field trials. By reviving a 1991 state law that requires adequate environmental standards for all crop test sites, the trials were deemed illegal.

But for Hoffman and the other 26 state agriculture ministers, the stance against biotechnology is primarily economic.

Now Hoffman is overseeing the passage of a more complete law that would ban GM crops from the state. If this isn't approved, he has other tricks up his sleeve. The introduction of a GM tax or increased red tape around GM crops would both be effective deterrents.

But for Hoffman and the other 26 state agriculture ministers, the stance against biotechnology is primarily economic. The bottom line is the market,

and whether or not there is sufficient demand for GM-free soya to justify competing against cheaper GM production in the US and Argentina.

In May, Hoffman and other Brazilian officials visited England and France to get a clearer picture of the GM-free market. The results were encouraging. European politicians and trading partners were enthusiastic about the state's GM-free zone initiative. In England, MPs signed an early day motion supporting the State's actions.

Rio Grande do Sul needs international support. Please write to Brazil's Minister of Agriculture (fax: 00 5561 225 9046) or President Fernando Henrique Cardoso (fax: 00 55 61 411 2222) to say how pleased you are about Rio Grande do Sul's GM-free zone initiative. Alternatively, write to the state agriculture minister himself (Mr Jose Hermeto Hoffman, Fax: 00 55 51 231 7979).

Forest Fights

A public investigation has revealed Kenya's most shameless land-grabbers. Meanwhile, the Ogiek tribespeople are fighting for their ancestral lands.

In the biggest land-grabbing scandal of its kind, the Kenyan parliament's Public Investments Committee (PIC) has 'named and shamed' the country's most unscrupulous land-grabbers.

Cabinet ministers and religious leaders are on the list, as well as the forestry minister, Francis Lotodo, himself. PIC has recommended that all corrupt land-allocation be repealed and title deeds revoked.

The committee's conclusions sound the horn of victory for the Green Belt Movement, which has been protesting against the corrupt allocation of public forest land for months. Every Wednesday, Green Belt Movement activists and students, led by renowned campaigner, Professor Wangari Maathai, have converged on Nairobi's local forest, the Karura, to plant new tree seedlings. But,

equally persistent, forest guards await their arrival, wielding clubs and tear gas. Last January, after a couple of particularly violent incidents, Maathai and several others ended up in hospital.

Meanwhile, 200 miles south-west of Nairobi, an ancient honey-hunting tribe are fighting for their ancestral forest lands. The Ogieks, who have lived in the Mau Escarpment, Rift Valley, for centuries, have been issued with an eviction order from the local district commissioner, ordering them out of their forest.

In 1961, the Tinet forest, part of the Ogiek territory, was gazetted by the colonial government. The 7,000 tribespeople were only allowed to stay on the land as 'squatters', subject to constant harassment. Then, in 1991, Tinet was carved into 5 acre plots, which were distributed amongst the Ogieks. After nearly 30 years, they were able to resume their traditional way of life, harvesting and trading honey with other tribal people. But recently, industrial logging companies and export-orientated flower farmers have had their sights on the land.

Already, some 50 hectares of the forest have been handed over to a former governor of the Central Bank of Kenya, who has clearcut trees to make a massive horticultural farm.

In a bid to protect their land rights, Ogiek elders turned to the Kenyan courts. But the local authority have attempted to scotch their case by issuing an eviction order. Fortunately, because of the current high profile of land-right issues, the Kenyan High Court has disqualified the order until the forest dispute can be settled. By the end of this month, High Court judges in Nairobi should have reached a verdict.

Please write urgently to His Excellency Daniel Arap Moi, Office of the President, Box 30510, Nairobi, Kenya, fax: +254-2-713979 or Cabinet Minister, F. P. L. Lotodo, EGH, MP, Minister for Natural Resources, Kencom House, PO Box 30126, Nairobi, Kenya, fax: +254-2-240163. For further information contact Wildnet, c/o Ecoterra International, email: wildnet@ecoterra.net

A Paradise of, er... Pollution

A small town in Canada is putting itself on the Tourist map... as one of the most polluted places on Earth.

Majestic headlands soar from its golden sands, waterfalls plunge down its granite cliffs, seabirds skate across the great vault of northern sky... Last year, Condé Nast Traveller magazine voted Cape Breton the most beautiful destination in the world. But residents of Sydney, a small town in the heart of Cape Breton, Nova Scotia, beg to differ. Sydney's citizens are so desperate about the state of their home-town that they plan to offer it up as a "reverse eco-tourism" site, where people can come from all over the world to ponder the terrible consequences of the industrial age.

For years, the Canadian town depended on steel, coal and fishing for its livelihood. Now all three industries are collapsing and the government has withdrawn the last of its coal-mining subsidies. Unemployment is over 30 per cent. But this is the least of the citizens' worries: pollution is the real problem.

"We have the arsenic, we have the naphthalene, we have the lead. The ground is poison, the air turns your lungs raw, now there is orange gloop oozing into the cellar. Welcome to Sydney," says Sydney housewife, Debbie Ouellette.

Tourists would have the chance to visit Sydney's infamous "tar ponds", an enormous lake of toxic substances nestled in the heart of the city, which contains some 700,000 tons of chemical waste and raw sewage. They could also be ferried around the hundreds of acres of former industrial sites, polluted by millions of tons of tar, ammonia, oil, benzol and other by-products of the coal and steel-producing industries.

Sydney's back-gardens contain alarmingly high levels of arsenic and lead. The recent appearance of an orange goo, seeping into people's cellars, has been met with a combination of outrage and fatalism. The goo, laced with a potent mixture of PCBs and other carcinogens, may help to explain Sydney's devastating cancer rate, which is 45 per cent higher than the Nova Scotia average.

Now Sydney's inhabitants hope to turn the tide of Sydney's misfortune to their own advantage. As Carl Buchanan, chairman of the Joint Action Group responsible for the "reverse eco-tourism" initiative points out, "We can either despair and die, or find an opportunity."

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A Commendable Act

Philippine President Joseph Estrada passed a radical Clean Air Act this month, despite frantic lobbying by oil companies.

"In the long run, this will be good for our government and our people, especially the poor", said Mr Estrada. "The health of our people is our number one concern."

He said that several businesses threatened to "shut up shop" if the regulations were enforced. But Estrada decided "in

favour of the majority."

The new air standards demand a complete modernisation of the countries' oil refineries, which Philippine petrochemical companies say will cost the industry at least 6 billion pesos (\$158 million).

The radical shake-up also requires a total phase out of leaded gasoline within the year, whilst the quantity of harmful organic compounds in unleaded petrol and benzene will be reduced by 2003. The sulphur content of diesel fuel will also be decreased.

A key feature of the bill is a ban on the use of incinerators. From now on only agricultural and crematorial incineration will be allowed. Biomedical and industrial waste incinerators, which release toxins like dioxin and lead into the environment, will be phased out. Finally, industries have been ordered to install comprehensive anti-air pollution devices on their chimney stacks.

"I think this is the best law so far passed by our Congress," said Estrada.

Fighting Flights

Scientists are demanding higher flight costs in a bid to cut pollution.

Air fares should reflect real pollution costs, say scientists from the Intergovernmental Panel on Climate Change. In a recent report to the UN, and the International Civil Aviation Organisation, the panel's climate scientists called for higher air fares and big cuts in short haul travel services, to limit the impact of jets on the environment.

Per passenger, air travel is the most polluting form of transport on Earth: 3.5 per cent of the world's man-made global warming emissions come from planes and the figure is expected to quadruple by 2050. Yet, aviation fuel, along with agricultural diesel, is the only fuel that isn't taxed within the EU. Moreover, international emission reduction agreements fail to cover aircraft pollution.

And technology isn't going to solve the problem. The num-



ber of passengers and planes is increasing so quickly that energy efficiency devices have only stemmed the pollution tide. At any one time, 100,000 people are airborne above the North Atlantic. Last year, British Airways alone burnt over 5 million tonnes of kerosene.

June 18th – a Truly Global Day of Action

Street theatre in Harare, festivals in Spain, human debt chains in Tokyo, petitions in Oslo, marches in London, torch-lit rallies in Bolivia, sponsored laughter in Germany...

On June 18th, activists across the world joined hands for a day of protest against the effects of globalisation. Timed to coincide with the G8 economic summit in Cologne, Germany was at the hub of world protest, with 100,000 people from as far afield as Zimbabwe and India converging on the G8 conference site. Some of the participants cycled halfway across Europe to join the fray. The Rickshaw Freedom Riders left York two days early to get there on time. Others joined a united fare-dodging ride on the Eurostar train. This year witnessed the most prolific display of global protest yet seen. All over the world, citizens took to the street to call for justice, equality, environmental protection and human rights.



NAKED
PROTEST

Enemies of society or friends of the planet?

Protestors were asking for no less than a new world order. Yet newspaper coverage of the UK's Carnival Against Capitalism focused on minority violent elements. Home Secretary Jack Straw condemned the demonstration as "wholly deplorable" and "plainly premeditated". He

said there was "no excuse whatsoever" for the £2 million damage wreaked on the City of London. Perhaps if he took a good look at the wholly deplorable and plainly premeditated damage that is being inflicted on the Earth by minority elements of the business community, to the tune of billions of pounds worth of irreparable damage, he might see things in a different light.

Radiation Scandal

The US Food And Drugs Administration (FDA) have asked for 'public input' on plans to water down the countries' food irradiation labels.

Industrial meat giants, supermarkets and fast-food chains have been lobbying the American government to change the labelling laws for irradiated food. In 1986, under pressure from the nuclear industry, the FDA declared irradiation a "safe" and effective way to destroy some of America's nasty food bugs. Soon, large quantities of processed food were being funnelled through radiation chambers, to be blasted with radioactive cobalt-60, caesium-137, electron beams and X-rays. However, the American people weren't convinced. And thanks to an honest labelling policy, shoppers were able to avoid irradiated foodstuffs altogether. But now the meat industry, desperate for a quick-fix means of cleaning up their increasingly unhealthy product, have declared the current labelling misleading, claiming that the "Radura" symbol causes "inappropriate anxiety" and puts people off their irradiated food. The proposed alternative labels would use terms like "cold pasteurised" and "electronic pasteurisation".

In February, the FDA put the issue to the American people. Would they object to the new labels? And could the government do away with irradiation labelling altogether in the not too distant future? Thousands of angry Americans were quick

to reply. Food treated with energies that completely alter its molecular structure should be labelled as such, they said. Consumers should be given the chance to avoid such an abhorrent process. Not only does irradiation encourage the proliferation of further nuclear contamination of the environment, but it also creates "free radicals", new radiolytic compounds like formaldehyde and lipid peroxides, which can be toxic or carcinogenic.

Several studies have linked prolonged consumption of irradiated foods to serious disease. In 1975 the National Institute of Nutrition in India published a report that linked chromosomal disorders in children to a diet of irradiated wheat. Numerous lab tests have found animals fed on irradiated feed to have an increased incidence of cancer, reproductive failure and kidney damage. A 1979 study by one J. Barna of the Hungarian Academy of Sciences recorded hundreds of such cases.

After a barrage of criticism, the FDA extended their public comment period to this month. If you feel compelled to voice your concerns, please email: FDADockets@oc.fda.gov quoting the docket #98N-1038 in your message. Alternatively write to Dockets Management Branch (HFA-305), Food and Drug Administration, 5630 Fishers Lane, Room 1061, Rockville, MD 20852, referring to Docket #98N-1038.

Sourced from Ronnie Cummins' Pure Food Campaign newsletter, *Food Bytes*, June 4 1999, www.purefood.org.

Winds of Change

America's energy industry has taken a turn for the better, whilst in England, solar tiling is getting up off the ground.

By 2020, 5 per cent of America's energy will come from wind generators, the Clinton administration promised this month. Although the figure is still pitifully low, the move makes some steps towards meeting legally required emission reduction targets, as well as satiating public demand for renewable energy.

The step has been facilitated by the increasing competitiveness of wind energy. A steady process of fine-tuning has brought the price of a wind-produced electricity unit down nearly 10 per cent per annum since the 1970s. Unit by unit, wind power now costs the same as energy from a modern coal-fired power station.

However, such comparisons imply that the future of wind-energy lies in massive, centralised utilities. Not so. Wind energy is well suited to a much smaller, more sustainable level of pro-

duction. In Denmark, the world's wind-power capital, 75 per cent of the windmills belong to individuals or co-operatives, who sell their excess electricity back to the grid. Rural America had 6 million such windmills before fossil fuel burning forms of power generation wiped them out in the 1940s.

Solar Century, a UK-based solar energy company, wants to bring the power station to the home. The company can kit out your house with enough photovoltaic gadgetry to provide you with a completely renewable, self-sufficient electricity source for life. Photovoltaic cells, which can be incorporated into roof tiles, window glazing and brick work, are now so efficient that even cloudy countries can reap the benefits.

"No gas, no coal and no nuclear power would be required if every roof was covered with solar tiles," insists Solar Century CEO, Dr Jeremy Leggett, former director of UK Greenpeace.

Despite this, the UK government's roof-top conversion plans are far from ambitious. While the US plans a million



Solar Century's Jeremy Leggett, on the left, with his photovoltaic roof tiles.

solar-tiled homes by 2010, Germany 100,000 by 2005, India 1.1 million by 2010, Indonesia 1 million by 2005 and Japan 700,000 by 2000, the UK has settled for a measly 100, with no firm time commitment.

If you would like to be a solar roof-top pioneer or want to have some solar tiling fitted, contact Solar Century on +44 870 735 8100. Alternatively, log on to www.solarcentury.co.uk to join a support pledge for solar tiling.

Brazil's Tribal People Threatened Again

If Brazil's logging and mining companies have their way, the Yanomami tribal lands won't be protected for much longer.

Seven years ago, a 20-year international struggle with the Brazilian government culminated in an official recognition of the 9.4 million hectares of Yanomami tribal land. Since then, with the help of the Pro Yanomami Commission (CCPY), Yanomami people have been creating health and education projects, as well as replanting tree seedlings in the rainforest's most devastated regions.

Now the government wants to change its mind. The newly appointed President of the government Indian affairs agency, FUNAI, has declared the Brazilian tribal people to be subject to "an excess of protectionism from the state". Ministers are now considering approval of a bill that would open up Yanomami territory to renewed mining and logging.

The Yanomami are already under threat from settlers, who continue to encroach on their land, spreading diseases to which the indigenous people have no immunity. One in five Yanomami children dies before the age of one,

thanks to a sudden increase in the incidence of malaria, tuberculosis, pneumonia and other infectious diseases.

"If it continues like this we will indeed die", said a tribal elder in a letter to President Cardoso. "With the animals, the crabs, the fish, the palm trees, together with the forest, we will die."

Please contact the Brazilian president, President Fernando Henrique Cardoso,

fax: 00 55 61 411 2222, to ask him to leave the Yanomami homelands intact.

To support the Yanomami, contact Survival, 11-15 Emerald Street, London WC1N 3QL, UK. Tel + 171 242 1441, Fax + 171 242 1771. Email: survival@g.n.apc.org

For a copy of Murder in the Rainforest, a new book detailing the struggles of the Yanomami, contact the Latin America Bureau on Tel: + 171 278 2829.

'Baby-Blood' Patent Revoked

The European Patent Office in Munich revoked the infamous 'Baby-blood' patent, this month.

The patent, which granted an American company, Biocyte, full rights over the use of "baby-blood" for medicinal and therapeutic uses has been hotly disputed since its issue in 1997. The patent prevents doctors from using umbilical cord and placental blood cells for valuable work, including essential bone marrow transplants. Blood cells, and other components from living organisms, can hardly be considered a company's

"invention", point out environmentalists.

A number of European NGOs within the European Campaign On Biotechnology Patents (ECOBP), as well as a group of doctors working on transplants known as Eurocord, the Green Group in the European Parliament and two other pharmaceutical companies, joined to challenge the patent in court. Their victory has been celebrated as a turning point in patent history, which ECOBP representatives hope will pave the way for a new policy direction at the European Patent Office.

The Wal-Martians Have Landed

The US megamarket chain Wal-Mart has wreaked havoc on American communities and the environment. Now it has arrived in Britain. **By Andrew Rowell.**

In June it was announced that the world's largest retailer, the American company Wal-Mart, was buying Britain's third-biggest supermarket chain, Asda, for £6.7 billion. Wal-Mart had beaten a rival bid by the Kingfisher group, owner of Woolworth and B&Q. The monolithic retailer, which is a household name in America, had less international presence than its competitors, but was continuing its programme of global reach.

Having saturated the American market, the company now sees growth coming from overseas, hoping to emulate other

Since 1991, Wal-Mart has acquired over 700 stores overseas, expanding into Mexico, Canada and South America. In 1997, it moved into Germany and is now heading for the UK.

American global brand-names such as Coca-Cola and Marlboro. Since 1991, Wal-Mart has acquired over 700 stores overseas, expanding into Mexico, Canada and South America. In 1997, it moved into Germany and is now heading for the UK.

"Asda fits in perfectly with our international strategy," said Don Soderquist, Wal-Mart's Senior Vice-Chairman. Already three times the size of its nearest rival, Wal-Mart has sales of \$138 billion a year, which are expected to reach \$200 billion by 2002. The company's 1998 Annual Report has a picture of the globe with Wal-Mart's yellow 'Mr. Smiley' logo superimposed onto it. Welcome to the future of global brand retailing.

The news of the takeover was met with near-universal praise. Archie Norman, the Chairman of Asda, said, "The culture and attitude of Wal-Mart is something we aspire to."¹ The *Daily Mail* trumpeted that the deal promised a "better life for all", with the *Guardian* calling the company the "consumer's friend" whose move "promises lower shopping bills because the company specialises in permanently low prices."² The *Financial Times* even asked: "Is this the end of life as the British consumer knows it?"³

The response from the British Government, who had secretly met Wal-Mart executives two months previously, was soon to follow. "Superstore curbs to be lifted," ran the *Guardian* headline the following day. "The government is expected to relax planning constraints on new hypermarkets to be built in the wake of this week's giant takeover of Asda by the US giant Wal-Mart," said the paper.⁴ According to an official, the Prime Minister had been very interested to hear Wal-Mart's "views on competition and better value for money for British consumers".

The Blair government has so far refused to confirm or deny the *Guardian's* story – but if it does turn out to be true, it will be a spectacular policy U-turn. Only last year, the government published research indicating that large foodstores sited outside town or commercial centres cut the market share of prin-

cipal food retailers by 13 to 50 per cent. At the time, Richard Caborn, Planning Minister, said "this research firmly establishes that out-of-town superstores can seriously damage the health of small towns and district centres. Arguments about clawing back trade and creating jobs simply do not hold water. The report provides yet further justification for the Government's policy of concentrating appropriately-sized new supermarkets in existing centres and resisting out-of-town centres."⁵

According to the *Guardian*, government sources will seek to justify the U-turn on the grounds that easing restrictions on planning laws would stimulate competition, and shoppers would benefit from lower prices. Competition would ensure that the British supermarkets, which have been under investigation by the Office of Fair Trading, would finally be forced to cut costs. But is Wal-Mart's invasion really going to increase competition in the long term: and even if it does, at what true cost to our environment, our jobs and our communities?

"Consumers should ask themselves whether a six-pence reduction in the price of baked beans is worth the environmental cost of having to buy the car and travel even further to get to the tin shed to buy the tin can on the edge of a motorway. Is it really worth it?" – Tim Lang

"It is dubious whether Wal-Mart's takeover of Asda will be of benefit to consumers," argues Professor Tim Lang, from Thames Valley University. "They should ask themselves whether a six pence reduction in the price of baked beans is worth the environmental cost of having to buy the car and travel even further to get to the tin shed to buy the tin can on the edge of a motorway. Is it really worth it?"⁶

Wal-Mart's arrival in the UK attracted so much praise from the press because, apparently, the company is "the consumer's friend". But the company's critics in the US, of which there are many, believe that this could not be further from the truth. "The idea that Wal-Mart will be an inducement to lower prices is ridiculous," says Al Norman of 'Sprawl-Busters', who has helped 88 smaller firms fight the company over the last eight years. "Any kind of lowering of prices is purely temporary. Prices will only remain low while there is active competition. Wal-Mart are not the beginning of competition, they are the end of competition. Once they have driven out the competitors, they are free to do whatever they want with their prices."⁷

Norman believes that in Britain we will simply witness a change in market share rather than a long-term reduction in cost. "All you will do in the UK is thin out the competition and simply make it easier for an American company to siphon off



US resistance to Wal-Mart has not prevented the store from wrecking communities across America.

dollars to Arkansas. It's great for Wal-Mart, but not the UK consumer. There will be a limited reduction in prices until it has eliminated a Sainsbury or Tesco from a particular town."⁸

Norman's evidence is based on what has happened in the US, where community after community have been "Wal-Martised". Using brutal economies of scale, Wal-Mart is able to flex true economic muscle to squash competitors. Wal-Mart has a history of building huge superstores on the edge of town on green-field sites and undercutting the local competition and changing the community forever. The company survives by undercutting and bankrupting its competition and then raising its prices. An employee song goes "Stack it deep, sell it cheap, watch it fly and hear those downtown merchants cry."

"For saving a few cents, we are supposed to sacrifice 20 to 30 acres of land, lose jobs in other stores, and support low-wage labour," argues Al Norman. "It is a quality of life issue: you are surrounded by gridlock, and the architectural graffiti of a windowless Wal-Mart store. People in America have lamented for years that Wal-Mart is scarring the face of home-town America and turning one community into a lookalike for every community."⁹

The price paid is high. In the town of Greenfield, near Boston, a 1993 economic survey (ironically funded by Wal-Mart) which looked into the effect a store would have on the town, found that instead of creating the promised 177 jobs, the net impact would be just nine jobs, because of jobs lost from other businesses. The study also concluded that 255,000 square feet of retail space elsewhere would close because of Wal-Mart's 140,000 square feet store.¹⁰ Other studies into the impact

Wal-Mart has a history of building huge superstores on the edge of town on greenfield sites undercutting the local competition and changing the community forever.

of out-of-town shopping centres on jobs are less generous.

For instance, a study by Donella Meadows, Professor at Dartmouth University in New Hampshire found that a typical Wal-Mart store adds 140 jobs to a community as it destroys 230 higher-paying jobs. Another independent study into a proposed Wal-Mart in Franklin County, Vermont, projected that "over time, the number of jobs in the county would decline by

a net 200 jobs... due to the fact that the existing retail businesses are more labour-intensive than Wal-Mart. For every \$10 million in sales in a typical Franklin County retail business, 106 people are employed; for every \$10 million sales at a Wal-Mart, 70 are employed." This means that for every job generated at Wal-Mart, one and a half jobs are lost elsewhere.¹¹ A subsequent study by the State of Vermont Environmental Board found that the cost to the public of the Wal-Mart store would outweigh any public benefit by over two and a half times.¹²

Kenneth Stone, Economics Professor at Iowa University, found that business failures accelerate after Wal-Mart has been in town for three to five years. "My basic principle is this," says Stone. "When Wal-Mart comes in to a small town, they are going to take a big chunk out of the retail pie, and the size of the retail pie is virtually fixed. Somebody loses."¹³ Stone found that 60 per cent of the revenue of a Wal-Mart store came from other stores.¹⁴

Supermarkets themselves admit to the destructive nature of their businesses. The industry's own figures, from the 1998 National Retail Planning Forum report, confirm that a new superstore costs on average 276 local jobs.

Furthermore, the effect of the Wal-Mart invasion means that dollars bleed from the local community. For example, a University of Massachusetts study found that one dollar spent in a locally-owned business has four to five times the economic spin-off from one dollar spent in a Wal-Mart store.¹⁵

And if the evidence from the US was not clear enough, there is also plenty of evidence from the UK that out-of-town superstores destroy jobs and communities – even without exacerbating the situation further by relaxing the planning laws. As Wal-Mart enters Britain, all it will do is be a predator on other retail outlets. Rather than generating 'new' sales, and helping 'consumers', it could instead signal the death of town centres and villages, which are already notoriously under siege.

The figures from the UK which coldly highlight this decline are shocking. The number of supermarkets in the UK has risen from 400 in 1985 to 1,125 in 1997, with 50 more planned for last year. From 1980 to 1994 the percentage of food sold by independent retailers fell from 31 per cent to 22 per cent. Over the same period, the number of independent retailers has declined by 25 per cent, with numbers employed declining by 35 per cent. A report by the University of Nottingham Business School also cites the Rural Development Commission's analysis that villages and market towns lost half of their small shops between 1991 and 1997.¹⁶

And if the conclusions reached by independent researchers are not sufficiently persuasive, supermarkets themselves admit



Wal-Mart's arrival in Britain could spell doom for the country's already beleaguered high streets.

to the destructive nature of their businesses. The industry's own figures, from the 1998 National Retail Planning Forum report, confirm that a new superstore costs on average 276 local jobs.¹⁷ The Sussex Rural Community Council believes that a new supermarket would close all village shops within a seven-mile radius. The Cornwall Association of Village Shopkeepers found that 202 jobs out of 270 were at risk from a supermarket.¹⁸ And one of Britain's leading think-tanks has calculated that a typical out-of-town supermarket causes £25,000-worth of congestion, pollution and associated damage to the local community every single week.¹⁹

Not only will new Wal-Mart supermarkets destroy jobs, but the jobs they will create in their place are often low-wage and part-time. The jobs created at Wal-Mart in the US usually hover around minimum-wage level. Seventy per cent of Wal-Martians work officially full-time, but this amounts to only 28 hours a week. The rest are part-time.²⁰

Phony Patriotism

Since 1985, Wal-Mart has run a "Buy America" programme, using slogans such as "Made Right Here" and "Support American Made". "Wal-Mart's entire advertising campaign," says a new report, is "designed to convince consumers that the company predominantly carries US-made products", with the extensive use of the American flag and patriotic symbols both in advertising and stores. However, only 20 per cent of the products surveyed by the authors in Wal-Mart's shops were found to be of US origin. The rest were from 43 foreign countries, with major suppliers from Bangladesh, China, Hong

I CONSUME,
THEREFORE
I AM



Kong, Indonesia, the Caribbean, Central America and Mexico.²¹

But the company faces far more serious accusations than deceiving its customers into believing that they are supporting the local economy – it has also been criticised for using child labour in sweat-shops in the South. A 1992 America NBC investigation discovered that numerous Wal-Mart “Made in USA” garments had actually been sewn by 12-year-olds in Bangladesh.²² In 1996, Wendy Diaz from Honduras testified before Congress that she had earned 18 pence an hour making Wal-Mart clothes.²³

Subsequent investigations by the National Labour Committee (NLC), a US human rights group, looked into factory conditions in Honduras and Bangladesh where Wal-Mart clothing is sewn, and found that women as young as 14 were employed in up to 14-hour daily shifts, seven days a week, with occasional mandatory 24-hour shifts.

According to the NLC, “the women sit on hard wooden benches, without back rests, in long production lines of 60 or more, for 12 hours a day or more, in a hot windowless, dusty factory... They are not allowed to talk, and they need permission to use the bathroom, which is monitored.

Everyone works by piece rate, repeating the same sewing operation 1,200 to 1,500 times a day.” One Jesuit priest interviewed by the NLC lamented that “These young women rarely last more than six years in the maquila, when they leave exhausted” In remuneration the women receive the base wage of 43 cents an hour which meets only 54 per cent of the cost of survival, having been described by the US Commerce Department as “insufficient to provide for a decent standard of living for a worker and a family.”²⁴

The NLC also found that Wal-Mart’s contractor in Bangladesh, Beximco was paying teenage seamstresses 12 pence an hour for an 80-hour week, which is half Bangladesh’s minimum wage and far in excess of its supposed maximum 60-hour working week. Wal-Mart maintains that this would not happen if the company’s contractors stuck to their word.²⁵

Resisting Wal-Mart

It is possible to stop the onward march of the Wal-Martians. Some 86 communities across America have stopped Wal-Mart from invading their areas, and communities have fought the company from Maine to Massachusetts. In December last year, a “Wal-Mart, Not In My Neighbourhood” campaign was launched. The goal of the campaign is to stop Wal-Mart before

According to the consultants Retail Intelligence, Wal-Mart’s takeover of Asda is likely to promote a wave of supermarket mergers throughout Europe, creating huge food super-groups and a new generation of out-of-centre hypermarkets.

they move into a location. Another part of the programme will be to ask people to sign ‘Good Neighbour’ pledge cards. People who sign will promise not to shop at Wal-Mart. The resistance to Wal-Martisation can only grow as people see their communities threatened worldwide by such a ruthless retailer.

According to the consultants Retail Intelligence, Wal-Mart’s takeover of Asda is likely to promote a wave of supermarket mergers throughout Europe, creating huge food super-groups and a new generation of out-of-centre hypermarkets.²⁶ But the future of shopping has become a battleground between two

opposites. At one end stands Wal-Mart, which represents a continuation of unsustainable and undesirable trends towards ever larger and more unaccountable units of production. It is a trend which will continue to accelerate in the near future with disastrous consequences for jobs and the environment, but which will without a doubt fall victim to an opposing trend. A small but fast-growing movement towards supporting the local and more human-scale is emerging. Consumers more and more are turning through fear or disgust to fresh, local produce. They are seeking to rebuild the local economy by shortening the links between producers and consumers, and they recognise in small shops and farmers’ markets a value with which the large and distant cannot compete.

In the UK, people will be watching to see how Asda is changed by its new owner. Before the takeover, Asda, which started as a producers’ co-operative from Yorkshire, had actually been running its own farmers’ markets in the supermarket’s car parks. It is hard to see farmers’ markets surviving Wal-Martisation. The Executive Vice-President of Wal-Mart once said: “At Wal-Mart we make dust. Our competitors eat dust,” which leaves Al Norman to give a warning to UK consumers: “If the UK wants to welcome in the great American dust machine, then so be it. This company will grind through your small towns and leave you nothing but dust.”²⁷□

Andrew Rowell is a freelance writer and author of *Green Backlash – Global Subversion of the Environment Movement*.

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The Achievements of 'General Ludd'

A Brief History of the Luddites

The word 'Luddite' has entered the English language as a derogatory term for all those who oppose 'progress'. But who were the original Luddites, and what did they make their stand for? **By Kirkpatrick Sale.**

In one sense it could be said that Luddism began on the night of 4th November 1811, in the little village of Bulwell, some four miles north of Nottingham, when a small band of men gathered in the darkness, counted off in military style, hoisted their hammers and axes and pistols, and marched to the home of a 'master weaver' named Hollingsworth. They posted a guard, suddenly forced their way inside through shutters and doors, and proceeded to destroy a half-dozen weaving machines of a kind they found threatening to their trade. They scattered into the night, later reassembled at a designated spot, and at the sound of a pistol disbanded into the night, heading for home.

That, at any rate, was the first attack on textile machines by men who called themselves followers of General Ludd, who would convulse the countryside of the English Midlands for the next 14 months – and would go down in history, and into the English language, as the first opponents of the Industrial Revolution and the quintessential naysayers to odious and intrusive technology.

Almost nightly for three months, the Luddite armies would train and march and smash and disappear into the night.

But, in another sense, one can certainly trace Luddism back even further: to the Enclosure Movement from 1770 on, which took some 12 million acres of shared common lands into private hands; to the perfection of the steam engine in the 1780s and its gradual adoption by textile manufacturers; to the terrible privations brought on by the seemingly endless Napoleonic Wars, when what little food there was to be had was often too expensive to buy; and to the increasing concentration of economic power fostering the increasing growth of factories (perhaps a thousand in the years before 1811) and new kinds of machine that threw many kinds of labourer out of work. In short, to the beginnings of the Industrial Revolution in the late 18th century, and all that it meant for the transformation of British economy and society.

Here's one way of understanding what was at stake:

A description of Lancashire, around 1780: "Their dwellings and small gardens clean and neat – all the family well clad – the men with each a watch in his pocket, and the women dressed to their own fancy – the church crowded to excess every Sunday – every house well furnished with a clock in elegant mahogany or fancy case – handsome tea services in Staffordshire ware... The workshop of the weaver was a rural

cottage, from which when he was tired of sedentary labour he could sally forth into his little garden, and with the spade or the hoe tend its culinary productions. The cotton wool which was to form his weft was picked clean by the fingers of his younger children and was carded and spun by the older girls assisted by his wife, and the yarn was woven by himself assisted by his sons."¹

A description of Lancashire, around 1814: "There are hundreds of factories in Manchester which are five or six stories high. At the side of each factory there is a great chimney which belches forth black smoke and indicates the presence of the powerful steam engines. The smoke from the chimneys forms a great cloud which can be seen for miles around the town. The houses have become black on account of the smoke. The river upon which Manchester stands is so tainted with colouring matter that the water resembles the contents of a dye vat... To save wages, mule jennies have actually been built so that no less than 600 spindles can be operated by one adult and two children... In the large spinning mills machines of different kinds stand in rows like regiments in an army."²

Great forces were at work creating this transformation: powerful manufacturing and financial interests; aristocratic landowners and speculators; government stalwarts both political and bureaucratic; it is hardly any wonder that the men who were whirled and whipped around at the bottom of this maelstrom chose to resist. Resisting a maelstrom, especially one that represents the future, may be futile. But resist it they did.

Nottingham and its surrounding towns were the first to feel the Luddite fury. In addition to the high prices and depressed wages common throughout the industrial counties just then, Nottingham weavers – mostly of stockings and mittens, called stockings – faced competition from a new wide-frame machine that produced shoddy cloth but could turn out six times as much work as a normal machine. Moreover, around them were rising factories – in Derbyshire, 100 cotton and 11 wool factories were working, and in nearby Loughborough a new lace-making factory – and they could tell well enough what the future would be for them.

Almost nightly for three months, the Luddite armies would train and march and smash and disappear into the night. At least 1,100 knitting machines were broken in that time, despite the presence of an increased constabulary and the dispatch of soldiers to keep order. The local magistrates reported:

"Houses are broken into by armed men, many stocking-frames are destroyed, the lives of opposers are threatened, arms are seized, stacks are fired, and private property destroyed.



There is an outrageous spirit of tumult and riot.”³

Or, as the Luddites themselves saw it, in one of their ballads:

*“Chant no more your old rhymes about bold Robin Hood
His Feats I but little admire
I will sing the Achievements of General Ludd⁴
Now the Hero of Nottinghamshire
Brave Ludd was to measures of violence unused
Till his sufferings became so severe
That at last to defend his own Interest he rous’d
And for the great work did prepare.”*

In the midst of the distress, one response was typified by a knitter, Gravener Henson, who organised a group to send a petition to Parliament asking it for some redress. The government quickly gave its answer, leaving no doubt that it was siding with the manufacturing sector: it sent out more and more troops – 3,000 to 4,000 in all by February – and it passed a law making the destruction of a machine an offence to be paid for by hanging. It was when that bill came up in the Lords that George Gordon, Lord Byron, gave his maiden speech in opposition, and eloquent it was:

“Is there not blood enough upon your penal code, that more must be poured forth to ascend to Heaven, and testify against you? How will you carry the bill into effect? Can you commit a whole country to their own prisons? Will you erect a gibbet in every field and hang up men like scarecrows? Or will you

proceed (as you must to bring this measure into effect) by decimation?... Are these the remedies for a starving and desperate populace?”

But it had no effect whatsoever on the Parliamentary outcome, which was overwhelmingly in favour of making a statement, a hallmark of industrialism, that machines are more important than men.

The government followed this with the prosecution at the March Assizes of ten men arrested for Luddism, seven of whom were convicted and sent to Australia – transportation being the stiffest possible sentence because the offences were committed before the death penalty act. The cases against the men were flimsy indeed, because almost no-one would come forth to testify against them – the solidarity of the community behind the Luddites, even by those who disapproved of their tactics, would be a feature of Luddism throughout – but the court was less concerned with evidence than sending a message to the populace.

It was a message that apparently had an effect in Nottinghamshire, for only 30 machines were smashed in February and 12 in March, and then nothing at all until a minor skirmish in the winter in which some 20 were broken. But Luddism did not die there, not at all: its sparks were swept to Lancashire and Yorkshire, and there started conflagrations even bigger and more destructive.

The acute distress of the textile workers there provided adequate tinder: “1812 opens with a gloom altogether so frigid and cheerless,” said the Manchester Gazette, “that hope itself is

almost lost and frozen in the prospect," and across the Pennines a sympathetic manufacturer reported that he "never knew the poor in such a distressed situation as they are at present," with widespread starvation, wages down by half and more, thousands with no work at all and "the remainder have one-third or one-fourth part work." Factories had marched into this area with (literally) a vengeance from the late 18th century on, several hundred in Yorkshire, even more around Manchester (30 alone in the little town of Stockport), and everywhere the new machinery was making human work redundant or replacing men's labour with women and children at a pittance of the pay.

Some idea of the Luddite approach is given by a letter delivered to a Mr Smith of Huddersfield on 9th March 1812, signed by "the General of the Army of Redressers, Ned Ludd, Clerk":

"Sir: Information has just been given in that you are a holder of those detestable Shearing Frames [wool-finishing machines that could do the work of four or five men], and I was desired by my Men to write to you and give you fair warning to pull them down... You will take Notice that if they are not taken down by the end of next week, I will detach one of my Lieutenants with at least 300 Men to destroy them."

But the issue goes beyond that:

"We will never lay down our Arms... [until] the House of Commons passes an Act to put down all Machinery hurtful to Commonality, and repeal that to hang Frame Breakers. But We. We petition no more {,} that won't do fighting must."

All Machinery hurtful to Commonality: Luddism in a nutshell. It wasn't machinery in general that the Luddites opposed, (many of them worked with fairly sophisticated weaving looms), but rather machinery that was hurtful to the common

They rose up with such ferocity not against all technology, as they are sometimes accused of, but against technologies that they saw would crush their livelihoods, overturn the traditional modes of work and employment, and erase the customary bonds of household, community and marketplace that had endured for centuries.

people in general and their particular communities, long established and much cherished. They rose up with such ferocity not against all technology, as they are sometimes accused of, but against technologies that they saw would crush their livelihoods, overturn the traditional modes of work and employment, and erase the customary bonds of household, community and marketplace that had endured for centuries.

Northern Luddism exploded first in Yorkshire in 1812, with a factory burned in January, three workshops attacked and their machines broken in February, a dozen more workshops and two factories attacked in March with hammers, torches, pistols and muskets. Lancashire followed with a factory attack and the burning of a warehouse in February, another factory attack in March, and then in April no fewer than ten factories were set on, their machinery smashed, and two of them were burned to the ground, the most violent actions in the Luddites' whole campaign. In that same month, Yorkshire Luddism reached its height with six workshops attacked and two factories raided, including one mill at Rawfolds, whose story became famous as part of Charlotte Brontë's 1849 novel, *Shirley*.

But all this came at a fearful price. In the attack on the Rawfolds mill at least four Luddites were shot and killed (two of them buried in the graveyard of the church of the Reverend



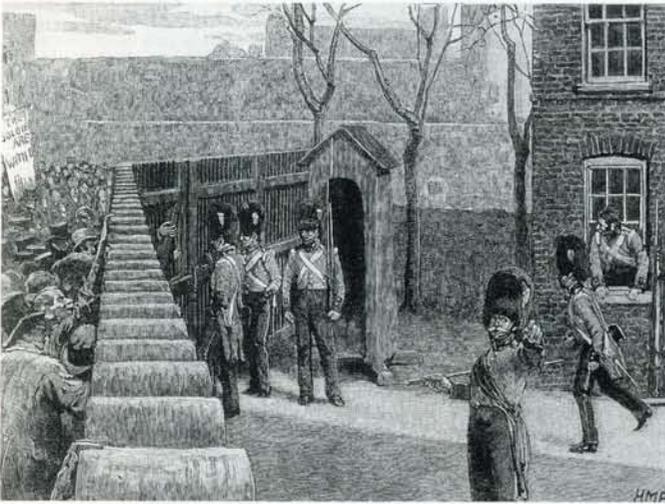
Luddite plotters, as seen by an 1816 engraving.

Patrick Brontë, Charlotte's father), and in a two-day siege of a Middleton mill at least ten men were killed (one press report suggested "from 25 to 30") and several dozen wounded. The government had reacted just as it had in Nottingham, sending in regiment after regiment of soldiers, many of whom were allowed to be put into service as guards in and around the factories and more of whom would be summoned when any disturbance broke out; by the end of April, a huge force of some 10,000 men had been dispatched to the Northern counties and unleashed without restriction to bully, bribe, subvert, terrify and, if necessary, fire upon the citizenry.

It was, in fact, the greatest invasion of its own territory the government of Britain had even prosecuted. By 1st May, there were no fewer than 14,400 soldiers in the Luddite region (an area of about 2,100 square miles), including cavalry and artillery, riding and marching around the countryside, giving the entire place, as the *Leeds Intelligencer* reported, "a most warlike appearance." In addition, there was a "voluntary militia" of citizens trained with annual encampments and intermittent drillings, numbering perhaps 20,000, and a system of local magistrates for every sizeable town and city, each with a small staff of constables and spies.

It was in the face of this armed force, and continuing refusal by the government to lend any helping hand despite the continuing misery and unemployment, that the Luddites ratcheted up the level of violence once more. In April, one manufacturer in Nottingham was shot at and wounded, another manufacturer in Huddersfield was shot at and escaped, and a third in Yorkshire was shot and killed. Raids at night were no longer on factories or owners' houses, but on any establishment that might contain guns and bullets and valuables; a government agent in Stockport reported that "bodies of 100 and upwards of the Luddites have entered houses night after night and made seizures of arms." Churches were plundered for lead, and pumps and waterspouts and anything that could be melted down were stolen, all to be converted into bullets. Rebellion, indeed revolution, seemed to be in the air: a West Riding officer wrote of "open rebellion against the government", another warned that the nation was on "a direct Road to an open Insurrection," and a Lancashire general thought the Luddites were now aiming at "nothing more or less than the subversion of the government of the Country and the destruction of all Property."

But it proved to be less than that; in fact more like the dying twitch of a movement that had made its statement of desperation and misery for six months and found that it fell entirely on deaf ears, with no response from the powers of the land except



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Supporters of Thomas Spence, who advocated land nationalisation and the destruction of machinery, seek to occupy the Tower of London in 1816.

force and repression. At the Lancashire Assizes in May, 10 Luddites were hanged, 38 transported and 18 imprisoned; in June, 38 men were arrested in Lancashire, in October and November 20 more in Yorkshire. A factory was torched in Lancaster in September, but for the most part the storm had passed; the heart seemed to have gone out of the cause. And for the first

Luddism at its core was a heterogenous howl of protest and defiance. It made its point, loud and clear: the progress of industrial capitalism, and the misery and pain and upheaval that came with it, was hurtful and odious to the English working family and demanded resistance.

time, perhaps in reaction to the extremity of assassination, the Luddite ranks cracked and a cropper in Huddersfield informed on the murderers, who were arrested and brought to trial. At the December Assizes, 14 men were hanged, and 6 transported, and with their deaths, Luddism came to an end – as a movement, though not as an idea.

Luddism at its core was a heterogenous howl of protest and defiance, but once that cry was voiced and the only response was indifference, it hardly knew where to turn. It made its point, loud and clear: the progress of industrial capitalism, and the misery and pain and upheaval that came with it, was hurtful and odious to the English working family and demanded resistance. But if that point was only to be submerged beneath the unstoppable tide of the Industrial Revolution, what else could these powerless and desperate people do?

A brief summary of Luddism's diverse effects suggests why it struck such a historic chord, and why that chord resonated through the social edifice of Britain, then and afterward, as few others before or since.

First, the costs: the Luddites destroyed something over £100,000 worth of property in just 14 months, and manufacturers had other losses in expenditures for defending mills and in factories idled; the government spent at least £500,000 in salaries alone for its military force, to say nothing of food, lodging, and equipment and an untold amount for prosecutions at the assizes. All in all, losses of around £1.5 million can be laid directly to Luddite activity.

Second, there were a few scattered practical results: wages

in a few places were raised, some machinery was discarded by manufacturers, several factories moved out of the Midlands, and a national organisation for poor relief was established. In many places, new machinery was not introduced for fear of a Luddite reaction.

Third, the failure of direct and violent action channelled workers' grievances into conventional reformist actions, leading to a revival of pressure for trade unions and workplace improvement on the one hand, and for parliamentary reform on the other. In effect, this meant the end of radicalism in Britain for all practical purposes, at least for the 19th century.

Fourth, the open alliance of government and industry laid

The open alliance of government and industry laid bare the true nature of the state and its willingness to use any force at hand in service to industrialism – a lesson not always heeded, but there for all to see.

bare the true nature of the state and its willingness to use any force at hand in service to industrialism – a lesson not always heeded, but there for all to see. Manufacturers learned that there would be nothing to check their powers except the market, and ancient bonds between the worker and master, fellow members of one community though of different rank, were now seen as irrelevant and unimportant.

Finally – and this is the real reason the Luddites have become as indelibly a part of the language as that other English group, the Puritans – Luddism brought the whole issue of machinery, and the succeeding technologies of the Industrial Revolution, out into the public arena and placed it on the agenda of industrial society for every age thereafter. "The machinery question", as it was called in 19th-century Britain, might be answered in several ways – and the favoured way of the industrialists was that all machines were legitimate and the economic and social consequences, however horrible, irrelevant – but at least it could no longer be ignored and would continue to haunt the industrial process wherever it went in the world and down to the present day.

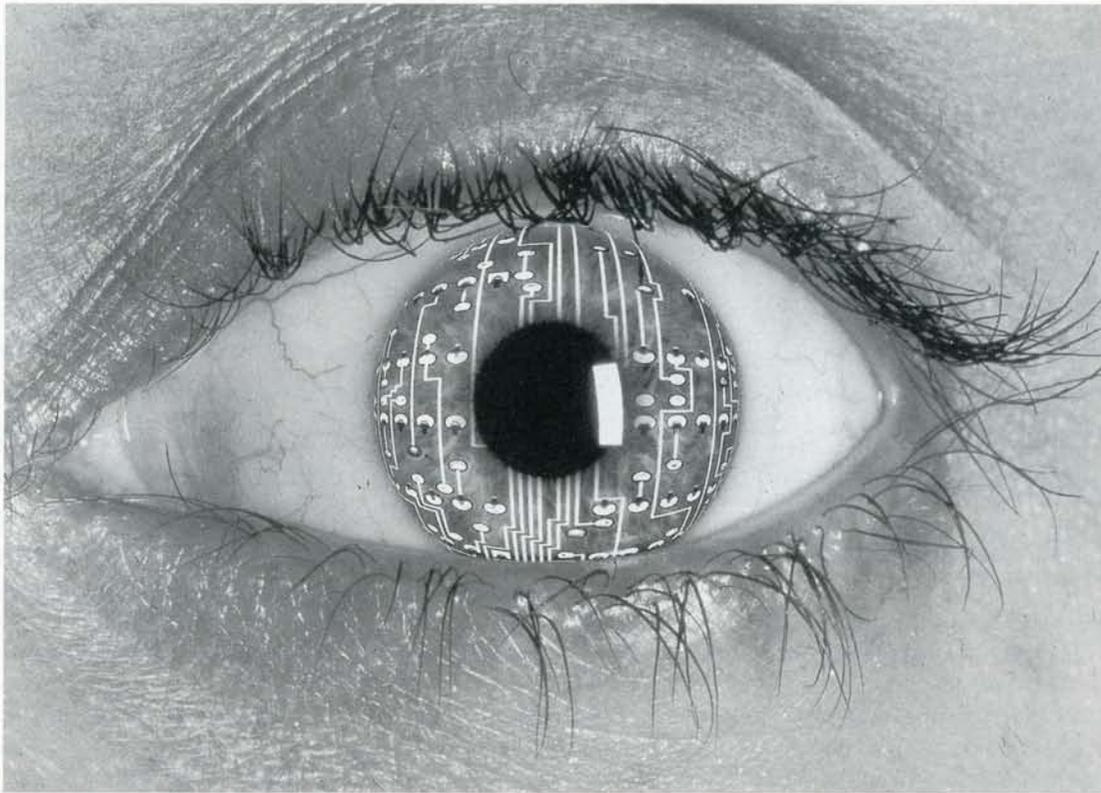
Ultimately, it must be said, Luddism lost, and all that it opposed, and apprehended, came to pass. The dawn of modernism was not held back, the future was not brought short, and the Industrial Revolution was able to proceed on its catastrophic trajectory of destruction and immiseration, across Europe and around the world.

And yet, industrialism has had only 200 years of triumph. The Luddite tradition, of custom and community, of family and friendship, of good goods and fair prices, and of the natural rejection of "machinery hurtful to commonality," goes back far longer than that. □

Kirkpatrick Sale is the author of eight books, including *Rebels Against the Future: The Luddites and their War on the Industrialised Revolution*.

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Lessons from the Luddites

By Kirkpatrick Sale.

Much there is to be learned from the experience of the 19th-century Luddites, as distant and as different as their times were from ours.

For just as the second Industrial Revolution inaugurated by the computer chip has its roots quite specifically in the first – while the machines change, the machineness does not, the context does not – so those today who would wish in some measure to resist, or even reverse, the tide of industrialism might find their most appropriate analogues, if not their models, in those original resisters.

The lessons one might take from the Luddite past are complex and difficult, some perhaps not very comforting. But it seems clear that in its own destruction and the imperilment of oxygen-dependent species on the surface of the Earth, some new attention needs to be paid to the sorts of things the Luddites were trying, in their perhaps crude and ultimately unsuccessful way, to declare to the world.

As I see it, these are the crucial lessons:

1. Technologies are never neutral, and some are positively detrimental.

It was not all machinery that the Luddites opposed, but rather “all machinery hurtful to commonality”, as they put it in March

1812; machinery to which their commonality did not give approval, over which it had no control, and the use of which was detrimental to its interests, considered either as a body of workers or a body of families and neighbours and citizens. It was machinery, in other words, that was produced with only economic consequences in mind, and those of benefit to only a few, while the myriad social, environmental and cultural ones were deemed irrelevant.

“This invention confirms the great doctrine already propounded, that when capital enlists science in her service, the refractory hand of labour will always be taught docility”.

For the fact of the matter is that, contrary to technophilic propaganda, technology is not neutral, composed of tools that can be used for good or evil depending on the user. It comes with an intrinsic character, an inevitable logic, bearing the purposes and the values of the economic system that spawns it. What was true of the technology of industrialism at the beginning, when the apologist Andrew Ure praised a new machine that replaced high-paid workmen – “This invention confirms the great doctrine already propounded, that when capital enlists science in her service, the refractory hand of labour will always be taught docility” – is as true today, when a reporter for

Automation can praise a computer system as “significant” because it assures that “decision-making” is “removed from the operator [and] gives maximum control of the machine to management.” These are not accidental, ancillary attributes of the machines that are chosen; they are intrinsic and ineluctable.

Tools come with a prior history built in, expressing the values of a particular culture. A conquering, violent culture – of which Western civilisation is a prime example, with the United States at its extreme – is bound to produce conquering, violent tools. When industrialism turned to agriculture after World War II, for example, it went at it with all that it had just learned on the battlefield, using ever-larger tractors modelled on wartime tanks to cut up fields, ever-deadlier chemicals to kill weeds and pests, ever-larger machines to move the earth into dams and ditches to drain it of its water. It was a war on the land, as sweeping and sophisticated as modern mechanisation can be, capable of destroying topsoil at the rate of 3 billion tons a year and water at the rate of 10 billion gallons a year, as we have demonstrated ever since. It could be no other way: if we beat our swords into ploughshares, they are still violent and deadly tools.

The business of cropping wool with huge hand-held scissors was an arduous and tiring one. The shearing frame could have done almost as good a job with much less effort and time, and the croppers might have welcomed such a disburdening tool if it had no history built in. But they knew, and became Luddites because they knew, what they would have to give up if they were to accept such a technology: the camaraderie of the cropping shop, with its loose hours and ale breaks and regular conversation and pride of workmanship, for the servility of the factory, with its discipline and hierarchy and control and skilllessness, and beyond that the rule of *laissez faire*, dog-eat-dog, buyer-beware, cash-on-the-line. The shearing frame was so obviously not neutral – it was machinery that was hurtful.

It does not seem hard in a modern context similarly to determine when machinery is hurtful or define a commonality that might have something to say about its introduction or use. Wendell Berry, the Kentucky poet and essayist, has produced a list of criteria that would serve well as a guide: a new tool, he

says, should be cheaper, smaller and better than the one it replaces, use less energy (and that energy solar), be repairable, come from a small, local shop, and “should not replace or disrupt anything good that already exists, and this includes family and community relationships.” To which only needs to be added two other simple measures: that those “family and community relationships” embrace all the other species and the living ecosystems, and be considered, as the Irokwa put it, with the interests of the next seven generations in mind.

2. Industrialism is a traumatic and cataclysmic process.

If chief among its values are speed and novelty, power and manipulation, it is bound to make rapid and extensive changes at all levels of society, and with some regularity; if its criteria are economic rather than social or civic, those changes will come without much regard for any but purely materialist consequences.

Only three decades into the Industrial Revolution, the Luddites already had a good sense of the magnitude and severity of the changes it was bringing. As British scholar Adrian Randall has put it:

“Directly and indirectly, the process of change affected and impinged upon whole communities... Family economies were disrupted. And over all hung the threat of wholesale restructuring... [The] opponents of change might not have realised that it was an ‘Industrial Revolution’ they were experiencing, but they recognised that the ways and the values of the past were about to be overturned [with] deep and profound consequences.”

We can see something of the same process at work today in those societies where industrialism has recently been introduced, particularly in its Western-capitalist form, from Eastern Europe to southern Africa, from Mexico to China. The shock waves of change shoot through stable communities and settled regions, disrupting families, clans, tribes, traditional relationships and behaviours, often setting tribe against tribe, religion against religion, race against race, in ways and with intensities never known before, often dragging societies into successive dictatorship where it is not perpetual civil war.

Whatever material benefits it may introduce, the familiar evils – incoherent metropolises, spreading slums, crime and prostitution, inflation, corruption, pollution, cancer and heart disease, stress, anomie, alcoholism – almost always follow. And Helena Norberg-Hodge tells a story of the effect of the transistor radio – the innocent little transistor radio – on Ladakh; within a short time after its introduction people no longer sat around the field or fire singing communal songs because they could get the canned stuff from the capital.

3. Only a people serving an apprenticeship to Nature can be trusted with machines.

This very wise maxim of Herbert



The Luddites saw that mechanisation would destroy jobs, and replace people with machines.

Read's serves to pierce industrialism at its core, and he goes on to make the point that "only such people will so contrive and control those machines that their products are an enhancement of biological needs, and not a denial of them."

What happens when an economy is not embedded in a due regard for the natural world, understanding and coping with the full range of its consequences to species and their ecosystems, is not only that it wreaks its harm throughout the biosphere in indiscriminate and ultimately unsustainable ways, though that is bad enough. It also loses its sense of the human as a species and the individual as an animal, needing certain basic physical elements for survival, including land and air, decent food and shelter, intact communities and nurturing families, without which it will perish as miserably as a fish out of water, a wolf in a trap. An economy without any kind of ecological grounding will be as disregarding of the human members as of the

It would take one far more deluded than those wishful Luddites to dream today that there was any real possibility of a revolution against any advanced industrial nation.

non-human, and its social as well as its economic forms – factories, tenements, cities, hierarchies – will reflect that.

Since technology is, by its very essence, artificial – that is, not natural, a human construct not otherwise found in nature, where there is no technology – it tends to distance humans from their environment and set them in opposition to it. And the larger and more powerful it becomes, the greater is that distance and opposition: "The artificial world", as Jacques Ellul puts it, "is radically different from the natural world," with different imperatives, different directives and different laws" such that "it destroys, eliminates, or subordinates the natural world." At this point, technology is able to so completely overwhelm that natural world as to threaten its continued existence, and unless the technosphere re-establishes some connectedness to the biosphere it seems certain to carry out that threat.

4. The nation state, intertwined with industrialism, will always come to its aid and defence, making revolt futile and reform ineffectual.

The industrial system, with the power of the dominant nation-states, has extended itself to every corner of the Earth. It does not care in the least what kinds of state those are, as long as the cadres that run them understand the duties expected of them, and thus can accommodate itself to almost any national system – Marxist Russia, capitalist Japan, China under a vicious dictator, Singapore under a benevolent one, messy and riven India, tidy and cohesive Norway, Jewish Israel, Moslem Malaysia – and in return asks only that its priorities dominate, its market rule, its values penetrate, and its interests be defended, with troops if necessary, be it in Iraq or in Kosovo.

Some among the Luddites might have entertained a dream that the British government could be overthrown – "shake off the hateful Yoke of a Silly Old Man, and his Son more silly and their Rogueish Ministers" – but it didn't take long to show the hollowness

of that. And since then there has not been a fully industrialised nation in the world that has had a successful rebellion against it, which says something telling about the synergy of industrialism and the nation-state. It would take one far more deluded than those wishful Luddites to dream today that there was any real possibility of a revolution against any advanced industrial nation.

Nor, from historical experience, would it seem to make much difference to the imposition of the industrial regime even if it was. Such revolutions as have succeeded in the last two centuries in pre-industrial (or marginally industrial) states have only paved the way for the introduction of industrialism, whether of the authoritarian (Russia, Cuba etc.) or of a nationalistic (India, Nigeria, etc.) mould. And even where opposition to Western hegemony has been most fierce – the Soviet Union, China, parts of the Moslem world – opposition to Western technologies has been negligible.

5. Resistance to the industrial system, based on moral principles and moral revulsion, is not only possible, but necessary.

What remains of the upheaval of Luddism after all the particulars fade is the truth that Charlotte Brontë saw in her youth: "The throes of a sort of moral earthquake were felt heaving under the hills of the northern counties," and it was an acting out of a genuinely-felt perception of right and wrong that went down deep into the English soul. Such a challenge is mounted not because one is certain of victory – I doubt the Luddites had any such clear idea, whatever the brashness and bluster of their letters – but because somewhere in the blood, in the place deep within where pain and fear and anger intersect, one is finally moved to refusal and defiance: no more. Gandhi says somewhere that the core of the savoradaya movement was simply the need to speak the truth, not to prevail, not to oust British colonialism and its native satrapies". You can never know about success, he said – and the wretched "success" of Indian independence under the Congress party underscores that wisdom – all you can know about is right and wrong, truth and falsity. Hence the actions of individuals as of movements, insofar as there is freedom to act at all, must be impelled out of a sense of urgency, and tragedy, and necessity, not out of any sense of victory. "There is a time when the operation of the machine becomes so odious, makes you so sick at heart, that you can't take part," is the way that Mario Savio put it before the nascent

student movement at Berkeley, California in 1964. "And you've got to put your bodies upon the levers, upon all the apparatus, and you've got to make it stop."

It is in this context that the role of violence should appropriately fall. As a tactic, the Luddites discovered, it is extremely effective, up to a point, but extremely limited, and the point at which it calls down the potent wrath of authority and turns off the allegiance of neighbours is pretty quickly reached. There was probably no other effective way than machine-breaking for the weavers to have made their case, quickly and forcefully, to demonstrate to local manufacturers and to London Ministers the seriousness of their plight. But it is difficult to maintain that tactic in a high-moral context, to take a high ground of



STAN EALES

principle by means of the low tools of destruction and fear, even if the ends do seem to justify the means, and it is more difficult still if one moves on to arson and assassination.

No imaginable amount of dissent and opposition, however dramatic and evocative, at whatever level of violence, can be expected to have any but the most temporary and localised effect against the citadel of high-tech industrialism and its protective state. All it can do – but this it must – is to try again and again to draw attention to the wellsprings of that dissent, the agony from which its opposition stems, so that somewhere in the collective memory of the society the essential truths are kept alive and the slow waves of erosion kept in motion. George Grant, the Canadian philosopher, has put the task this way: “The darkness which envelops the Western world because of its long dedication to the overcoming of chance” – by which he means the triumph of the scientific mind – “is just a fact... The job of thought in our time is to bring into the light that darkness as darkness.”

6. Resistance to industrialism must ultimately be embedded in an analysis – better, a philosophy – that is widely shared and carefully articulated.

One of the failures of Luddism (if at first perhaps one of its strengths) was its formlessness, its unintentionality, its indistinctness about goals, desires, possibilities. Movements acting out of rage and outrage are often that way, of course, and for a while there is power and momentum in those alone; but for durability they are not enough, they do not sustain a commitment that lasts through the adversities of repression and trials, they do not forge a solidarity that prevents the infiltration of spies and stooges, they do not engender strategies and tactics that adapt to shifting conditions and adversaries, and they do not develop analyses that make clear the nature of the enemy and the alternatives to put in its place.

Now, it would be difficult to think that neo-Luddite resis-

Industrialism, the ethos containing the values and technologies of Western civilisation, is the problem, and is not, nor does it contain, the solutions.

tance, whatever form it takes, would be able to overcome all those difficulties, particularly on a national or international scale; commitment and solidarity are mostly products of face-to-face, day-to-day interactions, unities of purpose that come from unities of place. But if it is to be anything more than sporadic and martyristic, neo-Luddism can learn from the Luddite experience at least how important it is to work out some common analysis that is morally clear about the problematic present and the desirable future, and the common strategies that stem from it.

All the elements of such an analysis, it seems to me, are in existence, scattered and unrefined, perhaps, but they are out there: in Mumford and Schumacher and Wendell Berry and Jerry Mander and the Chellis Clendinning neo-Luddite manifesto; in the writings of the EarthFirsters and the bioregionalists and deep ecologists; in the lessons and models of the Amish and the Diné and the Irokwa; in the wisdom of tribal elders and the legacy of tribal experience everywhere; in the work of the long line of dissenters-from-progress and naysayers-to-technology. I think we might even be able to identify some essentials of it, such as:

INDUSTRIALISM, the ethos containing the values and technologies of Western civilisation, is the problem, and is not, nor

does it contain, the solutions.

ANTHROPOCENTRISM, and its expression in both humanism and monotheism, is the ruling principle of that civilisation, to which must be opposed the principle of biocentrism and the spiritual identification of the human with all living species and systems.

GLOBALISM, and its expression economically and militarily, is the guiding strategy of that civilisation, to which must be opposed the strategy of localism, based upon the empowerment of the coherent bioregion and the small community.

INDUSTRIAL CAPITALISM, as an economy built upon the exploitation and degradation of the Earth, is the productive and distributive enterprise of that civilisation, to which must be opposed the practices of an ecological and sustainable economy of simple living and modest proportions.

A movement of resistance starting with just those principles as the sinews of its analysis might not ever have a chance of ‘success’, whatever that would look like, but at least it would know where it stood and what it wanted to do. It would at least be able to bring the darkness into the light.

7. The industrial civilisation so well served by its potent technologies cannot last, and will not last: its collapse is certain within not more than a few decades.

The two strains pulling that civilisation apart, environmental overload and social dislocation, are both the necessary and inescapable results of an industrial civilisation. In some sense, to be sure, they are the results of any civilisation: the record of history suggests that every single preceding civilisation has perished, no matter where or how long it has been able to flourish, as a result of a sustained assault on its environment, usually resulting in soil loss, flooding, and starvation, and a successive distention of its social strata, usually resulting in rebellion, warfare, and secession. Civilisations, and the empires that give them shape, may achieve much of use and merit – or so the subsequent civilisations’ historians would have us believe – but they seem unable to appreciate scale or limits, and in their growth and turgidity cannot maintain balance and continuity within or without. Industrial civilisation is different only in that it is now much larger and more powerful than any known before, by geometric differences in all dimensions, and its collapse will be far more extensive and thoroughgoing, far more calamitous.

It is by no means certain that the human species will survive that collapse. If industrialism proceeds as it has for the last 50 years, with only the modest kinds of environmental reforms it has mustered thus far, it seems certain to destroy one or more of the species’ essential life-support systems and condemn itself to extinction. But if it happens that some numbers survive and the planet is not sufficiently inhospitable, they might well find use in that body of lore that instructs them in how thereafter to live in harmony with nature – how to serve Read’s apprenticeship with nature – and how and why to fashion their technologies with the restraints and values of nature intertwined, seeking not to conquer and dominate and control nature, for the failure of industrialism will have taught the folly of that, but rather to understand and obey and love and incorporate nature.

That body of lore is what it is the task of the neo-Luddites, armed with the past, to prepare, to preserve, and to provide, for such future generations as may be. □

Kirkpatrick Sale is the author of eight books, including *Rebels Against the Future: The Luddites and their War on the Industrialised Revolution*.

Co-opting the UN

In a development that has deeply worried activists across the world, the well-respected United Nations Development Programme (UNDP) has begun a new programme of co-operation with some of the world's most destructive corporations – all in the name of 'developing' the Third World. **By Joshua Karliner.**

The joint programme is called the 'Global Sustainable Development Facility – 2B2M: 2 Billion People to the Market by 2020.' So far, 16 multinational corporations are paying \$50,000 each to sign on as sponsors. Many of these companies are well-known for the negative impacts their activities have had on human rights, the environment and development.

Dedicated to alleviating poverty, the UNDP is the largest operating part of the United Nations system, with offices in 135 countries and programmes in 174 nations. In its own words, the UNDP "has 40 years' experience of fieldwork in developing countries, a global framework of great diversity, with governmental and institutional contacts at the highest levels."²

However, the UNDP now appears to be selling this group of global corporations unprecedented access to its network of country offices, high-level government contacts and its reputation. The UNDP is attempting to market these resources to

The UNDP now appears to be selling this group of global corporations unprecedented access to its network of country offices, high-level government contacts and its reputation.

potential corporate sponsors as "benefits of co-operation" and a way to "reduce the risk of future business ventures."^{3,4}

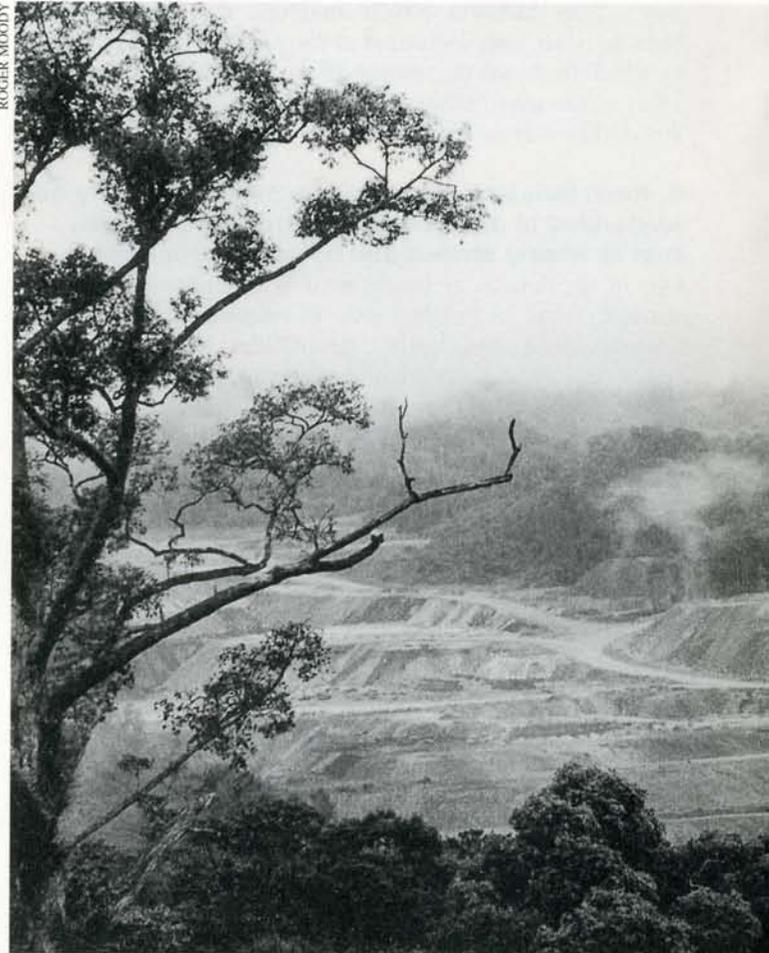
Given the important role that the UNDP plays in helping define the global development debate, it is of serious concern that this UN agency is planning on collaborating with a group of corporations, some of whom have tarnished records when it comes to human rights, labour rights and the environment.

'Sustainable Development' or Corporate PR?

The leadership of the UNDP plans to establish the Global Sustainable Development Facility (GSDF) outside the UN system, while maintaining intimate ties with it. As the UNDP puts it, the GSDF will "benefit from the advice and support of the UNDP through a special relationship."⁵ Part of this "special relationship" appears to be financial. But the \$50,000 sponsorship fee may prove to be more of a bargain for sponsoring multinationals such as the British Rio Tinto plc, the Swiss-Swedish Asea, Brown, Boveri (ABB), Swiss biotechnology giant Novartis and US-based Dow Chemical – companies whose images may be significantly brightened by their collaboration with the UN.

For instance, one way that these corporations' public profiles may benefit from their partnership with the UN is through the creation of a special GSDF logo, which could be used by participating corporations – something that the UNDP is currently considering. The logo would be created with the aim of "highlighting the special relationship with the UNDP."⁶

This raises the question of the motivation of the UNDP's



proposed corporate partners – and whether, for them, the venture has much to do with its stated goal of 'sustainable development'. Multinational corporations have a long history of 'greenwashing', whereby they wrap their destructive activities in the rhetoric of helping the environment in order to gain public relations victories with consumers, government officials and others.⁷

It is not inconceivable that a company like ABB, which, for example, might be building a controversial and environmentally-destructive mega-dam (such as the Three Gorges Dam in China) or a nuclear power plant in a developing country, could benefit – politically and image-wise – from touting its collaboration with the United Nations on a small development project strategically located nearby. It is also not inconceivable that a company might get preferential access to developing country markets and resources because of its links with the UNDP's GSDF.

While it might represent a new trend, the GSDF would not mark the UN's first sale of logos to corporate sponsors. The

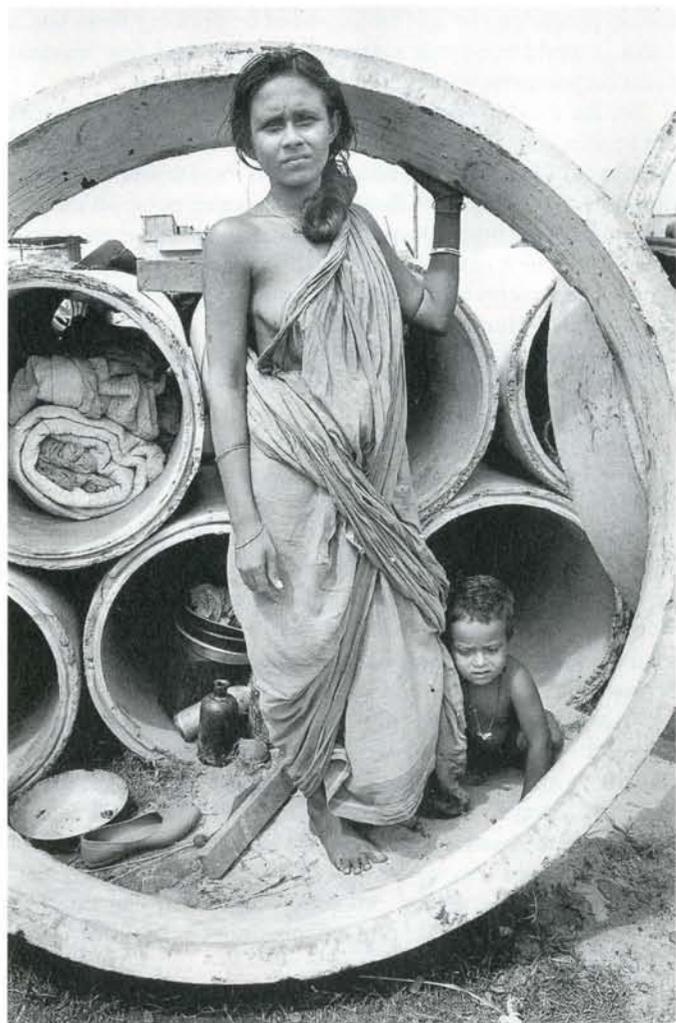


PETER MARLOW/MAGNUM

Left: UN Secretary-General Kofi Annan is positioning the UN to develop close relationships with corporations.

Below: The most pressing needs of the poor – housing, food, clean water, education – are of little interest to corporations unless they can turn in a profit.

Below left: Rio Tinto's vastly destructive Kelian gold mine in the Bornean rainforest. Rio Tinto is one of the sponsors of the UNDP GSDF scheme.



MARK EDWARDS/STILL PICTURES

precedent was established in 1992 by UN Earth Summit Secretary-General Maurice Strong, who created an 'Eco-Fund' to help finance that event. The Eco-Fund franchised rights to the Earth Summit logo to big polluters such as ARCO, ICI and Mitsubishi group member Asahi Glass.⁸ Today, Mr Strong is a member of the GSDF Steering Committee.⁹

The UNDP's motivation may also be misplaced. In a memo

By reaching out to companies which have come under withering criticism over the years, the UNDP is in violation of its own guidelines for partnering with corporations.

to his Regional Bureau Directors in June 1998, UNDP Administrator Gus Speth stated: "The main beneficiary of our success will be our country offices that will be able to use the [facility] as direct support..."¹⁰ Yet by reaching out to companies which have come under withering criticism over the years, the UNDP is in violation of its own guidelines for partnering with corpo-

rations. These guidelines specify that potential corporate partners' activities and services should be evaluated as to whether they are "deemed to be ethically, socially or politically controversial or of such nature that involvement with UNDP cannot be credibly justified to the general public." According to the guidelines, problematic areas include "exploitative involvement in developing nations, illegal financial transactions, drug trafficking... child labour; activities endangering the environment; poor and/or exploitative working conditions for employees; poor gender policies; discriminatory behaviour," and a corporation's past history.

Given the collective records and activities of the GSDF corporate sponsors from which the UNDP has taken money, as well as those it has invited to join – which include Royal Dutch Shell and BP/Amoco, it is clear that these criteria have not been applied to the GSDF.

So what's in it for the UN? One possible motivation for the GSDF project is that the UNDP, like the rest of the United Nations, is suffering from serious budgetary constraints. This is due in part to the US Government's failure to pay its back dues, and declining government support for development assistance, which make income and political support from private corporations increasingly attractive.

Poverty Alleviation and the 'Free Market'

The vision behind this new UNDP project is also problematic. The purpose of the 2B2M/GSDF project, in the UNDP's own words, is to "create sustainable economic growth and allow the private sector to prosper through the inclusion of two billion new people in the global market economy."¹¹ In other words, the UNDP is claiming that the lives of the world's poorest two billion people can or will be improved by drawing them into a ruthless world economic system dominated by a few hundred giant corporations – including the GSDF sponsors.

Yet the most pressing needs of the world's poorest citizens are in arenas of little or no interest to global corporations: the provision of basic health, education and food resources.¹² Corporations have shunned these areas because poor people, by definition, have little disposable income and because providing clean water, new classrooms and sufficient food rarely yields a profit. The poverty of this group is graphically illustrated in the latest UNDP Human Development Report, which calculates that the world's poorest 2.5 billion people have a collective income roughly equal to the collective wealth of the world's richest 225 billionaires.¹³

Furthermore, global corporations' activities – including those of companies which have agreed to participate in the UNDP joint venture – are frequently at odds with the goals of 'sustainable human development' such as health, education, environment and nutrition.¹⁴ For instance, UNDP partners such as Rio Tinto (probably the world's most destructive mining company) and Dow have consistently polluted local food and water sources, undermining traditional communities, economies, ecosystems and cultures around the world.

Transnational corporations, and the globalisation process they lead, frequently suck wealth from communities and countries, with no reciprocal benefits for people and nature, resulting in severe social, economic, human rights and environmental costs. Meanwhile, the basic needs and desires of the world's poor – the two-thirds of the global population marginalised from the global economy – are often diametrically opposed to the corporate imperatives to maximise profits and accumulate wealth and power.

And yet, the UNDP apparently sees no conflict here, asserting, with no substantiation, that "in the long term, a strong relationship exists between sustainable human development and the growth of shareholder value".¹⁵

The UN and Corporations: Which Future?

In the past year, the UN Secretary-General, Kofi Annan, has positioned the UN to develop a close working relationship with the world's largest transnational corporations, via the International Chamber of Commerce (ICC) and other business associations. The spirit of this growing collaboration is embodied by a joint statement the UN and ICC issued after Annan met with 25 corporate leaders and ICC representatives including those from Coca-Cola, Unilever, McDonalds, Goldman Sachs and Rio Tinto in early 1998. It is based on the belief that "there is great potential for the goals of the United Nations – promoting peace and development – and the goals of business – creating wealth and prosperity – to be mutually supportive."¹⁶ Recently, in February 1999, at the World Economic Forum in Davos, Switzerland, the Secretary-General called on business leaders and the United Nations to "initiate a global compact of shared values and principles."¹⁷

In response to these trends, a group of more than 100 environment and development NGOs, trade union confederations and prominent individuals from around the world wrote to out-

going UNDP administrator Gus Speth and Secretary-General Kofi Annan, calling on them to kill the GSDF project and therefore "to preserve the credibility of the UNDP's mission to serve the world's poor." "While the Secretary-General calls for giving a human face to the global market," they declared, "we are concerned that efforts such as the UNDP's GSDF project may only serve to mask the unfortunate nature of the core activities of many of these transnational companies."

While this group recognised the potential for Kofi Annan's proposed "global compact" to press corporations to be accountable to universal human rights, labour rights and environmental principles, they maintained that the UNDP's approach represented a worst-case scenario application of that initiative. The group also pointed to a fundamental contradiction in the Secretary-General's pronouncements: "between the interests of global corporations and the multilateral trading system they have been instrumental in devising on the one hand, and the interests of the world's poor, the environment and democratic institutions on the other. The growing concentration of wealth and power in the hands of fundamentally undemocratic global corporations and other institutions of globalisation clashes with the overriding purpose of the United Nations to enhance human dignity and the capacity for self-governance."

This conflict of interest was most recently illustrated when the United States' Government sabotaged the Biosafety Protocol of the Convention on Biological Diversity, negotiated under UN auspices. Prioritising the interests of the US biotechnology industry and the multilateral trading system over those of the global environment and human health, the US worked with five allies to torpedo an international agreement sought by the rest of the world. "There were two compromises that we were not prepared to make," said US delegate Rafe Pomerance. "One is to tie up trade in the world's food supply. The second is to allow this regime, without a lot of deliberation, to undermine the WTO [World Trade Organisation] trading regime."¹⁸

Hijacking the Debate

Today, the UN certainly finds itself at a crossroads, needing to find a way to inject itself more forcefully into the debate about globalisation. But to base that intervention on misguided initiatives such as the GSDF is a step in the wrong direction. By equating the goals of business with the goals of the United Nations, by asserting that corporate profits and the growth of shareholder value go hand in hand with sustainable human development, the UN threatens to undermine both its credibility with the public and its ability to address poverty, human rights and environmental destruction around the world.

Since the group of more than 100 NGOs exchanged a series of letters with Gus Speth (see www.corpwatch.org/undp), a debate on the appropriate relationship between the UN and corporations is beginning to grow inside the UN and out. For instance, the issue has received coverage in many newspapers around the world. And recently, Carol Bellamy, Executive Director of UNICEF (which is more extensively involved with the corporate sector than any other UN body), has added her voice, asserting that "it is dangerous to assume that the goals of the private sector are somehow synonymous with those of the United Nations, because they most emphatically are not."

Meanwhile, at a recent meeting with Speth, who is about to be replaced by former World Bank public relations director Mark Malloch Brown, the NGOs, including the Third World Network, IBASE from Brazil, TRAC (the US-based Transnational Resource & Action Centre) and various others, reiterat-

ed their call on the UNDP to terminate its GSDF project, simultaneously underscoring their belief that the United Nations, rather than accepting the corporate shilling to go along with the advocates of the globalisation project, should be helping to act as a counterbalance to it.

The groups asserted that the UN should be monitoring the human rights and environmental impacts of corporations in developing and industrialising countries, while helping to build truly effective and enforceable mechanisms of international

accountability. It should not be collaborating with corporations which are the architects of a system that is usurping the UN's authority, and which are the perpetrators of environmental and human rights problems which so hinder sustainable human development. □

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The Unquiet Voice of 'Silent Spring'

The Legacy of Rachel Carson

With *Silent Spring*, biologist Rachel Carson helped give birth to the modern environment movement. But what difference did she really make, and what is her legacy today?

By **Martin J. Walker.**

Published in America in 1962, two years before the death from cancer of its author, Rachel Carson's book *Silent Spring* dropped an ecological bombshell on the society of its time. It gave a panoramic analysis of the damage which synthetic pesticides were doing to the American environment, wildlife and inhabitants, and it traced the etiology of the pesticide problem back to the chemical companies and their place in the capitalist economy. In this sense, it was a transparently political book, though not, Carson claimed, one written with political intentions.

Before writing *Silent Spring*, Rachel Carson worked for 15 years as a marine biologist with the US Fish and Wildlife Service. During that time, she became internationally renowned for her populist writing on the sea. *Silent Spring* was a long time in its gestation. Almost 20 years before its publication, Carson had expressed concern about the damaging effect of UWF&WS pest control programmes on wildlife. She had submitted a synopsis for a series of articles to *Readers Digest* and they had been turned down.

Silent Spring's publication precipitated Carson to a position of instant national and international fame and she became one of the first post-war social and cultural personalities to become 'a household name' in America.

As happens in the life of many artists, Carson's last work was her most enduring; a distillation of her life's knowledge and experience, *Silent Spring* arrived with a complementary understanding of both form and content. The book's publication precipitated Carson to a position of instant national and international fame and she became one of the first post-war social and cultural personalities to become 'a household name' in America.

Amongst environmentalists, her name became synonymous with a radical response to the way in which industry was treating the Earth and its wildlife. She was portrayed in the public media, in interviews and cartoons, as a crusading, sometimes wacky, often opinionated slip of a woman who had set her face against the conservative wisdom of the male farming and business communities. Out of public view, her character was assassinated by misinformation and propaganda issued by the



chemical companies, and she was portrayed as a spinster communist, a lesbian, a scientific amateur and a devout member of such un-American organisations as the Audubon Society and the Sierra Club.

Carson's Heritage

By the end of the 19th century, in America, the conflict between the powerful and the people inside and outside the labour unions had become the essence of much investigative writing. Battle lines materialised, especially in popular journalism, between the corrupt and venal power of City Hall, the corporations, cartels and trust funds and the resisting voice of the citizen. This sense of conflict between corporate capitalism and the

common people became central to the culture and politics of American society in the first quarter of the 20th century.

In 1897, Samuel S. McClure, the owner and editor of *McClure's* magazine, asked Ida Tarbell, his associate editor, to research the Standard Oil Company, an industrial trust at the centre of the Rockefeller empire. Tarbell, who had studied writing at the Sorbonne, wanted principally to be a biographer. In 1902 she presented McClure with what, retrospectively, was to be considered one of the first great works of modern investigative reporting, *The History of the Standard Oil Company*.

In order to ensure complete objectivity, Tarbell had done what Carson was later to do – submit her manuscript in whole and in parts to be read and re-read by sympathisers and critics alike. Despite, or because of, this commitment to objectivity, Tarbell's history of Standard Oil was a history of corrupt and illegal dealings, bad business practice and conspiracy to conceal. Serialised in *McClure's*, the work made Tarbell the most famous journalist in America.

In a pre-run of what was to happen to Rachel Carson 50 years later, Tarbell was accused of sensationalism, misrepresentation and ignorance. It was frequently said that she was not a business-woman, only a writer. Standard Oil employed hacks to write long articles against her book in journals like *The Nation*; these tracts were off-printed and distributed in their thousands.

Two years after Tarbell's book, Upton Sinclair, a struggling young author, was invited by a radical paper, *The Appeal to Reason*, to write about the Chicago meat-packers when they went on strike. Sinclair was so shocked by the working conditions and lack of hygiene that he found in Packingtown that he spent the next two years writing about it. *The Jungle*, a fictionalised account of Sinclair's observations, was a sensation when it was serialised in *The Appeal to Reason*. Publication as a book, however, was to take longer. The first publisher to whom Sinclair offered the book demanded cuts and the next four, fearing the controversy that they were sure would follow its publication, turned it down.

Sinclair approached Doubleday, Page and Company, who, while liking the book, were concerned about the response to its publication from the meat-packing trusts. One of the partners at Doubleday eventually sent a copy of the manuscript to the editor of the *Chicago Tribune* for his opinion. A 32-page type-written report on the book, disputing its every accusation, was returned. Later, when at Sinclair's insistence the publishers sent a young lawyer to Packingtown to authenticate his book, the lawyer found that the editor of the *Chicago Tribune* had passed the manuscript on to the publicity agent for the meat-packers who had himself written the report.

Publication of *The Jungle* precipitated an international furore. Meat products were sent back to America when they arrived at European harbours and there was a nationwide clamour to pass a Pure Food Bill. Upton Sinclair was hounded for years after the book's publication and was the subject of constant threats. The commune in which he lived with other activists was bombed and burned down.

Ida Tarbell and Upton Sinclair, like Rachel Carson later, were primarily independent intellectuals and writers, and to

some extent this accounts for their apparent bravery. They saw themselves as individuals unbounded by institutions. The fate of writers within institutions has often been less heroic.

In 1949, after ten years' work, the famous American criminologist Edward Sutherland finished his most important work.

White Collar Crime was an analysis of the misdeeds of 70 of America's largest corporations. His publishers, Dryden Press, demanded that the names of the companies quoted in the chapter of theory should be taken out of the text. Lawyers argued that by branding the actions of certain companies 'criminal', without evidence of criminal charges, Sutherland was making the publishers vulnerable to a libel action. Sutherland also came under pressure from the administration at Indiana University, who feared the backlash against the book from their funders.

Sutherland took the names of corporations out of the text. He justified his climb-down to himself and others by suggesting that the final book was more 'objective' and 'scientific'. Even with the cuts, it became one of the most important and influential critiques of corporate crime in America, but Sutherland, who died a year after the book's publication, never saw an uncut version published.



Silent Spring and its Author

Silent Spring was years before its time, not just because it began a debate about how we should care for our living environment, but just as importantly because of its method which married a concern for scientific investigation with a literary style. Carson's way of making natural science accessible by telling stories had a history in both Britain and America. Well into the industrial age, authors like Jack London, Seton Watson and Gavin Maxwell continued to make nature the subject of best-selling books.

Silent Spring opens with a fictional 'Fable for Tomorrow', a two-page story about the passage of a small town in rural America from idyll to disaster. This *faction* immediately places the book out of its time; even in these opening pages, Carson takes a massive risk of mixing literature and science.

Silent Spring is a book written by an advocate, an advocate who speaks not only for nature but also on behalf of an unaware and sometimes inarticulate humanity. Carson comes across, though, not as a rabble-rouser, but as an advocating scientist respectfully addressing the laity. She speaks with total commitment and pin-point focus. Her opening address in the first chapters of the book draws you in and gathers you to her side:

"Only within the moment of time represented by the present century has one species – man – acquired significant power to alter the nature of his world. During the past quarter century, this power has not only increased to one of disturbing magnitude but it has changed in character. The most alarming of all man's assaults upon the environment is the contamination of the air, Earth, rivers and sea with dangerous and even lethal materials. (p.23)

For the first time in the history of the world, every human being is now subject to contact with dangerous chemicals, from the moment of conception to death. In less than two decades of

their use, the synthetic pesticides have been so thoroughly distributed throughout the animate and inanimate world that they occur virtually everywhere. (p.31)

It is not my contention that chemical insecticides must never be used. I do contend that we have put poisonous and biologically-potent chemicals indiscriminately into the hands of persons largely or wholly ignorant of their potential for harm. We have subjected an enormous number of people to contact with these poisons, without their consent and often without their knowledge. (p.29)"

In the chapters which follow, Carson introduces pages of closely-argued sociological, legal, political, medical and scientific evidence for the enormity of the damage which synthetic pesticides, herbicides and insecticides are doing to people and their environment. She interlocks her scientific discourse with one about economics, politics and culture. In facing scientists with responsibility for the role of their production in a broader society, she inevitably grapples with the politics, power and vested interests of the chemical companies; she names names and cites companies.

The Response

Although there had been a 'dirty' response to earlier books, it was the response to *Silent Spring* which could be said to have founded modern 'greenwashing'. The campaign brought to civil society the techniques of propaganda which had previously been used in times of war against a foreign enemy. Techniques of disinformation and propaganda which have led to the vortex of confusion and misunderstanding which now faces contemporary consumers.

At the centre of the campaign against *Silent Spring* were the chemical companies. The Velsicol Corporation of Chicago began its campaign before the book was published, with a dis-suasive five-page letter to Houghton Mifflin, following the work's serialisation in *The New Yorker*. The letter lifts the argument about pesticides and health out of its chemical and biological context and places it in the arena of Cold War politics:

"Unfortunately, in addition to the sincere opinions by natural food faddists, Audubon groups and others, members of the chemical industry in this country and in Western Europe must deal with sinister influences, whose attacks on the chemical industry have a dual purpose: (1) to create the false impression that all business is grasping and immoral, and (2) to reduce the use of agricultural chemicals in this country and in the countries of Western Europe, so that our supply of food will be reduced to east-curtain parity. Many innocent groups are financed and led into attacks on the chemical industry by these sinister parties".

By raising the spectres of Russian gold and agents directed by foreign powers, Velsicol was aiming to touch a nerve in the American psyche shaped by a decade of McCarthyism.

Doubts about the objectivity and role of scientists had begun to focus before the Second World War on issues such as eugenics and the splitting of the atom. And by coincidence, the *New Yorker* serialisation of *Silent Spring* occurred almost immediately following the first post-war scientific horror of thalidomide. For the first time since the publication of *Silent Spring*, the role of the scientists in society came under serious scrutiny and it became clear to the laity that scientific objectivity was a myth. An adviser to the Dutch government, Dr Briejer, wrote

to Carson saying, "Commercial interests are strong... The use of herbicides is increasing and many complaints about damage are coming in. I am afraid many scientists in the field of plant protection are on the wrong side."

Silent Spring had advance sales of 40,000 on the day that it was published. Its publication was followed by an onslaught of criticism from the chemical companies, their agents and public relations companies. Chemical companies threatened magazines with the withdrawal of their advertising if favourable mention was made of *Silent Spring*, and the Manufacturing Chemists Association began to post favourable monthly news stories about pesticides to the news media. The National Agricultural Chemicals Association doubled its public relations budget and distributed thousands of critical reviews of the book.

The American Medical Association and the American Nutrition Foundation – an organisation supported by 54 chemical and industrial food companies – revealed by their actions the pressure they were under from vested interests. The AMA referred doctors with questions about pesticides to the chemical trade associations and the Nutrition Foundation put together a 'Fact Kit' on *Silent Spring* which was sent to thousands of public officials, university departments, doctors and citizens. A letter in the kit from the president of the Foundation stressed the independence of Carson's critics and described her book as 'distorted': "The problem is magnified in that publicists and the author's adherents among the food faddists, health quacks and special interest groups are promoting her book as if it were scientifically irreproachable and written by a scientist."

There can be no doubt about the rigour of Carson's work. While her book contains some 600 references from the contemporary scientific literature, her critics often failed to make use of a single reference in their pseudo-scientific arguments against the book. John Maddox's unbalanced view of *Silent Spring*, written six years after he became editor of Britain's most prestigious science journal, *Nature*, is a good example; he uses only six references in his review of the book, which contains these sentences;

"The [Carson's] technique, of course, is that of the old preacher who would usher their listeners towards heaven with graphic accounts of what hell was like. Unhappily, by being too dramatic, Miss Carson's book has probably done as much to confuse public discussion of government decisions as to promote the regulation of pesticide..."

In reality, DDT is no more poisonous to people than aspirin...

The defect of Silent Spring is that it went much further and levelled complaints which were invalid at the time and which are, for that matter, still invalid."

A Resisting Identity

Rachel Carson had always wanted to be a writer, and her first efforts at publication, despite her later training in zoology, were personal poems. It was this preoccupation with writing that gave the odd shape to her first three books about nature, the sea and the coast. It was also her consideration of craft that made the form of *Silent Spring* so new and effective.

One reason why Carson felt able to write such a brave book must be that she had come, at the end of her life, to live outside the institutions. Living with her cats in woodlands on an isolated hillside by the coast, concerned about the future of her adopted son, in constant touch with her close female friend

who lived nearby, she had, over the years, become 'the other'. By the time she wrote *Silent Spring* her everyday resistance to life in a capitalist society was finely and uncompromisingly tuned.

Despite the perceived reality of a strong, individualistic and resisting woman, however, there was, as there always is, a personal reality that differed from the public one. Carson was a private woman, and newly-acquired friends could feel almost let down, when, upon meeting her, they stepped into the gap between their expectations of an intellectually forceful woman and her quietly reserved personality.

The Unquiet Legacy

The effective relationship between a campaigning writer and history is always difficult to analyse. When *Silent Spring* first came out, it was lauded as a book that would change the world. This was clearly hyperbole: Carson's friends and her professional supporters became carried away with their undoubted personal triumph in producing and distributing, in vast quantities, a seminal text of resistance to the chemical companies. However, a more exact way of assessing the book might be to put it in the context of a drawn-out process of conflict, between the chemical companies and the people.

Books do not change the world; people do. What books *can* do is contribute positively to the changing circumstances of opinion. And while Sinclair's *The Jungle* changed the regulatory basis of food hygiene and working conditions in America, it took neither him nor his fellow citizens any nearer the kind of society within which he wanted to live. Almost the same could be said of Carson's work and of *Silent Spring*. Within a relatively short space of time, DDT was phased out in many countries (Britain was one of the last countries in the world to ban it officially); its place, however, was quickly taken by other synthetic pesticides, especially organo-phosphates, which Carson had also seen as damaging to both human and animal health.

Post-industrial, post-modern society tends to expunge from its inhabitants any real sense of history, or at least makes it much harder to hold on to. Consequently, the struggles and conflicts of a post-modern era are often cast adrift and individualised. It is the task and the strategy of those in power to cut us adrift from our history and treat every conflict as if it were founded on new arguments and novel concepts. Unlike the class-based struggles of the 19th and early 20th century, today's eco-battles are diverse, disintegrated and seemingly without collective direction or common ground. And while we had a language of struggle for class-based politics, we have no



Silent Spring exposed the devastating effects of pesticides on birds like the peregrine falcon.



Carson's work led to the banning of DDT, although, as this photo of abandoned DDT containers in the Solomon Islands shows, the chemical is still a problem for many of the world's people.

similar language for what will become the seminal struggles of the 21st century.

Forty years after *Silent Spring*, we have still not managed to effect anything resembling real change in the democratic accountability of the chemical and science industries. We throw up our collective hands in horror as every new nightmare perpetrated by big business assails our lives, as if we were stumbling unconscious in a fog, trying to avoid one shallow grave after another. No sooner have we grasped the critical damage being done by pesticides than we have genetically-modified

Forty years after Silent Spring, we have still not managed to effect anything resembling real change in the democratic accountability of the chemical and science industries.

food thrust upon us. We expend so much energy on each separate battle that we fail each time to see the whole picture.

Rachel Carson was ultimately a reluctant revolutionary, a radical who was in agreement with the judiciously-managed use of synthetic pesticides, a radical who spoke softly but passionately from an unassailable position of ethical and intellectual superiority. She passed down to future generations lessons in personal truth-seeking, integrity and resistance. In a contemporary world, where increasingly every aspect of our lives comes to be dominated by the power of multinationals, these lessons are more important than ever. □

Martin J. Walker is the author of six books. He is a writer, investigator and lecturer, who, since the publication of his last book, *Dirty Medicine*, has been writing mainly about the social history of environmental health. At the present time, he is researching organophosphate pesticides, factory farming and the history of alternative cancer therapies in Britain.

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Degrees of Involvement

Instead of applying their academic excellence to the daunting problem of preventing climate change, Britain's universities are actually serving as part of the intellectual infrastructure of the oil industry. **By Greg Muttitt.**

What is the point of a university if it is not to find answers to questions and solutions for problems? And what single problem in the world today could be bigger than the changing of the planet's climate because of misguided human activities? But – are our universities applying their excellence to this problem: are they leading society away from its dependence on unsustainable energy consumption; are they leading the debate about the necessary restructuring of energy economics; are they enhancing our understanding of the potential impacts of climate change? And are they developing the new energy technologies which will replace fossil fuels? Far from it. In fact, the opposite is the case. Britain's universities are actively supporting and aiding the oil industry as it continues to destroy the planet.



Oil companies find Britain's universities an ideal recruiting ground.



Research and development

The race for the world's remaining oil reserves is speeding up. According to a Financial Times survey, "As oil company capital is spread ever more thinly across new global markets, the push to achieve speedier and more cost-effective exploitation of oil reserves, often from accumulations previously passed over as uneconomic to develop, has never been more intense".¹ It is largely accepted that the majority of 'giant' oil fields have now been discovered, so the emphasis now is on exploiting smaller, more complex fields, and on improving recovery rates and lowering costs. And for these, technology – and hence research and development (R&D) – is key.

And this is where universities come in. The International Petroleum Research Directory lists nearly 1,000 individual research projects – worth an estimated £67m a year – being carried out in UK universities, relating to petroleum exploration and production.²

Geological research into hydrocarbons is at best redundant; and at worst (which is more likely, since the oil and gas companies are unlikely to write off their research investments) a serious threat to human life and livelihoods.

Almost half of this research (460 projects) is geological – university geologists are the foot-soldiers of the oil industry.³ Exploration geology looks for more oil and gas fields, while production geology examines how best to exploit them once found. The application of geological research occurs before any hydrocarbons are actually extracted from a field; in other words, it deals with 'new' resources. But, faced with the threat of climate change, we should be working to wind down fossil-fuel use, using up at most those reserves already discovered, while the transition to other energy sources is made. Thus geological research into hydrocarbons is at best redundant; and at worst (which is more likely, since the oil and gas companies are unlikely to write off their research investments) a serious threat to human life and livelihoods.

BR&D for the oil and gas sectors serves the joint purpose of lowering production costs and increasing exploitable supply, both of which will reduce the price of oil. This is what academic research in this field is largely focused on: getting the best deal for the oil industry. In its public statements, the industry often gives heavy emphasis to areas of safety and environmental impact, although of 980 current university research projects, just 65 relate to these areas and over three-quarters of these are funded by government rather than industry.^{4,5}



Britain's universities are actively supporting the oil industry's destructive operations.

Renewable energy left out

With the current state of the climate, it is vital that renewable energy technologies are developed as fast as possible, and that university scientists should be at the forefront of such development. There are already a number of proven technologies. However, these will only become a serious prospect with fur-

UK universities are currently running 190 R&D projects, worth only £11.6m a year, into renewable energy sources. This is about one sixth of the amount of R&D universities provide for the exploration and production of oil and gas.

ther R&D: to refine the designs, to improve reliability, to bring down costs, and to develop them for large-scale use. The importance of research into climate-friendly technology is specifically noted by the European Commission: "In all strategic studies, it is recognised that the development and the market penetration of renewable energies in the future will strongly depend on the R&D investment."⁶

Yet UK universities are currently running 190 R&D projects, worth only £11.6m a year, into renewable energy sources.⁷ This is about one sixth of the amount of R&D universities provide for the exploration and production of oil and gas – and this is without counting R&D on refining or power generation, nor on coal or nuclear.

John Battle, the UK Science, Energy and Industry Minister, commented in 1997 that "the countries and companies that will succeed in the new global marketplace are those that have high ratios of investment in the skills and technologies of the

It seems the government's climate change mitigation policies receive lower priority than its policies of encouraging higher education to support business.

future."⁸ But research into a particular technology will not only enable its owner to better compete against others; it will also make the technology itself more competitive relative to other technologies. Thus R&D which lowers the cost of oil will help shift the market in favour of oil, and away from other energy sources, such as coal, nuclear or renewables. This point is also made in a European Commission White Paper on renewable energy: "Technological progress by itself cannot break down the several non-technical barriers which hamper the penetration of renewable energy technologies into the energy markets. At present, prices for most classical fuels are relatively stable

and thus in themselves militate against recourse to renewables."⁹

In other words, UK universities, by directing most of their energy-related research towards oil and gas, are helping to maintain the unfair economic advantage that these destructive technologies have over alternative, sustainable energy sources. As long as this huge imbalance of research continues, renewable energy is not going to be able to penetrate beyond the low target given by the UK government of 4 per cent of energy use by 2010.¹⁰ And with the threat of escalating climate change this is simply not enough.

Who pays? – you do

Astonishingly, much of this research is subsidised, or even funded entirely, from the public purse. The direct public subsidy for oil industry R&D in universities has been estimated at a stunning £36m per year.¹¹ This is led by the focus on 'enhancing competitiveness' built into the remits of Research Councils, which are the main source of public funding for research projects. For example, the Natural Environment Research Council (NERC) runs a £2.5m programme entitled 'Understanding the Micro to Macro Behaviour of Rock Fluid Systems', for which the Chair of the steering committee is Sue Raikes of BP Exploration.¹² The Engineering and Physical Sciences Research Council (EPSRC) has recently launched a programme in Offshore Oil and Gas, with an initial budget of £2m per year.¹³

Because much of Research Council funding currently only provides a part of the cost of projects, with the rest to be met by industrial partners; or supports projects that will achieve industrial funding after an initial period of development, there is a natural bias toward projects that support bigger industries,

where there is more corporate funding available. At the same time, emerging industries and technologies are – counter-intuitively – seen as less worthy of government support than established technologies. Sadly, it seems the government's climate change mitigation policies receive lower priority than its policies of encouraging higher education to support business.

Esso sponsors fellowships in chemical engineering, one of which was awarded to Dr. David Faraday at Surrey University, who had previously arranged industrial placements with Esso for his students.

There is another reason, too, that universities spend so much public money on oil and gas research. As they compete desperately with industry for valuable research contracts, universities tend to under-bid. This means that if they do win the project, much of the overhead costs have to come from their core budgets. The Universities Statistical Record of 1993/94 shows that of the 'Top Ten' research institutions, only Imperial College, London, recovered more than 50 per cent of the overheads employed in industry-sponsored research, with 69 per cent; Oxford recovered 34 per cent, Cambridge 28 per cent and Edinburgh only 24 per cent.¹⁴

Recruiting grounds

The UK's significance for the oil industry is as a corporate centre – two of the world's three mega-oil companies have bases in the UK (BP Amoco is based in London, and Royal Dutch Shell in London and the Hague). As a result the companies are controlled by British (or British and Dutch in Shell's case) managers and directors – who have mostly come as graduates from UK universities. So grabbing the cream of the graduate crop is very important for the oil companies.

Recruitment is helped by a close company-university relationship. The oil industry's two biggest academic research centres, Imperial College, London, and Heriot-Watt University, Edinburgh, were its third and fourth largest recruiting grounds in 1996. All six of the institutions from which 20 or more graduates went to work for the industry in 1996 also had 20 or more R&D projects for the industry.¹⁵ Many of the factors which influence student career choice are quite informal, from lecture topics to advertising in departments. For example, Esso sponsors fellowships in chemical engineering, one of which was awarded to Dr. David Faraday at Surrey University, who had previously arranged industrial placements with Esso for his students.¹⁶

A further hidden subsidy is provided by the increasing tailoring of course curricula to meet the training needs of industry. Heriot-Watt University's Department of Petroleum Engineering, for example, claims that its courses are "designed so that the student is technically well prepared for, and has a sound knowledge of, the industry into which he or she will be recruited."¹⁷ The 'industry' they are referring to is the oil industry. There is simply no comparable level of preparation for working in the renewables industry.

Sometimes this involves the inclusion of industry-relevant

modules in the courses – and some degree courses now entirely specialise in oil and gas. Often areas of study are set in consultation with industry representatives. Aberdeen University's Department of Geology and Petroleum Geology has an Industry Liaison Forum, which reviews and assesses the department's research and teaching, to ensure it meets industry's needs.¹⁸

Maintaining influence

Naturally, the oil industry is keen to keep academic institutions on-side, and ensure that they don't start to question its activities too closely. In order to do this, and in order to maintain their influence over research priorities and course curricula (and access to careers noticeboards), oil companies provide universities with staff, and donations in both cash and kind. The biggest and most blatant donation to date was BP's £19.5m to Cambridge University last year for an institute specialising in petroleum studies.¹⁹

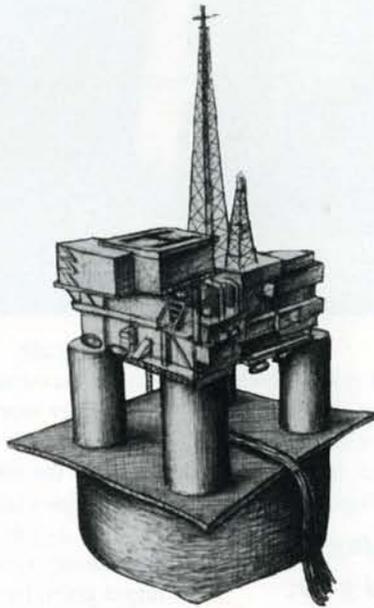
According to a report on recruitment in the trade journal *Energy Day*, "In order to bring the industry and people together, most of those with an interest in the relationship agree that it will take a co-ordinated effort focused on education and public relations to win through... Oil companies must make integrated university visits and supply brand-building advertising at universities."²⁰ A tour of the UK's universities finds no shortage of branding: the Enterprise Oil Building at Heriot-Watt, the Shell Department of Chemical Engineering at Cambridge, the Mobil Lecturer in Production Geoscience at Aberdeen, the Elf Senior Lecturer in Earth Resources Engineering at Imperial, the BP Professor of Information Engineering at Oxford, etc.²¹

As government funding for higher education becomes increasingly inadequate, the institutions are keen to continue to receive support from the private sector. The resulting dependence suits the industry well. At Aberdeen's Department of Geology & Petroleum, for example, industrial contracts

and sponsorship make up more than two thirds of research income, support over one third of lecturing staff, and fund nearly all postgraduates.²²

Personal connections are also fostered: former industry staff taking academic positions, from technicians right up to the head of Imperial College, where the Rector Ronald Oxburgh is also a director of Shell. Lord Armstrong of Ilminster, Chancellor of University of Hull, retired as a Shell director in 1997.²³

The connections are there at policy level too. Industry is well represented on the grant awarding boards of the Research Councils EPSRC and NERC,²⁴ and on the Foresight Panels which determine the government's overall research.²⁵ Renewable energy representation is minimal.²⁶ John Cadogan, the Director General of Research Councils, was previously BP's research director.²⁷ Robin Nicholson, a non-executive director of BP, is a member of the government's Council for Science and Technology, which advises ministers on science issues.²⁸ John Avery, formerly of Esso, is now head of Real Estate Management at the Higher Education Funding Council for England (HEFCE), where he leads HEFCE's work in promoting private finance in higher education.²⁹ Keith Taylor, Chairman and Chief Executive of Esso UK, is a board member of HEFCE.³⁰



Robert Malpas was a BP Managing Director during the 1980s, then became Chairman of LINK (a government scheme encouraging academia / industry collaboration, through joint funding of research) until he was appointed Chairman of NERC. According to Eileen Buttle, NERC's acting Chief Executive at the time, "He is a well known advocate of the need for excellent science and engineering to support the nation's wealth creation processes... Already he is making his influence felt by bringing to NERC a new dimension from his

experience of realising the potential of research in industry".³¹

Unfortunately amidst all this emphasis on business partnership with higher education, it seems other priorities have been lost – including saving us from a climate catastrophe.

Greg Muttitt is research co-ordinator at Corporate Watch, an Oxford-based independent research organisation, specialising in investigations into corporate structures and corporate influence for campaigners against those corporations. A full report on 'Degrees of Involvement' will soon be available from corporate Watch, tel: +44(0)1865 791 391.

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- Ibid.* We counted as geological the projects listed in IPRD under the categories: exploration + basin modelling, paleontology, sedimentology, stratigraphy + structure, fluid characterisation, geochemistry, production geosciences, and reservoir characterisation + engineering. Oil and gas industry operations are becoming increasingly integrated, so the CMPT's classification is fairly arbitrary. Because of the overlaps between categories, CMPT lists many projects in more than once. We have counted each project only once, generally in the first of CMPT's categories in which it appears.
- Ibid.* From CMPT categories safety and environment. CMPT includes under 'environment' both impact of operations on the environment and impact of the environment on operations (such as impact of waves or seabed structure on offshore structures). We have counted here only the former of these.
- Ibid.*
- W Palz, W., Caratti, G. and Zervos, A., 'Renewable energy development in Europe', in *Eurosolar*, Yearbook of renewable energies, 1994, ed. Scheer, H., Ghandi, M., Aitken, D., Hamakawa, Y., & Palz, W., p.111, James & James Scientific Publishers, London.
- There is no comprehensive listing of renewable energy R&D projects comparable with the IPRD. See 'Degrees of Involvement' (full report) for detailed calculation and estimations.
We took lists of projects funded by the two biggest funders – the Commission of the European Communities (listed on Cordis [the website of the CEC's RD&D programmes], on <http://www.cordis.lu/>, database searched 11/7/98); and the Engineering and Physical Sciences Research Council (listed under 'Current EPSRC support in research area ELECTRICITY GENERATION – RENEWABLE AND CLEAN', on EPSRC worldwide website http://www.epsrc.ac.uk/epsrgrants/ELECTRICITY_GENERATION_RENEWABLE_AND_CLEAN/ENQUIR.htm, viewed 13/10/98). To these we added surveys of other departments, found by searching the worldwide web and by interviewing research staff to ask where they knew research on renewables was being carried out. The numbers of projects were then taken from the department/research group worldwide website; and by interview of departmental staff. This is thus an underestimate, although we hope to have achieved at least 80 per cent coverage by these methods.
Total value of funding is calculated by adding: (i) JOULE / THERMIE provided ECU 14m to UK participants (not all of which are HEIs). Taking a conversion rate of ECU 1 – £0.67, this amounts to £9.4m, over the four years 1994–1998, or £2.3m per year; (ii) DTI's New & Renewable Energy Programme provided £11.1m in the year 1997/98 [source: Dr Catherine Mitchell (Science Policy Research Unit, University of Sussex), 'Renewable energy deployment in the UK – key questions to be addressed', lecture to the Fabian Society conference 'The future of renewable and sustainable energy', 24/3/98, table 6]. Of this, if we assume that 50 per cent of the wind and biofuels budgets, plus all of the ETSU management and technology transfer budgets went to private sector HEIs (advice of Dr Catherine Mitchell, in telephone interview, 10/7/98 – she suggested this assumption, based on the nearness to market of these technologies), we are left with an estimated £3.1m of funding for HEIs; (iii) EPSRC, *op.cit.* – £5.4m of projects listed, average duration 2 years, so £2.7m / year; (iv) DTI indicates £12m of renewables R&D funding from other (non-DTI) sources in 1994/95. Subtract est. EPSRC and CEC contributions, and assume half of remainder is carried out in industry rather than universities – leaving a further contribution of £3.5m. $2.3 + 3.1 + 2.7m + 3.5m = 11.6m$
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Letter Forum

The Globalisation Debate

Your special issue on Globalism versus Localism hit so many nails firmly on the head that it must seem churlish to criticise. Yet you depicted only part of the overall picture, exaggerating certain aspects of the current scene, ignoring others.

The least of the failings of the 'localism-versus-globalism' thesis is that it lets our current political leaders off the hook. Local councillors can excuse their failures by claiming that their hands are tied by national government. In turn, national politicians claim that they are unable to do a better job since there is no alternative but to conform to the dictates of economic, political, and technological forces beyond their control.

Yet governments are not helpless – there is still significant room for independent action by politicians at all levels. This can be seen by comparing the record of different administrations, be they councils, regional bodies or national governments. Swedish energy conservation measures, for example, are some 60 years ahead of those in Britain. Successive British governments could have followed Sweden's lead, but chose not to do so.

The globalisation argument also portrays transnational corporations as more powerful than they are. In recent years, there have been numerous examples of business empires collapsing or having to be bailed out by governments. Transnational companies are not invulnerable. A typical big business still has its roots in a specific place – often in the USA but also in other industrialised countries like Germany, Japan, the UK and the Netherlands. \$1,000 billion of the \$1,300 billion total assets of the top American transnational corporation is invested in the USA itself.

The globalisation argument also panders to a crude populism, portraying ordinary people as, on the one hand, innocent victims of forces beyond their control and, on the other, potential

saviours, if only power were in their hands. Such faith is reflected in the fashionable rhetoric about empowerment. Reality is more complex. Ordinary citizens play a much more active, conscious and willing role in the problems. *The Ecologist* documents so well.

The rise of transnational corporations is in part due the fact that lots of people want the things they provide. The popularity of, say, Coca-Cola, Disneyland, or satellite TV cannot be put down solely to the power of modern advertising, seductive though it is. All the people who read Rupert Murdoch's trashy newspapers, sit staring at imported soap operas, graze in the fast chain chains, shop until they drop, queue at the multiplex for the latest episode of Star Wars, flock to theme parks, demand more golf courses and ski slopes, fill their children's bedrooms with TV sets, video machines, games consoles and telephones, etc. are expressing, to some extent at least, their own preferences.

It is naive, then to put all the blame for our troubles on malevolent governments or corporations. It follows that a sensible politics would reject a one-sided faith that the answer to every problem lies in policies of local 'empowerment'. It would recognise that, in many cases, public plebiscites might lead to some very nasty consequences, from the return of capital punishment to repression of 'deviant' minorities. The ecological case for more devolved forms of governance is a conditional one, giving localities no right to 'do their own thing' if that means intensified environmental destruction or oppressive social practices.

Running through many of the articles in your special edition was a dose of what might be called radical nostalgia. Some contributors seem to think that there was a golden age in the past from which ordinary people were dragged kicking and screaming by imperialist oppressors and other malign forces. Yet many of today's social and environmental problems have a long pedigree, one that predates globalisation, industrialisation or even

indeed any kind of class society. Prehistoric humankind, for example, exterminated many species. Many 'vernacular' cultures were scarred by all kinds of cruel and oppressive features (look at the evidence being accumulated by military historians such as John Keegan). Many traditional technologies and land use patterns simply could not cater for the demands of what soon will be six billion people. Of course, we should learn what we can from the past, but a truly sustainable society will be a novel one in all kinds of ways.

While you paint an attractive picture of the alternative to globalisation, I cannot but think that you underestimate the problems of the transition and the need for careful planning, some of which will be 'from above' and performed by those damned technocrats you rubbish so frequently (and, yes, often with much justice). The problem is the gap between where we are and where we want to be. Overpopulation and its twin urbanisation, coupled to technological 'cocoon' such as home entertainment systems and the private motor car, have created what David Riesman called the "lonely crowd" and Vance Packard a "nation of strangers". Social life has become thoroughly atomised and rootless. It is a culture mindless of its place within, dependence upon and duties towards the social and ecological systems that nourish all individuals. As a result, many of the building blocks of the local community you advocate are lacking.

Localism also ignores the terribly real problem of local evils. Some critics of the globalism, and in particular the notion of Pax Americana, are so blinded by their (understandable) hatred of the New World Order that they begin to deny the menace posed by the likes of Saddam Hussein or Slobodan Milosovich (look at the recent writings of John Pilger). Contrary to what Vandana Shiva implies, local monsters were around long before 'imperialism and economic globalisation' (and, as Kosovo sadly shows, they can be the person next door as much as a tyrant on the throne). More than ever, given the nature of modern technology and

Reviews



Winning the Cancer War



THE POLITICS OF CANCER REVISITED
by Samuel S. Epstein, East Ridge Press,
USA, 1998, 770pp, ISBN 0 914896474

There has been an ongoing battle lasting for over a century around all aspects of cancer, from our fear of it, through the diagnosis of it, its treatment and aftercare. This battle between the cancer establishment and those with a dissident view has even, at its most ferocious, rarely made the headlines. Despite fierce opposition, the medically orthodox cancer industry has always remained in control of every aspect of cancer. It has shaped with incredible exactitude the public perception of the illness.

As a result, whenever a dissident cancer researcher, academic or therapist comes of age they are ruthlessly sidelined: denied access to data, left uninvited to conferences, their papers unpublished. Dissident doctors in Europe and America who discuss results of new treatments are visited or reviewed by self-selected vigilante groups of cancer 'experts'. Dissident practitioners are professionally ridiculed. When patients choose alternative therapies, they are labelled resisters, patronised, pressurised or ignored and their personal choice of treatments written out of the cancer statistics.

If the above is true, you might be saying to yourself, why has it not been written about? It has. There are two classic books about the cancer industry: Ralph W. Moss's *The Cancer Industry* and

especially weaponry, the world cannot write off such dangers as little local difficulties. There is no need to support current American/NATO doctrine to see that some sort of international system is necessary to stop a local cancer from spreading.

In sum, then, government action is not an alternative to other avenues of change but part of what can only be a comprehensive process of change, top-down and bottom-up, global and local, individual and collective. Direct action is a vital part of the fight for a sustainable world. So too is individual lifestyle change. Yet enlightened use of the tiller of government will be always critical in the testing times ahead. We must think and act locally, regionally, nationally and internationally. The fundamental principle is that the level of action should be the lowest one appropriate, the one closest to the source of the problem and to those suffering from it. That framework could range from a village, a watershed, a existing nation-state, or, yes in some situations, the United Nations.

Sandy Irvine,
Newcastle Upon Tyne, UK

Paul Kingsnorth replies: *It would be wrong to deny the enormous responsibility which governments and corporations bear for environmental destruction and social dislocation. It is also clear, as we pointed out in 'Beyond the Monoculture' (The Ecologist, Vol.29 No.3) that globalisation is not an 'inevitable process' but rather a conscious policy decision pursued by our political and industrial leaders. It is important to remember that many people, particularly in 'developing' countries, have no say at all on this issue.*

On the other hand, it is clear that every individual, and particularly those in the West, can make a difference through his or her actions, and we would be interested to hear the views of other Ecologist readers on this subject: To what extent does public complicity ease the way for the destructive effects of globalisation?

Samuel Epstein's *The Politics of Cancer* – two books which, together with the people-based organisations which their authors have helped set up in America, represent with great adequacy the history, the present and the future seeds of the growing movement against the cancer industry.

Samuel Epstein wrote *The Politics of Cancer* in 1979, and now, 20 years later, he has updated it with a second part in *The Politics of Cancer Revisited*. Epstein appears at first sight to be an unusual academic. Despite being Professor of Occupational and Environmental Medicine at the University of Illinois, he never shrinks from involvement with the campaigning fringe. Unlike many academics, he does not simply flirt with the grassroots but is deeply committed to building an alternative environmental movement in the area of cancer. He has been a key expert in the investigations and enquiries which led to the banning of such hazardous products as DDT, Aldrin and Chlordane, and he is currently Chairman of the nationwide American Cancer Prevention Coalition.

Despite fierce opposition, the medically orthodox cancer industry has always remained in control of every aspect of cancer. It has shaped with incredible exactitude the public perception of the illness.

The original version of *The Politics of Cancer* presented a complete critique of the cancer industry. It first examined the impact of cancer in modern society, and then reviewed the evidence which has emerged from research about the causes. In three further chapters, it then examined chemical case studies from the workplace, consumer products and the general environment. Finally, it worked to construct a meta-language for cancer dissidents: around the improvement of data on industrial carcinogens; government policies; non-governmental policies and finally a personal instruction as to how readers might work towards pre-

venting cancer in themselves and carcinogens in their environment.

At the book's core was the idea that both our occupational and domestic environment were becoming increasingly affected by untested and unregulated carcinogenic chemicals. Some time in the future, it was postulated, cancers caused by chemicals and environmental carcinogens would outstrip the cancers caused by previously well-publicised cancer-causing agents such as cigarettes. Cancer, the book said, was mainly a public health threat, and could best be tackled by placing the emphasis on prevention, cutting back on the scientists' obsession with genetic- and cell-research, and linking research into carcinogens to efficient regulatory mechanisms.

The Politics of Cancer argued that because the cancer establishment had flunked the major social issues involved in the regulation of chemical carcinogens and environmental and occupational cancer prevention programmes, the entirety of its public message about cancer had become skewed. Orthodoxy clung – and still clings – to two principal causes of cancer: on the one hand, genetic disposition and on the other, lifestyle, involving personal choices over diet, exercise, sexual and recreational habits, with particular emphasis on smoking.

Epstein and other dissidents argue that while these ideas might represent the beginning of a preventative philosophy, they are just the tip of the iceberg. What is more, responsibility for diet, smoking and sexual activity can all easily be turned back upon the cancer sufferer who, it can be suggested, is responsible for their own predicament. Why, Epstein argues, has the cancer industry and especially cancer research, adamantly refused to look at the unregulated production of carcinogens by industry, at work, in the home and in the general environment?

The original edition of *The Politics of Cancer* brimmed with the searching and critical ethos of the 1970s. It re-iterated over and over again the idea that much cancer is not only personally, but socially and politically, preventable. It began to hand back power to people and to communities so that they could begin their own investigations.

The Politics of Cancer Revisited republishes the original book, adding to it in Part II what is tantamount to another book – *The Politics of Cancer 1998*. The new work has a harder edge, and it identifies more clearly than did the first book what it is within the cancer industry that has turned against the people.

There are new and extensive chapters on the personalities of the cancer establishment in America and Britain, and a ten-page chapter on the American Cancer Society, the world's wealthiest 'non-profit' institution. The track record of the National Cancer Institute, America's primary governmental cancer agency, is dissected in detail, and there are appendices which look scathingly at the truth behind cancer research cure claims and their use of statistics.

Added to the profiles of all the usual industrial carcinogenic suspects are new sections on the threats of growth-enhancing hormonal treatment of beef and dairy cattle, threats from the use of Hormone Replacement Therapy and carcinogenic components in an increasing number of foods and domestic products.

In the strategic conclusions, the book has 'what you can do yourself' sections on political action, lists of activist groups and resources and, perhaps most welcome of all, a section by Ralph W. Moss on clinical trials and alternative treatments. This latter section takes the reader on a sceptic's journey through conventionally-perceived cancer, its finding, diagnosis and treatment; opening a door for any reader who might be interested in alternative treatments.

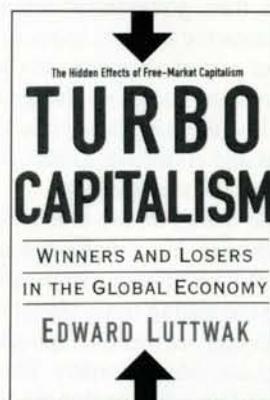
The new additions to *The Politics of Cancer* undoubtedly add political, strategic and informational value to the book, turning it from what was previously only a book to what might now be described as a handbook. Professor Epstein has previously published the ultimate handbook on hazardous domestic products, *The Safe Shoppers Bible*, and this form is evidently one which he considers useful and one which is becoming increasingly prevalent in the US. I have some concerns about this difficult form, mainly from an aesthetic rather than political perspective. *The Politics of Cancer Revisited*, which is 770 pages long in large format, could well defeat its purpose as a 'handbook', being too large and costly to be passed about by activists or lay people. At the same time, its large format and technical style neither invite good prose from its contributors nor encourage its readers.

Another concern with 'compendium'-type books is with their structure. A book such as this, which has a number of diverse contributions, must contain a lucid and embracing overview to make it work. This overview is present in *Revisited* because the original book is there, but structurally the new book only just survives – like many compendium hand-

books, it teeters on the brink of disintegration.

These criticisms of the book's form might appear churlish when considering its epic and ground-breaking content. However, most particularly in the field of cancer, the form of our message is of vital importance. If the laity are to play a larger part in the understanding, prevention, treatment and control of their own illnesses, the accessible presentation of material is almost as important as the material itself. – *Martin J. Walker*

Cracks in the Wall



TURBO-CAPITALISM: WINNERS AND LOSERS IN THE GLOBAL ECONOMY

by Edward Luttwak, HarperCollins, New York, 290pp, US\$26

Is a crack beginning to appear in the hitherto impenetrable wall of the global economy? Are some prominent (American) economists and academics beginning to have doubts as to the infallibility of the free market as a panacea for all the ills of mankind? Judging by recently released books by Professor Richard Sennett and investigative reporter Mark Hertsgaard, this seems to be the case.

Now comes another salvo of self-doubt from a really big cannon: Edward Luttwak, a senior fellow at the Center for Strategic and International Studies, the ultra-conservative Washington think-tank. Luttwak, who was born in Transylvania and retains a somewhat sceptical European perspective on the quick fixes so dear to American politicians, is concerned about the adverse social impact of the supercharged global capitalism of the 1990s, unfettered by those checks and balances which were imposed by the post-Second World War mixed economy of the nation-state. Hence the tell-tale title of Luttwak's book, in which he warns of the latent dangers of deregulated capitalism, which "generates new

Luttwak contends that capitalism has much in common with the Soviet version of communism, in that it, too, "offers but a single model and a single set of rules for every country, ignoring all differences of society, culture and temperament."

wealth from the resources released by the competition-powered destruction of inefficient practices, firms and entire industries", while in the process also destroying the secure jobs of employees they once sheltered, and promoting a uniform global monoculture.

Luttwak expresses no great surprise at the Americans' apparent willingness to accept the destruction of their job security and the growing disparity of income and opportunity, which he ascribes to the country's Calvinist, puritanical tradition. In a nation where success is measured almost exclusively with a monetary yardstick, rich is right, and the losers "find it hard to preserve their self-esteem", convinced that their failure is of their own making. By intensifying economic insecurity, turbo-capitalism thus generates fears that are transformed into social backlashes. The reader is reminded of the popular American put-down: "If you're so smart, how come you're not rich?"

In lamenting the loss of diversity, which is the inevitable end result of turbo-capitalism, Luttwak contends that it has much in common with the Soviet version of communism, in that it, too, "offers but a single model and a single set of rules for every country, ignoring all differences of society, culture and temperament." Coming from a conservative, this is just about the most devastating indictment anybody could aim at an economic model that is purported to be the very antithesis of the teachings of Marx and Engels. Luttwak argues that the political parties now in power in most Western nations have been influenced far too much by the simplistic economic policies advanced during the Reagan-Bush era, and which have been uncritically adopted by the Clinton administration, guided by such gurus of the financial establishment as Treasury Secretary Robert Rubin, recruited from one of Wall Street's premier international brokerage houses. The 'free market'

ideology reigns supreme, while the masses are growing increasingly apprehensive and restless. "So far, almost all Western governments have had no better plan than to allow turbo-capitalism to advance without limit, while hoping that faster growth will remedy all its shortcomings," as Luttwak puts it, accurately if not elegantly. While unemployment is at a record low in the United States, the gap between rich and poor is growing ever larger, and, worldwide, unemployment is at a record high, and increasing daily with a growing population.

While the advocates of a laissez-faire approach to world trade envision a global utopia with uniform rules of commerce, Luttwak's concern is that those very rules may lead to defensive reactions of jingoistic "geo-economics", and dismisses the notion that the new interdependence of nations must a priori prevent economic wars. He reminds us that "No two economies were more interdependent than the French and the German" at the outbreak of the First World War.

A disappointing aspect of Luttwak's book is that he does not advance many concrete ideas for improving the management of the global economy. And his analysis of the political forces that ended the post-Second World War era of nationally controlled capitalism is skimpy at best. Nevertheless, Turbo-Capitalism is an important indicator of a developing trend among heretofore true believers in the infallibility of a free-market economy.

While it is not the stake through the heart of global capitalism that some critics may have wished for, it is a significant straw in the wind – a wind that is gathering momentum in the waning days of the 1990s, and which may yet clear the way towards a brighter, more equitable world order in the new millennium. – *Gard Binney*

Gard Binney is an environmental activist with a Master's degree in economics and political science.

Control By Omission

CORPORATE PREDATORS: THE HUNT FOR MEGA-PROFITS AND THE ATTACK ON DEMOCRACY

by Russell Mokhiber and Robert Weissman, Common Courage Press, 1999, \$14.95, ISBN 1-56751-158-9.

As readers of *The Ecologist* will know, the ultimate effect of much of the work of mainstream journalists and politicians is very often to misidentify the cause of a problem, so that pub-

lic attention can be focused on the wrong solution. The result is that the people and organisations responsible for creating the real problem are thereby freed to continue profiting from the failure of anyone to do anything to implement the real solution.

Thus, unusual weather-related disasters are routinely blamed on El Niño without regard for the fact that this natural phenomenon has been greatly exaggerated by climate change. The rising incidence of asthma is the result of bed bug droppings trapped by double-glazing, not the closely-correlated increase in traffic pollution. Increases in traffic pollution, in turn, are the result of the public's 'love affair with the motor car', and nothing to do with vast government subsidies to the oil, road and automobile industry, starvation of funds to public transport, and so on. In our society, absurdity and omission replace the bludgeon and gulag as mechanisms of social control.

A particularly shocking recent example involves the US Columbine High School massacre in which two teenage boys went on a murderous rampage bombing and shooting fellow students and teachers. The US media commentary that followed was revealing. In response to this truly remarkable act of violence, one that would be all but unthinkable in most other industrial countries, US commentators wrote of how parents needed to learn to 'be there' for their children, of how families should talk more to dissipate aggression, of how parents should be held accountable for their children's crimes, and so on.

That a disaster of such seriousness can be met with recommendations of this kind is symptomatic of deep social pathology. As Russell Mokhiber and Robert Weissman make clear in this revealing and important book, the United States is unique in one respect: it is the most business dominated society in the world. Ralph Nader sums up the problem in his introduction:

"In arena after arena – government, workplace, marketplace, media, environment, education, science, technology – the dominant players are large corporations."

The root cause of many of the US's uniquely destructive features can be traced back to the unique extent to which this is true of US society. Beyond 'being there' for our children, Mokhiber and Weissman note that fully 25,000 people are killed by handguns in the US every year (roughly one Vietnam war every

two years), as compared to a few hundred in every other industrialised country.

Quite simply, guns are big business, the US is business-controlled, and so guns must be freely available, and so massacres are able to happen with ease, and so journalistic reporting must focus on parents 'being there' for their children so that the real solutions – rolling-back business-domination of society so that profits are not made at the expense of human suffering, so that gun availability can be restricted – are not discussed.

The toxic effects of the gun business are of course intensified when mixed with poverty and social breakdown, and a culture that depicts violence and revenge as acts of life-affirming 'cool'. In one recent media study, *Pulp Fiction* was found to be the most frequently cited cult film watched by 42 per cent of 10-16 year olds. The report's authors note that "Many youngsters regard it as cool to blow people away", judging the two hit-men, Vincent (John Travolta) and Jules (Samuel L. Jackson) the 'coolest' characters. As one young viewer put it "Vincent was cool because he's not scared. He can go around shooting people without being worried." Another put many media commentators to shame by managing to point out that "drugs are drummed into your head like they are bad. But not violence."

Mokhiber and Weissman cite Charles Derber, a professor of sociology at Boston College, who argues that the domination of corporate power and its profit-obsessed corporate ethic resulted, under Reaganism, in a kind of warping of the more healthy forms of individualism in our culture into a 'hyperindividualism' in which people asserted their own interests without regard to its impact on others.

Derber was involved in a chat show about paid assassins – people who killed for money:

"They said things like – 'you have to understand, this is just a business, everybody has to make money.' I pointed out on the show that this was the language that business usually uses."

Indeed, the chilling ethical emptiness at the heart of the corporate worldview – according to which our responsibility as human beings is generally assumed to end where a profitable bottom line has been drawn – was nicely captured by Channel Four's Jon Snow when he asked Bill Gates (by now worth well over \$50 billion – more than that of the bottom 100 million Americans) what he

thought of the bombing of Serbia:

"Y' know, my time is focused on building great software and that's a job that keeps me very busy – making sure we're hiring the right people, making sure that we're staying on top of things. If you looked at my schedule, you'd see that's where my focus is."

Russell Mokhiber is editor of the *Corporate Crime Reporter*; Robert Weissman edits the *Multinational Monitor*, and they quote Jeffrey Parker a professor of law at George Mason University Law School, who argues that corporate crime doesn't exist and can't exist: "Crime exists only in the mind of an individual", Parker notes. "Since a corporation has no mind, it can commit no crime." A fair point, but one for which Parker has received little support among the nation's top white-collar defence attorneys. The reason is that corporations stand to lose greatly from being stripped of their 'personhood'. While businesses might thereby avoid criminal prosecution, they would lose their First Amendment right to speak and associate, their Fourth Amendment right to privacy, and their Fifth Amendment right to protection from double jeopardy.

Much better, then, to stomp around as giant artificial people protected by individual rights, while nevertheless having the superhuman power to design laws to govern their own conduct and the ability to massively influence elections in such a way that undermines the individual rights of actual people. And of course corporations do like to have it both ways: while we grant corporations personhood, the annual FBI report *Crime in the United States* likes to focus on murder, robbery, assault, burglary and other street crimes, while ignoring completely corporate crime such as pollution, procurement fraud, financial fraud, public corruption and occupational homicide. This despite strong evidence indicating, as Mokhiber and Weissman note, that "corporate crime and violence inflict far more damage on society than all street crime combined."

If we are relying on academia to come to our defence, we will be disappointed. When academic studies do focus on corporate crime, they focus not on crimes committed by corporations but crimes against them: theft, embezzlement, time theft and the like. Time theft? While the environment writhes beneath corporate greenhouse gases, and the Third World is bled dry by unprecedented corporate exploitation, Laureen Snider explains how 'time theft' is the latest obsession

among corporate crime researchers:

"If, for example, you take too long on your coffee break, or if you surf the net when you should be looking at something that is directly relevant to the employer's interest, you are guilty of the offence of theft of time."

This same distortion of public discourse by omission of the important but profit-painful is found everywhere. Following an 18-month study and millions of dollars of money spent, the US National Commission on Civic Renewal released a 67-page report consisting of 18 working papers on the subject 'A Nation of Spectators: How Civic Disengagement Weakens America and What We Can Do About It?'

In all of this, the most powerful organisations in society – corporations – were again conspicuous by their absence. Of their role in stifling civic engagement through the corrupting influence of corporate money in politics, of how citizens engage as part of unions, environmental, civil, human rights and other activist groups to combat corporate power, there was barely a word. No surprise: the Commission's co-chairs, William Bennett and Sam Nunn turn out to be the John M. Olin Distinguished Fellow in Cultural Policy Studies at the Heritage Foundation (the nation's leading corporate think tank) and senior partner at King & Spalding (one of the nation's premier corporate defence law firms), respectively.

In the Commission's final report, a grand total of three paragraphs dealt with the issue of corporate power, concluding that "there is no guarantee that the operation of market forces will prove wholly compatible with the requirements of civic health." Commissars writing under Stalin might have felt obliged to be less critical of the impact of the 'Five Year Plans' on civil health, but not much.

The media, the Commission notes, are hugely significant in determining the impact of market forces on civic health: "market-driven decisions of giant media corporations have diminished the quality of our public culture and have complicated greatly the task of raising children".

Particularly complicated, no doubt, being the task of managing to 'be there' in the same room as our children as they toy with their cut-price AK47 assault rifles! – David Edwards

David Edwards is a researcher/writer for the International Society for Ecology and Culture. His latest book *The Compassionate Revolution* is published by Green Books.

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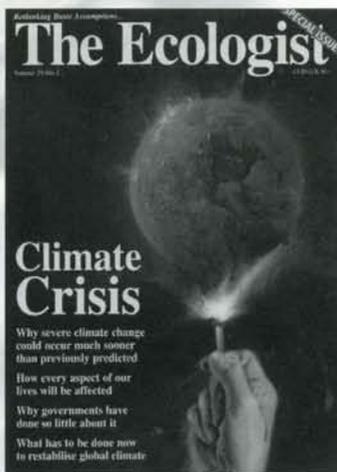
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