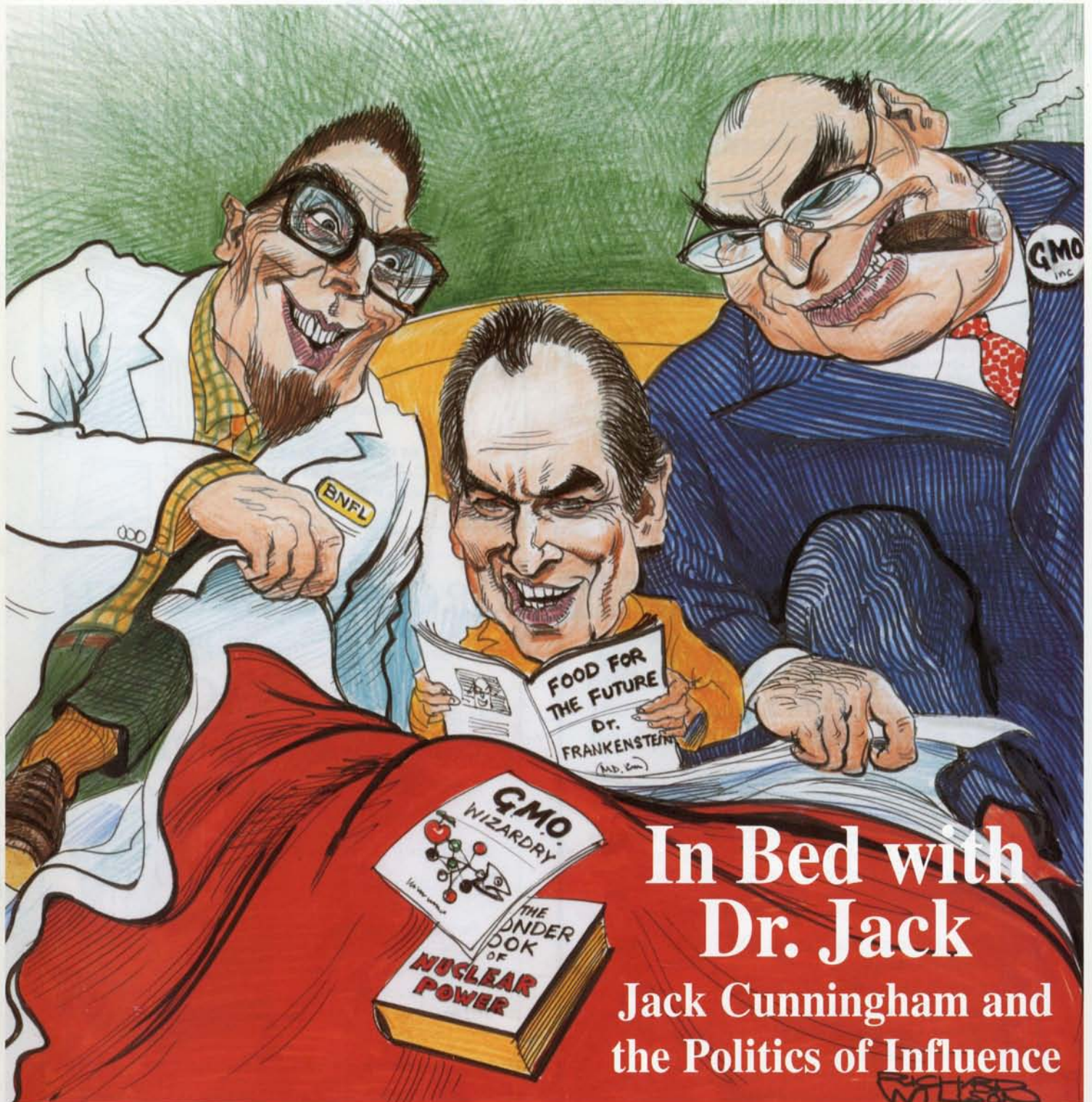


Rethinking Basic Assumptions...

The Ecologist

Volume 29 No 6. October 1999

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Monsanto PLC vs genetiX snowball

In April, the British High Court granted genetiX snowball campaigners – who took direct action to uproot Monsanto's genetically modified plants – a full court trial. If it takes place, this trial will force Monsanto to defend the legality of its GM crop plantings in the public arena. But Monsanto have now secured a hearing in the Court of Appeal, claiming there is no defence which could warrant a trial. If their appeal succeeds, then the defendants' right to a full and fair trial – where experts and witnesses could be called to court to expose the damage done by GM crops – will be denied.

The Appeal Hearing is scheduled for November 8th/9th 1999* in the High Court, The Strand, London, at 9.30 am. PLEASE COME AND DEMONSTRATE YOUR SUPPORT FOR THE DEFENDANTS. It's time to put genetics on trial.

For more details, please contact: genetiX snowball, One World Centre, 6 Mount Street, Manchester. M2 5NS. Tel: 0161 834 0295.

Email: genetiXsnowball@onet.co.uk Web: http://www.gn.apc.org/pmhpgs

*Date to be confirmed; please call 0161 834 0295 on Friday November 5th for confirmation

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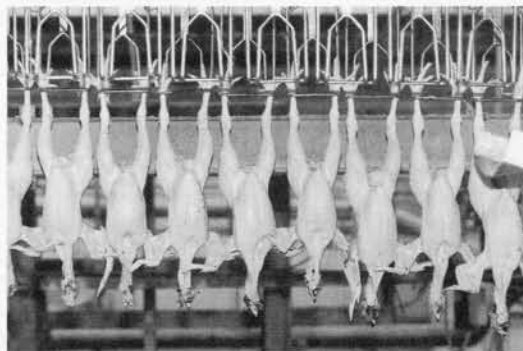
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Zac Goldsmith

ASSISTANT EDITOR

Paul Kingsnorth

NEWS EDITOR

Lucinda Labes

SCIENCE EDITOR

Peter Bunyard

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RESEARCH

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Editorials

The Force Is With Us

By Paul Kingsnorth

A long time ago, in a galaxy far, far away... something eerily familiar happened. Picture this: a peaceful indigenous population, living off the fruits of its own labour and generally minding its own business, finds itself threatened from the outside by a larger, more powerful and more technologically advanced enemy. Under the pretext of freeing up the economy for some much-needed competition, this enemy proceeds to blockade, harass and finally invade said indigenous population, in a blatant attempt (thinly veiled in the language of legal rights and market economics) to colonise it, grab its land and claim its resources for its own.

If this development-as-colonialism scenario is one which *Ecologist* readers feel they've seen before, there are two possible reasons. One: you've recently succumbed to the unrelenting global hype and visited your local multiplex to take in *Star Wars Episode One: The Phantom Menace*, the plot of which revolves around the conflict outlined above. Two: you've been reading *The Ecologist* for a while. For, interestingly (though incidentally), George Lucas, writer and director of the *Star Wars* films, claims to base all his plots on common themes drawn from the traditional mythologies of ancient (Earth-bound) civilisations. This surely means that, whatever their other failings, the *Star Wars* films must be the only Hollywood blockbusters in history with a sound anthropological footing.

If *The Ecologist* is the last publication in which you expected to read acres of guff about history's most over-hyped film, please do persevere: there is a reason. For, whether he knows it or not (and I suspect not), George Lucas has created, with *The Phantom Menace*, not only an unrivalled marketing phenomenon which will keep him in champagne and truffles for the rest of his days, but also a powerful allegory about the state of the world as we leave the 20th century. And although it would probably be going too far to suggest that the key struggle of the film – between the heroic, vaguely Zen-like Jedi knights and the evil Trade Federation – mirrors the fight between the environmental movement and the rapacious proponents of globalisation, I'm



George Lucas has created, with The Phantom Menace, not only an unrivalled marketing phenomenon which will keep him in champagne and truffles for the rest of his days, but also a powerful allegory about the state of the world as we leave the 20th century.

going to suggest it anyway, because I like a challenge.

A brief trot through the plot of *The Phantom Menace* will support my thesis. As the film opens, we learn that the peaceful planet of Naboo, a green and pleasant Utopia of spectacular Byzantine citadels, surrounded by absurdly verdant rainforest, is being harassed by the sinister Trade Federation, a sort of galactic descendant of the World Trade Organisation (WTO). The viewer never learns quite what the dispute is about, but the Trade Federation is accusing Naboo's government (disturbingly, most of the planets in George Lucas's imaginary universe are run by centralised world governments, which are often little more than overblown feudal hierarchies – but that's another story) of breaking one of its trade rules. Possibly the planet's population are refusing to eat genetically-modified Wookiee meat or

hormone-injected Banther.

Whatever the cause of the dispute, the Federation wants the Naboo government, headed by the oddly-dressed Queen Amidala, to sign a treaty which will essentially hand the levers of her economy over to them. Admirably, she refuses, and the Federation, in a clear echo of the current Euro-American beef war, erects a trade barrier around her planet. However, the Trade Federation has more resources than the WTO, being presumably at a much later stage of development: its idea of a trade barrier is not the raising of import tariffs, but a ring of a hundred vast starships hanging around in Naboo's atmosphere, blasting anything that attempts to get in or out. Renato Ruggiero take note: it's possibly illegal, but it works.

Enter the film's heroes. The Galactic Jedi Council, a sort of United Nations with lightsabres and political will, sends a couple of Jedi knights – Obi-Wan Kenobi and Qui-Gon Jinn – to the headquarters of the Trade Federation to mediate between its leaders and the Naboo government. In a move which might also give our political and industrial leaders some fond ideas, the Trade Federation's response to this selfless gesture is to attempt to have the two mediators gassed as they wait in the lobby. Being Jedi knights, though, and thus able to hold their breath for several days, they survive and proceed to give the Federation's minor officials a good kicking before escaping to warn the galaxy that something very dodgy is going on with the execution of macroeconomic policy.

It is at this stage that things start to get even more allegorical. For we learn what

The Star Wars films must be the only Hollywood blockbusters in history with a sound anthropological footing.

the Jedis suspect – there is a hidden agenda behind the Trade Federation's blockade of Naboo. The two weasel-worded Directors of the Federation are having their strings pulled by a deeply unpleasant figure known as Darth Sidious, whose agenda, rather like that of Bill Clinton, is the conquest and coloni-

sation of the entire universe. In the later *Star Wars* films (the ones we all saw, for some reason, before this one) Darth Sidious, who is also a Galactic Senator, has mutated into the Emperor who, with Darth Vader, his heavy-breathing sidekick, has managed to corrupt the noble ideals of the Galactic Republic for his own megalomaniacal ends. Amateur historians will note the rather obvious parallel with the decay of the Roman Empire.

Anyway, the rest of the film (basically a miasma of very expensive special effects and aliens with absurdly-shaped heads) trawls through the conflict between the Jedi, whose ideals are never anything less than pure, and the disingenuous Trade Federation. After a few minor wars, lightsabre fights and intergalactic spaceship races, the Jedi naturally triumph over the Federation. Of course, Lucas has another two films to make in this trilogy, so this is actually no more than a temporary setback in the plans of Darth Clinton/Sidious, who survives unscathed to conquer the universe at a later date.

So is George Lucas a closet environmentalist? Is his representation of little people against a vast, sprawling, armed bureaucracy bent on domination really a parallel with today's growing movement of little people (that's us) against the globalisation machine (that's them)? Since Lucas claims to have written the first draft of *The Phantom Menace* over

20 years ago, the answer is probably no. But all art is what you make it, and as anyone who has ever studied Shakespeare or T. S. Eliot can tell you, it's all about interpretation. So I personally choose to interpret this film as not only a fable but a battle cry for those of us who sometimes feel overwhelmed by the forces we are battling against. True, we don't have lightsabres or Jedi mind tricks (more's the pity) – but our victory is still assured.

This is not the end of it. Keen environmentalists may also spot other lessons, warnings and parallels throughout *The Phantom Menace*. For example, the centralisation of political power inevitably leads to world – and, eventually, galactic – government (some would say that the likes of Leon Brittan know this very well already). Such government is not only unwieldy and undemocratic by its very nature, it is also open to abuse – the Chancellor of the Galactic Republic himself is, before he is deposed in favour of Darth/Senator Sidious, deep in the pocket of the Trade Federation. Ring any bells?

Furthermore, economic globalisation, if unopposed, will end in the horrors of not just a global but a galactic economy. Just imagine: butter from Mars costing less than butter from next door. Similarly, unchecked urbanisation could have horrible consequences for the future of society. The capital of the Galactic Republic, the planet Coruscant, is one

vast city – the entire planet is covered in what looks like a giant New York, its orange skies teeming with traffic jams that make the streets of LA look serene. It is truly hideous; its only redeeming feature being that, if James Lovelock's Gaia theory is correct, it could never, in reality, be more than a giant special effect.

Then there's the threat of runaway technology. If you think the NATO war machine is scary, wait till you see what the Trade Federation's droid army – thousands of identical robots all controlled by a faraway computer – can do in battle. Interestingly, though, this episode in the film is also a salutary warning to worshippers of technology – the entire droid army is disabled by the Jedi when they destroy the Federation's master computer, bringing the invasion of Naboo to a grinding halt. The Millennium Bug has nothing on this.

Posing, then, as an enormously expensive, effects-heavy American blockbuster, *The Phantom Menace* is actually a parable, a fable for our times, and its message is a heartening one: those of us battling the forces of globalisation, centralisation and obsessive technocracy have right on our side. The battle may be hard, and the road may be long. There may even be a few gratuitous lightsabre battles along the way. But we'll get there, because the good guys always win in the end. Because The Force is with us. □

The Democracy Movement

Enclosed in this issue of *The Ecologist* is an invitation to join the Democracy Movement – a group that campaigns actively against the Single European Currency.

The creation of a single European state, towards which the single currency is a major step, will serve only to further the scope and power of large corporations. It is these corporations which have called most persistently for a single currency, and it is they alone which stand to gain through the ongoing standardisation of European culture, taste and regulations.

There is an opinion that sees internationalisation of political authority as an appropriate, even necessary response to the growing power of transnational corporations. But this view ignores the incontrovertible fact that the further away government drifts from the communities it is employed to serve, the weaker its accountability becomes. Large, centralised and remote structures have proven highly susceptible to the kind of professional lobbying that all transnationals are expert at deploying, and it is unlikely that ordinary people will ever achieve access to our ever more anonymous corridors of power.

The introduction of Economic and Monetary Union represents a giant step towards a system of international

control by unaccountable, business-led global trading blocs. Ordinary people, small businesses, farmers, fishermen, communities – those who stand to lose their economic character and independence – will have no voice in this corporate Europe. Their status will be reduced to that of passive consumers, with little real control over the institutions which govern them.

The single currency will significantly accelerate the process of economic globalisation – a trend which artificially separates the producer from the consumer, people from their environments and distances us from the devastating effects our lifestyles have on the world around us. It is a trend whose consequences, as we have continuously documented in the pages of *The Ecologist*, are disastrous.

Those who dissent from this future deserve our support.

The Democracy Movement is Britain's largest truly grassroots organisation dealing with this issue. With over 150,000 registered supporters from all corners of the UK, across the political spectrum, it is, we believe, in the best position to effect a change in the questionable policies of our leaders. We urge you to sign the enclosed form, and to encourage your family and friends to do likewise.

One Bird – Ten Thousand Treasures

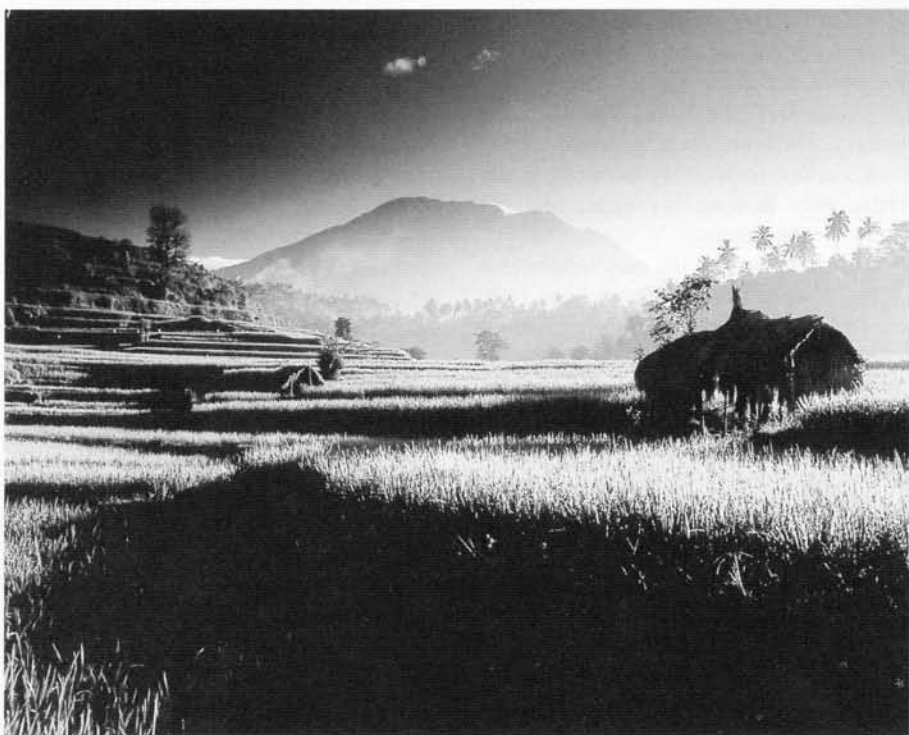
By Mae-Wan Ho

Recently, while on a lecture tour of Japan, I was taken to visit an organic rice farmer who has developed an intriguing new way of controlling pests entirely sustainably. The contrast between his small-scale ecological methods and genetic engineering technology – the dangers of which I had been invited to lecture about – struck me very forcibly at the time.

In Japan, paddy fields seem to fill every available inch of undeveloped land, and most of the plots are tiny. That was a surprise for me, who, like most people, imagined Japan to be a fully industrialised 'developed' nation. But, in fact, in the countryside, small-scale rice farming is still the norm, though the Japanese Government is seeking to change this, to make farming more 'efficient'. As elsewhere, the government is moving away from agricultural sustainability and towards dependence on the global market – for example, Japan was once self-sufficient in soya beans, but now 98 per cent is imported. This has enraged consumers, as soya is extensively used in Japanese cuisine and a lot of it now comes from the United States, the world's biggest grower of transgenic soya. The Consumer Union of Japan has collected 2 million signatures demanding compulsory labelling of genetically engineered soya.

The Furunos are a handsome farming couple in their forties. He is wiry and dark, with a winsome squint and sparkle to his eyes, which give him the appearance of being content with life, as he has every reason to be. She is lively, good-looking and openly ebullient about their success – not in financial terms, but in their farming method, which, since its introduction ten years ago, is now spreading throughout South-east Asia. In Japan, about 10,000 farmers have taken it up and it has been adopted by farmers in South Korea, Vietnam, The Philippines, Laos, Cambodia, Thailand and Malaysia. Farmers have increased their yield by 20 to 50 per cent or more in the first year. One farmer in Laos increased his income three-fold. Without a doubt, their method is a boon to Third World farmers.

"We want to help," the Furunos told me, when I visited them recently. "Financial success is unimportant. We



Much of Japan's rice-farming remains small-scale

did not patent the method; we just want it to be widely adopted." The method has been researched and perfected over the years in their own field. Mr. Furuno introduced me to one of the young men working with the family in order to learn the method. "There's always someone here who wants to learn, and every day I

The Aigamo paddy field is a complex, well-balanced, self-maintaining, self-propagating ecosystem. The only external input is the small amount of waste grain fed to the ducks, and the output is a delicious, nutritious harvest of organic rice, duck and roach.

get several telephone calls from people needing advice," he told me.

The Furunos' farming method has been called a 'one-bird revolution'. "The duck is the key to success," Takao Furuno told me. "The secret is to release ducklings into the paddy fields soon after the seedlings are planted." According to Furuno, the ducks never eat the rice seedlings. "Agronomists say it's because rice seedlings have too much

silica."

The Furunos have made a very good video, complete with English narration, which shows how the ducklings readily take to the paddy field when they are led there to be released. About 20 ducklings are released per tenth of a hectare. The ducks are good for the rice plants in many ways, including the mechanical stimulation they provide by their paddling, which makes the plant stems thicker and stronger, as demonstrated by careful experimentation. Takao worked out his farming method by a combination of contemplation, inspiration and experimentation. He calls it the 'Aigamo method', after the Japanese name for the ducks themselves.

The ducks eat up insect pests and the golden snails which attack rice plants. They also eat the seeds and seedlings of weeds, using their feet to dig up the weed seedlings, thereby oxygenating the water and encouraging the roots of the rice plants to grow. You can clearly see the difference between the plants in the Aigamo plots and the control plots without Aigamo. In fact, the ducks are so good at weeding that Third World farmers who have adopted Takao's method now have time to sit and chat instead of spending up to 240 hours per hectare in manual weeding every year. Besides, 'pests' and 'weeds' have been miracu-

lously transformed into resources for rearing ducks. The ducks are left in the fields 24 hours a day, and do not need to be herded back to the shed. They are completely free-range until the rice plants form ears of grain in the field. At that point, the ducks have to be rounded up (otherwise they will eat the rice grains). They are then returned to the shed and fed exclusively on waste grain. There they mature, lay eggs, and get ready for the market.

The ducks are not the only inhabitants of Takao's paddy field. The aquatic fern, *Azolla*, or duckweed, which harbours a blue-green bacterium as a symbiont, is also grown on the surface of the water. The *Azolla* is an efficient nitrogen-fixer, and is both readily eaten by the ducks, as well as attracting insects to be similarly enjoyed by the ducks. The plant is very prolific, doubling itself every three days, so it can be harvested for cattle-feed as

well. In addition, the plants spread out to cover the surface of the water, providing hiding places for another inhabitant, the roach, and protecting them from the ducks. The roach feed on duck faeces, on daphnia and other worms, which in turn feed on the plankton. Both fish and ducks provide manure to fertilise the rice plants throughout the growing season, and the rice plants in turn provide shelter for the ducks.

The Aigamo paddy field, then, is a complex, well-balanced, self-maintaining, self-propagating ecosystem. The only external input is the small amount of waste grain fed to the ducks, and the output is a delicious, nutritious harvest of organic rice, duck and roach. It is amazingly productive. The Furunos' farm is two hectares; 1.4 of which are paddy fields, while the rest is devoted to growing organic vegetables. This small farm yields annually seven tonnes of

rice, 300 ducks, 4,000 ducklings and enough vegetables to supply 100 people. At that rate, no more than two per cent of the population would need to become farmers in order to feed the nation, and observers believe that with proper management, Japan could become self-sufficient once more. The Aigamo method also explodes the myth that organic farming is necessarily labour-intensive. "Organic farming need not be labour-intensive; it is fun!" says Takao Furuno emphatically.

By using human imagination and ingenuity, and by co-operating with nature rather than re-engineering it, Takao Furuno has cleared yet another path for a safe, diverse and sustainable agricultural future. So who needs transgenic crops? □

Mae-Wan Ho heads the Bio-Electrodynamics laboratory of the Open University in Milton Keynes, UK.

The Ecology of Art

By John Papworth

In medieval Europe, people quarrelled, fought duels and had their throats cut. Government was often tyrannical, torture was a standard feature, and a plague such as the Black Death could wipe out two-thirds or more of the population of a city within two years. War was frequent, poverty was endemic, sanitation primitive and many social services non-existent. How, then, did the people of this period manage to bequeath to us towns and cities of such surpassing civic splendour? Or even villages which, however they were contrived, we can have no hesitation in describing as beautiful? What did those people have which today we lack?

Simply to walk about a medieval European city centre such as, for example, Siena, is to be filled with a sense of almost sublime wonder. It is a walled city, as in those times they so often were, set on a hilltop with a need for defence and fortification uppermost in the civic mind. But why were the walls and the several city gates of such stunning and imposing beauty? Why is its centre, the famous Piazza del Campo – an open area almost in the shape of a huge sea-shell, bordered by buildings which are veritable palaces with its incredible bell-topped tower at one side – a work of art of such exquisite splendour that six or

more centuries after its construction it draws a sharp intake of breath of admiration from any visitor fortunate enough to encounter it?

So often the visitor visits, admires, wonders and returns home, leaving these imposing questions unanswered. This is not just a pity but a tragedy, for today the need to answer the problems they should pose has a bearing on the survival prospects of our very civilisation. For it is not simply in architecture and civic design that these people excelled. Medieval and Renaissance Europe achieved heights of superlative wonder and delight in almost every field of creative activity, and again we are impelled, not only to ask why, but to find answers. It would seem that these people survived despite their defects because they insisted on surviving resplendently. How did they do it?

There are two answers which come to mind: one is not difficult to discern, the other is perhaps more elusive. In walking about the different quarters of the walled city of Siena, even the casual visitor can scarcely fail to notice the way in which each will have a banner flying from its walls, and that each banner is different and pertains to its own particular quarter, or *contrade*. The banner is heraldic in design, and the design itself dates back to medieval times, and in some cases earlier.

There are seventeen *contrade*, and their banners are a source of immense pride. They are carried in all the civic or religious festivals, as well as in the annual carnivals and feasts. In former times they were a symbol of the government of each *contrade*, as well as of its particular church and of its trades and professional guilds. With the banners, there were distinctive forms of dress which, in all their medieval colour and design, are still often worn on special civic or religious feasts. Today, the banners have become a standard feature of the sports teams of each *contrade* and no contest (especially for football, for which Italians are not alone in having a passion) is complete without some young men engaging in the highly-skilled traditional art of a particular manner of banner-waving to encourage their team.

Evidently, medieval Siena was not a mass society, not just one amorphous entity governed from a single centre; it was an organic, multicellular body in which each cell – in this case each *contrade* – had its own distinctive identity and played its own vibrantly assertive role in the life of the city. Is this one major factor which medieval Europe had and which (with the tail of economic considerations today wagging the dog of political and social life, so that the vibrant cells of localised community life



Distinctive medieval dress is still worn in Siena during festivals and celebrations

JULIAN COTTON PHOTO LIBRARY

have disappeared – and with it their artistic and creative powers) we have lost?

To this loss we need to recognise another. Medieval and Renaissance life in Europe was small-scale; human-scale, we may say. In practice, in the vital matter of work (what Freud called “man’s chief contact with reality”) multitudes of small craftsmen and masters of different trades were exercising daily their creative powers at full stretch. They had to; it was not only a matter of pride, but of needing to be as good, if not better, than their rivals if they were to survive and prosper.

This is not a reference simply to the goldsmiths, inlayers, miniaturists, jewellers, glass-blowers, carvers, potters and others who abounded and whose skills we think of as ‘arts’. We have to see it applies no less to the more mundane followings. The city was served by master bakers, master tailors, master shoemakers and masters of many other trades. Again, on this small human scale, the rivalry to achieve the creative best, to be known among one’s neighbours as a top-ranking master craftsman or trader must have been intense. To establish a reputation gave its owner standing and dignity in his contrade, and it was a standing which was acknowledged with each particular guild in terms of honorifics and awards.

There is no doubt that machines could have done much to lighten the labours of the artisan craftsman of the time and that nearer to our own day, they did so. But any principle promoted to excess results in absurdity and in the

defeat of its original objectives. Machines today have been used not to lighten the labour of the craftsman but to abolish it. Instead of machines being the servants of man, man today is the servant of machines.

But the characteristics of machines are not creativity and unique advances in quality, they are those of repetition, standardisation and uniformity. This is

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one reason why cities all over the world today are tending to lose whatever individual characteristics they may have had, and to become more like each other: more uniform, more standardised and more boring and ugly.

Permeating all such considerations is the factor of control. However ‘undemocratic’ the government under which medieval man may have lived, he was generally in full control of his work, his community, his contrade – a body comprising all his immediate neighbours which played a vital positive role in the affairs of the city. This factor of control, on the basis of small active cells, reflected the organic nature of the natural world and society was able to live in harmony with it.

Its success in doing so enabled both

to flourish. Agriculture – what today we call ‘organic’ agriculture – flourished and was a partnership with the organic social and working structures within the city walls. Each complemented the other, and we should note that this was the vital seed bed from which all the great artistic achievements of the period – in architecture, sculpture, painting, poetry, philosophy, drama, music and literature – were sprung. The big giants were rubbing shoulders with a multitude of smaller giants all at work in a human-scale, organically-structured order of intense creative endeavour. Have we here an explanation not only for medieval and Renaissance splendour but for the dangerous, wayward sterility of modern life? For while machines can only repeat and cannot create, they can certainly destroy. And they have not only destroyed the social basis of creative labour and made the masters of all the different crafts redundant; they are now, since they are out of control (and it is imperative that we grasp that they and those who promote them are out of control), destroying the natural organic balance of life itself.

Modern art has become tragically divorced from life. Its former achievements sprang from a close relationship between the natural order of things and organically-structured social and working relationships. The dominant place once imposingly occupied by art is now occupied by machines and mechanical procedures so that art has been marginalised, trivialised and bowdlerised. It has little to say and finds it almost impossible to say it, producing instead banality, futility and mediocrity as it struggles against machine-dominated social structures that regard it as a superfluous waste of money and which instead insists on building motorways and a global arsenal of nuclear and biological bombs, and on conducting a global rape of the planet.

There is a way forward out of this morass. It involves the deliberate insistence that we see all the elements of life, whether in work or government or nature, as reflecting the dynamic, multi-cellular balance and harmony of our natural environment. In this regard, an ecological framework needs to be seen as the natural basis on which we can survive, and on which our arts and crafts may once again flourish, so that the achievements of great art again begin to dazzle our senses with their splendour.

John Papworth is editor of *Fourth World Review*

Cocaine Colonialism

A version of this article first appeared in Third World Network Features.

Coca, one of the most significant plants in the world, grows in South America. It is cultivated in warm and humid valleys, known in the local Aymara language as yungas. Andean peasants chew it while working and resting and even treat their guests with it. The habit of chewing – not only accepted but widely spread among millions of inhabitants in countries such as Colombia, Ecuador, Peru, Bolivia, Argentina and Chile – has an economic basis. For peasants coca is a most beneficial crop because of its ability to yield three to four harvests a year, in non-arable soils. In fact, a detailed description of its leaf concludes that, due to its richness in amino acids and vitamins, the coca plant is the Earth's most complete plant in non-proteinic nitrogen. This kind of nitrogen eliminates toxins and pathogens from the human body, also hydrating and regulating the nervous system.

History

Andean peasants praise coca for its profitability, in comparison with other crops. Its very specific farming technique is well adapted to the valleys through the construction of stone or walled ground platforms. Raising coca in the Andean valley is an ancestral cus-

ed all across the empire in order to maintain a stable production, the Incas being the sole proprietors of sacred harvests. Later on, once the Spaniards imposed themselves in the area, the Spanish Crown distributed these plantations among some colonos under the encomiendas regime, and payment with coca leaves was authorised.

When the Spaniards conquered the continent and discovered coca's energising properties, they encouraged consumption in order to increase the productivity of the natives they forced to work in the Potosi mines. As a result, the coca trade became an important revenue source for the Spanish Crown, second only to mine exploitation. Tithes on coca contributed almost all of the Andean Catholic Church's funds.

In this way, coca entered the market economy, and colonial society adopted the plant, fully incorporating it in its habits and manners to the extent that physicians employed it as a medicine for asthma, haemorrhages, toothache, vomiting and diarrhoea.

Criminalisation

Nevertheless, despite its early assimilation by colonial society, Spaniards were not reluctant to blame the natives' ritual use of the coca leaf for delaying their conversion to Christianity – thus beginning the long fight against its consumption. When decolonisation brought independent states in the region, the plant was once again accused, this time of blocking the natives' assimilation into 'white' society.

However, it was the emergence of cocaine – one of the 14 alkaloids of the plant – which ignited the black history of this bush. Soon after being isolated in 1884, cocaine began to be used as an anaesthetic in surgery, with the likes of Sigmund Freud recommending it as a relief for nervous stress and fatigue. Towards the end of the 19th century, cocaine consumption extended through the upper classes and the artistic circles of both Europe and the US. Vin Mariani, a tonic based on the coca extract, was prescribed by every physician as a cure for several diseases. In this, its origins were similar to those of Coca-Cola – patented in 1895 as a stimulant and headache reliever which originally contained cocaine.

But in 1906, the US authorities made

cocaine illegal by officially declaring it was a narcotic and then prohibiting its import, together with the coca leaves. In spite of the prohibition – or eventually because of it – all through the century cocaine has become highly appreciated and consumed.

The UN Convention for Narcotics placed cocaine on its toxic drugs first page, listing it as 'psychotropic' in 1961. But the truth is that its rocketing price makes cocaine one of the most profitable businesses on Earth. In financial, artistic and political milieus from

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Western Europe and the US, cocaine is regarded as synonymous with opulence and distinction, also being consumed in Japan, Eastern Europe and Latin America, though to a lesser degree.

Narcotraffic

Cocaine's desirability has launched a fabulous business – more lucrative than oil and second only to the warfare business – known as narcotraffic. This word defines the entire process of illegal production, transportation and selling of illegal and controlled drugs. In this transnational game, each one plays its role.

The USA, Europe and France sustain a strong demand, while Andean countries like Peru, Bolivia and Colombia supply the product. In these latter countries, coca consumption still differs from the one developed in the North. While the use of cocaine paste expands among the young floating population, the natives and peasants – while disliking the paste – still preserve the habit of daily chewing.

The coca-producing regions have been transformed by this trade into developing zones, because drug cartels extend credit and insurance to the groups that produce cocaine. Coca-planting peasants have increased their incomes: raising the leaf means much more profit than raising any other crop. In Bolivia, coca and its by-products

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tom. Since about 2000 BC, the leaf has been intertwined with local life. Andeans not only utilised it for conveying friendship, repaying services or simply as a coin, but also considered it sacred. Besides discovering its medicinal powers, they employed the leaf, mixed with certain oils, to soften rocks.

When the Incas politically centralised the area, plantations were locat-

generate a revenue of \$600 million a year, and provide jobs for 20 per cent of the adult labour force. In Peru, the coca industry occupies 15 per cent of the active labour force and reports a yearly income of \$1 billion.

In Colombia, the drugs trade provides a revenue of \$1 billion, a sum higher than coffee exports. The main gain, however, belongs to the consumer countries, where the money laundering is undertaken, chemicals for cocaine production are supplied and weapons to sustain drug dealers are sold.

Hypocrisy

The basic point about this amazing business seems to be its hypocrisy. In the US, more than \$100 billion has been spent on arrests, imprisonment, education and other action since President Ronald Reagan initiated his "war against drugs" in 1983. But, in the period from 1983 to 1993, the death by drug abuse rate doubled, while assassinations linked to drug-trafficking trebled. Statistics reveal that in 1992, in the US, 12,000 people died from drug abuse and 2,000 more from drug-related murders.

The worst statistics for drug casualties are for adults between 35 and 50

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years old, who in 1983 accounted for 80 per cent of the total drug casualties. Ten years later, the risk of dying by drug abuse was 15 times greater for people in their forties than for university students. And yet US authorities in charge of the fight against drugs give no explanation for these figures. They just present statistics showing an increase in the relatively low rate of teenagers who smoke marijuana.

At present, the US market almost entirely absorbs Latin American drug production (as well as a third of the world's heroin and 80 per cent of its marijuana). Drug consumers in that country amount to 20 million, but in order to solve this domestic problem, the US policy is to fight it abroad. This exclusively domestic issue of drug consumption has been turned into one of the favourite excuses for US intervention abroad, the creation of the Drug



Coca leaves for sale in a Bolivian market.

Enforcement Agency (DEA) in July 1973 being one of the fundamental steps to institutionalise this. This cocaine colonialism has led to a disregard for other countries' sovereignty. A 1992 US Supreme Court judgement, legalising the kidnapping of drugs suspects in other countries, carries with it a very serious threat to human rights, and mocks international law.

The US approach to the popularity of cocaine is a classic example of misrepresenting the real problem. Drug consumption has become the object of a crusade, projecting the evil onto the producer and not onto the consumer –

onto the 'other' and not onto oneself. Today, many respectable voices can be heard proposing that drugs such as cocaine should be legalised, as a first step to solving some of the problems created by the prohibitions – such as the high price, which often leads to corruption and violence, or the bad quality of the final product, that endangers health. Such a move would not only remove the carpet from beneath the feet of the corrupt, but would decriminalise large sections of a society wracked by many more serious problems.

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Gulliver in Automobilia

— By Nicholas Gould —

**Part III:
in which
the author
encounters
Astronauts.**

The Sages of Automobilia long ago conceived that the Race of Mankind, being by the Will of God and by their own surpassing Virtues chosen to be supreme among all created Things, were destined at length to subdue to their own Purposes not the Earth alone, but the entire celestial Universe. But until a few Years since, their Powers in no Wise matching their Ambitions, the Art of voyaging through the firmament of Heaven, though a frequent Topic for idle Speculation and the pleasing Fancies of the Authors of Popular Tales, was not held to be in immediate Prospect of Realisation. That it came to be so, was the unforeseen Consequence of an Improvement in the Science of War.

Every General wishes if he can to slay the Enemy without Risk to his own Men: and it is to this humane End that the Nations of Christendom have devised Cannons, Mortars, Bombards, Grenades and such other Devices as kill at a distance. The ingenious Strategists of Automobilia have perfected this Skill by the use of Rockets, such as I have seen in England innocently employed at Shows and Illuminations, but of immeasurably greater Bulk and Velocity. These curious Engines at once suggested to the Imaginations of the Wise a Possibility of the Fulfilment of their ancient Dream: a Man, borne upon fiery Wings, and encased in a Shell of Iron, might ascend to the Regions of Aether and discover all the Secrets of the Planets and the Stars.

To think, with this People, is to act: and it was at once proclaimed that whatever the Difficulties, the Dangers, or the Cost, the Passage of a few Years should find the flag of Automobilia planted in the soil of our planetary Neighbour, the Moon. Some few Dissenters protested that the Advantages of Lunar Discovery were at best dubious and not a Whit commensurate with the Expense such a Project must needs incur: for the Moon is revealed by the Astronomer's glass to be devoid of all Life, animal or vegetable, and he who desires a Desert may find it with greater Expediency upon Earth. But these Doubters were speedily laughed to Scorn: no great Enterprise, they were assured, could be carried to Fruition without Trouble to any Man, nor could a Cake be made, as the Saying goes, without breaking of Eggs.

Thereafter, for many Years, a large part of the Revenues of the State were directed to the Fashioning of Rockets impulsive enough to escape the Attraction of the Earth and ascend to the Lunar Sphere. Nor could the Needs of the Passengers be neglected: the perfect Vehicle must bear in its forward Parts a Cabin stout enough to withstand the cold and vacuous Wastes of that super-mundane Zone. At last all was complete: and the

prodigal and enthusiastic Temper of the Automobilians may be judged by this, that the total Cost of the Operation exceeded all the Churches and Cathedrals in Christendom. It is even alleged by some carping and pusillanimous critics (I use my Informants' Description of them), that a less Sum would have sufficed to house, clothe and feed all the paupers in the Kingdom, and do much else besides: but the Majority of the People held the glory of their Nation of more account than the Welfare of a few Millions of poor Folk, and judged no Sacrifice too great that should speed Man's Exodus into the limitless Region of the Stars.

The Voyage, then, was undertaken: and the Astronauts (for thus were they designated) rose in their fiery Chariot like so many Phaethons, alighted at length upon the lunar Surface, and returned safe to relate their Adventures. The total Tribute of this new Dominion amounted, it is true, to some few Handfuls of Dust, like the Gold the Fairies use to cheat poor Mortals withal; but the Sages and Philosophers esteemed this Dust so highly and spoke so eloquently of the weighty Secrets it would impart to them upon a fuller Inspection, that the common People too were fain to acclaim this Vessel with its insignificant Cargo as much as any Argosy that ever returned from the Indies freighted with Gold and Silks and spices. If any objected, that no Quantity of Dust, whatever its unusual Virtues, could fairly recompense so many Years' Labour, and the expenditure of such an unconscionable Deal of Money, he was scorned as a vile Worldling incapable of subordinating his gross material Passions to the high Purposes of speculative Science. I cannot forbear to add that in another Breath the Advocates of lunar Exploration might be heard dilating upon the mineral Riches this new-found Land must in time supply: though how such ponderous Commodities may be cheaply conveyed over the eighty thousand leagues of intervening Void, they cannot yet describe.

Such, then, is the Project upon which, more than any other, the Automobilians have bestowed their intellectual Powers. It is their fixed Belief that whatsoever can be done, should be done: if only an Invention be possible. They do not trouble their Heads to consider whether it be useful or no, but carry it into Effect without more ado. This Impetuosity is the Origin of many of the Ills which beset them: and he would do them great Service who could persuade them at all Times to look before they Leap. In their lunar Adventure they have succeeded, where the Builders of Babel were frustrated: but the Sum of their Endeavours is this, that they have with immense Pains scaled a Ladder into the Loft or Attic of the world, only to find it full of naught but Dust. □



NEWS & CAMPAIGNS *by Lucinda Labes*

Send details of your organisation's campaigns, and any important news stories and developments to Lucinda Labes, at *The Ecologist*, Unit 18 Chelsea Wharf, 15 Lots Road, London SW10 0QJ

WTO Wages War on Forests

The new 'free logging' agreement picks up speed

In June, in the wake of mass public protest, G8 leaders meeting in Cologne were prepared to promise anything. Yes, "we agree that environmental considerations should be taken fully into account in the upcoming round of WTO negotiations", they said, in an official press statement. And yes, we do understand "the importance of taking action to reduce greenhouse gas emissions".

Hollow promises? Apparently so. Just one month later, the Clinton administration's proposal for upcoming Millennium Round agenda has come out in full support of the recently-proposed Global Free Logging Agreement (See *The Ecologist* Vol. 29, No.3, p.181).

This far-reaching WTO stipend would eradicate tariffs for forest products between the 135 member nations, as well as allowing investors unfettered access to another countries' woodland.

What's more, foreign logging corporations would have no obligation to observe domestic labour or environmental laws,

or protect endangered forests. Indeed, any country attempting to preserve its trees could be accused of "protectionism" - the eighth deadly sin, in the eyes of trade liberalisation advocates.

Clearly, the bill would have a devastating impact on the world's remaining forests. Even the American Forest & Paper Association is prepared to admit that the legislation would increase global wood consumption by up to 4 per cent. Slash and burn deforestation techniques, and a reduction in the overall quantity of oxygen-producing vegetation would increase levels of atmospheric carbon dioxide, directly contributing to the global warming which our G8 leaders are supposedly so keen to avert.

48 members of the US Congress have written to President Bill Clinton, asking that he reject the WTO's proposal.

Please add your voice to the message. Write to US Trade Representative, Charlene Barshefsky, by contacting Antonia at antonia@americanlands.org or ring + (202) 547-9230.

Let Them Eat Caviar

Eating caviar is no longer just a matter of taste. Nowadays it is also a question of conscience.

In 1998, 23 types of sturgeon, including beluga and sevruga, were placed under international protection, after fisherman reported ever-dwindling catches. Now, a debate is raging in the conservation movement about how best to protect them.

Conservationists are in two minds. Caroline Raymakers, of the Convention on International Trade in Endangered Species of Wild Fauna and Flora, also known as CITES, thinks we should eat as much caviar as we can, particularly of the very expensive kind. By spending a lot of money on legally caught caviar, the consumer makes sturgeon too valuable for caviar exporting nations to lose.

But Vadim Birstein, a conservation biologist who helped sound the first alarm of the sturgeon's predicament, says we shouldn't be eating caviar at all. At the current rate of consumption, the Beluga species of sturgeon will have disappeared in 5 years time.

The reasons are manifold: sturgeon, which can grow to 9 metres and weigh up to 500 kilograms, take 25 years to reach maturity. Traditionally, fishermen

catch mature females as they swim upstream to spawn. But a spate of greed has prompted catches on the high seas, resulting in the unnecessary deaths of large males and immature females.

Dam-building is also to blame. Massive hydroelectric projects throughout China, Iran and Russia have blocked females from their ancient spawning grounds. And in the Caspian Sea, oil drilling, with its incumbent pollution, has sounded the death knell for many of the water's fish.

Poaching is the worst problem. Even since the break-up of the Soviet Union in

the early 1990s, black market caviar exports have soared. CITES hopes to protect the embattled fish by stamping out the illegal catches. After April next year, the institutes' 145 member nations will only buy caviar bearing the official CITES stamp.

Let's hope the measure hasn't come too late. According to the UN's Food and Agriculture Organisation in Rome, 1997's sturgeon quotas plummeted to a disastrous 4,696 metric tons, down from some 20,416 just a decade earlier.

For the sturgeon, its going to be an upstream battle.



Sacred Mountains Are Quarried

Deep in the heartland of South Central Timor, the Molo tribe is up in arms. For on July 5th, marble mining company PT Karya Asta Alam (PT KAA) began drilling into their two sacred mountains.

Fatu Naususu and Fatu Anjaf are where the Molo go to pray. When important community decisions need to be made, the tribespeople meet on their mountains. Ancient folklore has it that the first Molo man and woman appeared on Naususu and Anjaf. So when they die, the Molo are buried in the ancient hills.

A network of local indigenous groups have rallied to the Molo's defence, pub-

licising the numerous violations carried out by the company. Mining on sacred land is illegal under Indonesian law, and PT KAA don't have permission from the regional government to quarry the mountains. What's more, the Molo's stone-hills fall within a designated National Park, which is protected by law against the ravages of mining.

Ecologically, the mine would be a disaster. The water-intensive industry would pollute and diminish the mountains' river water, drying up the fertile agricultural land below, dubbed 'the rice bowl' of Timor. When another company began mining in the same region last year, poisonous chemical runoff from

the quarrying led to the revocation of the company's license. PT KAA has no environmental strategy and, so far, has failed to undertake an Environmental Impact Assessment.

PT KAA, in cahoots with the local government, have responded aggressively to the Molo's protests. Last week, 200 armed guards were hired to protect the company's site.

Please write to the Indonesian Environmental Minister: Mr. Panantian Siregar, Jl. M. Merdeka Barat 15, Jakarta Pusat, Indonesia. The London Embassy telephone number is +44(0)171 499 7661.

Norway to Claim PCB Compensation

Norwegian authorities are preparing a collective lawsuit, demanding compensation from the world's former PCB manufacturers.

Norway's fjords and harbours are believed to contain up to 400 tonnes of polychlorinated biphenyls, for which clean-up costs are estimated at £1.1 billion.

PCBs, the bulk of which were sold by a subsidiary of our old friends Monsanto, came onto the market in the 1930s. The greasy fluids were used as insulators

in electrical equipment. But production was short-lived. When PCBs were found to concentrate up the food chain, saturating animal fat with hormone disrupting toxins, the chemicals were banned. However, prevention came too late. Already, one fifth of the 1.5 billion tonnes manufactured is circulating through the oceans, poisoning marine life across the world. In 1997, arctic researchers discovered four hermaphroditic polar bear cubs, whilst dolphin, seal and whale blubber is so contaminated that coastal authorities have to treat beached marine mammals as "toxic

waste".

Normally, Norwegian land-owners have to foot the bills for any local pollution problems. But if the authorities can prove that producers knowingly sold an environmentally hazardous product, then companies like Monsanto will be forced to pay up.

Local authorities from several regions, including Norway's capital, Oslo, are keen to press charges. Such a lawsuit would be the first attempt by a nation state to gain recompense for the disastrous, irreversible consequences of the world's PCB poisoning.

The Renewable Revolution

Brazil is investing billions in renewable energy, whilst in Iceland, a hydrogen revolution is taking place. Africa, with its new solar training programme, is also on the make.

In a new government project, Brazil will invest billions in renewable energy, to bring power to 20 million Brazilians. Through wind turbines, solar cells, biomass and small hydropower developments, the government hopes to promote 10,000 small renewable energy schemes a year. Each project would provide clean, locally-produced energy for up to 200 rural people and would, perhaps, provide an alternative to some of the destructive oil-prospecting schemes currently planned for the Amazon basin, with the government's blessing.

Meanwhile, Iceland is aiming to cut its links with fossil fuels altogether and become the world's first "hydrogen economy." Analysts believe that the Earth's most sparsely populated country could become the 21st century's "hydrogen sheikh," if it pits its abundant water resources into hydrogen fuel cells.

Fuel cell technology has been around since its discovery in 1839 by Welsh physicist William Grove. He showed that reacting hydrogen with oxygen in the presence of platinum electrodes created electricity. Because the only by-product of a functioning hydrogen fuel cell is water, the technology, widely applied, could provide a renewable alternative to polluting carbon technology.

With its countless fast-flowing rivers and volcanic rock pools, Iceland is an ideal place for the production of renew-

able energy. Although much of the country's electricity already comes from hydroelectric and geothermal power, currently, only 10 per cent of the country's hydroelectric potential is being tapped. Icelanders hope to use the excess energy to power first buses, then fishing fleets, then trucks and cars.

In Tanzania, another renewable energy scheme is making waves. The KARADEA Solar Training Facility is training individual Africans to erect solar energy systems, and giving them the skills to pass on their knowledge. Already, people from as far afield as Kenya, Zimbabwe, Ethiopia and Somalia have taken part in the project, and there are currently some 200 UDEFA approved solar technicians at large in sub-Saharan Africa.

Deutsche Bank says 'GM is dead'

Europe's biggest bank has warned investors to sell their shares in companies producing GM foods, because consumers don't want to buy their products.

In a report sent to thousands of institutional investors, Deutsche Bank said that "growing negative sentiment" is causing problems for leading biotech companies like Monsanto and Novartis.

"We note that Monsanto has spent more than \$1.5m (about £1million) to persuade English consumers of the recti-

tude of their position but, alas, to no avail. Monsanto is little match for Prince Charles, an anti-GMO advocate, when it comes to sensitivity for the English people's desires," the report says.

GM seeds have become so unpopular that the bank likens the technology to nuclear power. They believe the seeds could become "a liability" for farmers: "GMOs are being demonised by their opponents. What food manufacturer will 'take a bullet' for GMO corn in the face of such controversy?"

To add insult to injury, recent US

research shows that yields in GM maize, soya and cotton are not necessarily an improvement on natural strains, nor do they require fewer pesticides.

Falling share prices reflect the consumer backlash. In the last six months, Monsanto's share price has fallen 11 per cent, against a stock market that has seen an overall rise in share values. Delta & Pineland, the company that owns the "Terminator" technology patent, and which Monsanto is in the process of buying, has seen an even more dramatic devaluation – falling 18 per cent.

Getting Abreast of the Problem

Cosmetic surgeons in America have reported a disturbing new trend. Girls as young as 16 are queuing up for breast implants.

"It is becoming more and more common to operate on teenagers," said Edward Domanskis, a cosmetic surgeon in Newport Beach, an affluent area just south of Los Angeles.

"It used to be that most women coming in for implants were in their late twenties and early thirties and had had children. We get a lot of girls coming in now around the time they are leaving high school. They want bigger breasts for the

next phase in their lives."

Between 1997 and 1998, the number of breast enhancements performed by members of the American Society of Plastic and Reconstructive Surgery on girls aged 18 and under rose a dramatic 57 per cent to 1,840. The total number of operations, including those done by other surgeons, could be twice that.

The sudden surge in implants can be partly explained by the booming US economy, which has bought the price of a breast operation to a relative low. With credit schemes that offer payments as low as \$40 (£25) a month, it is easy for teenagers to earn enough pocket money

over their summer holidays to pay for surgery. But Sybil Goldrich, who runs Command Trust Network, an information service on the dangers of implants, has another explanation:

"These girls have grown up with role models like Britney Spears," she says. Although the 17-year-old pop idol denies having had surgery, teenagers, desperate for a figure like hers, are turning to the surgeon's knife.

"For many of these girls, breasts are a replacement for some very necessary counselling," says Goldrich. "They need to learn to appreciate themselves as a complete person, including their breasts."

Revelations from the Rubble

Turkey is planning a nuclear power station, just 20 miles from an earthquake faultline. Meanwhile, Colombian architects have discovered the secret to 'quake proof' housing.

In the wake of the recent horrific earthquake in Istanbul, Turkey has come under growing pressure to abandon plans for a nuclear reactor just 20 miles from the Ecemis faultline. Greenpeace has warned that the power station could turn into one of the worst-ever man made disasters. But the government says the reactor, which would be built at Akkuyu Bay on the southern coast, is essential.

Meanwhile, in Colombia, an enormous earthquake last January brought a revelation from the rubble, which may yet yield lessons for countries like Turkey as they recover from the vast

death tolls.

Two of Colombia's towns tell the story. In Barcelona, (population 7,000), where middle-class, European-style houses are built out of concrete, the earthquake caused massive damage and 48 people died. In Pijao, much closer to the earthquake's epicentre, but mostly containing dwellings of 'poor mans' bamboo, only one of the 10,000 inhabitants died – and he lived in a concrete house.

Simon Velez, a bamboo architect, believes the discovery may change the face of Colombian house building. Although popular prejudice still sets a demand for the more expensive concrete houses, Velez has perfected a design whereby a thin layer of mesh-encrusted concrete conceals a sturdy bamboo framework. And, just like "proper" homes, the design features solid foundations and tiles on the roof.

For bamboo dwellers, termites and other wood-munching insects pose the most substantial threat of natural disaster. But, by turning to ancient Japanese wood smoking methods, Velez found that smoking bamboo with naturally pyrolytic wood shavings guarantees an insect-resistant building for 100 years.

Gunter Pauli, of the Zero Emissions Research Initiative (Zeri), is excited: "This is wonderful simple technology; local materials, cut from the surrounding renewable bamboo forest, preserved with natural smoke. Nothing is wasted and nothing is imported, it is earthquake proof, the local people can do it all themselves, and the environment doesn't suffer." And at £1,000 a throw – half the price of a concrete house – even the Colombian housing department is showing interest.

'Scotland's Galapagos' to Face Oil Drilling

This month, for the first time in 69 years, the descendants of the indigenous people of St Kilda reconvened their ancient parliament. The villagers, together with Greenpeace, met to condemn oil developments, scheduled to begin off the island's coast in the next few months.

St Kilda, which lies 100 miles off the Scottish coast, is one of the wildest places in Europe. The last inhabitants moved away in 1930, and since then, puffins, fulmars, and gannets have run riot. Some 400,000 pairs of seabirds nest in the island's cliffs whilst St Kilda's marine life is one of the most diverse ecosystems in the world.



GREENPEACE



GEORGE WASHINGTON WILSON COLLECTION, UNIVERSITY OF ABERDEEN

Descendants (above) of the original St Kilda islanders (left) have reconvened their ancient parliament to protest against oil drilling.

one of many oil contracts approved by British Prime Minister, Tony Blair. All in all, 30 companies plan to develop some 22,000 square miles of sea bed across the Atlantic Frontier. The projects, which are worth billions to the British economy, are being vigorously opposed. Greenpeace campaigner Rob Guterbock says; "No one would contemplate putting an oil rig next to the Taj Mahal, but that is exactly what the government is encouraging."

Classed as a World Heritage Site, St Kilda ranks alongside places like the Galapagos Islands, Yellowstone National Park and the Great Barrier Reef. "If any one of those sites were threatened by oil drilling, there would be an international outcry and that is exactly what there should be over the dangers facing

St Kilda," says Greenpeace director, Lord Peter Melchett.

In the face of resounding indifference from the British government, Greenpeace have turned to the United Nations Education Scientific and Cultural Organisation (UNESCO) to protect St Kilda. But the projected drilling is just

To voice your concerns about the St Kilda oil development, please contact: Greenpeace on stkilda@greenpeace.org or John Prescott, Department of the Environment, Transport and the Regions, Eland House, Bressenden Place, London SW1E 5DU, Tel: 0171 890 3000/energy@detr.gov.uk/complaints@detr.gov.uk

Thai Tree Trouble

Thailand's national forests are for sale. Last week, the Forestry Department handed 175,000 acres of Thailand's public forests over to Chinese investors, to be turned into massive eucalyptus plantations for their paper mills.

Isn't this strange?" asked Sanitsuda Ekachai in the Bangkok Post. "China is such a huge country. If Eucalyptus plantations are so great, why don't they grow

them themselves?" Because, as extensive Thai government conservation studies have shown, monoculture tree farms are seriously bad for a nation's environmental health.

The move makes a mockery of government conservation measures, not to mention their legal system. In 1992 the cabinet banned tree farms in national forests. Sales of public forest land also give a clear indication of the government's priorities: The fate of thousands

of Thailand's forest villagers comes second to the majesty of foreign investment.

But rolling out the red carpet to Chinese money will only cause trouble. Whether plantations are state or Chinese-owned, local people won't stand for it. A recent attempt by the Thai government to replace national forest with Eucalyptus plantations was scotched when furious farmers ripped up the saplings and smashed down nurseries.

The Roquefort Riots *French farmers are out in force.*

On August 29th, US punitive taxes on luxury European food products were given the go-ahead by the WTO. The 100 per cent tariffs come in response to a wholesale rejection of America's hormone-treated beef by the European Union. Now, producers of Roquefort, truffles and Dijon mustard look set to suffer.

But the French aren't going down without a fight. In September, consumers and small-scale farmers began to wage their own private war on America's favourite brands. So, in one village in the Roquefort area of South-west France, the Mayor's decision to slap 100 per cent duties on a bottle of a Coca Cola, means the popular fizzy drink won't leave you change from a fifty pound note.

McDonalds has been the most widely targeted. All over France, piles of rotting fruit and manure steam on the pristine forecourts of McDonalds' Drive-Thrus. In one particularly violent incident, an unfinished McDonalds development in Millau, Aveyron, was ransacked, machinery destroyed and construction equipment thrown into the local river. On the same day, Animal Liberation Front activists torched another branch, denouncing the corporation for "filling their pockets with money from ill-treated cows."

The French accuse US companies of promoting the sale of *la sale bouffe* (tasteless, mass-produced food). France's farm minister has noted undiplomatically that the United States has the "worst food in the world". The media have painted the scenes in their best romantic prose: the plucky French Davids against the mass-producing American Goliaths. But, ironically, the cottage-industry French farmers, whose quality produce will be the most affected by US tariffs, are just as threatened by the agribusinesses up the road, as the American agro-industrialists across the Atlantic. For while the farmers curse the WTO's gung-ho attitude to America's profit-hungry food production, French chicken and pork producers stand accused of feeding their animals sewage sludge to cut costs, with the blessing of the CAP.



Ronald gets his comeuppance from angry French farmers

Traffic Kills

Its official, traffic pollution is deadly.

In certain countries, air pollution from road traffic kills more people per year than fatal car crashes, a new health study has revealed.

The World Health Organisation report shows that the effects of long-term vehicle air pollution in France, Austria and Switzerland triggers an extra 21,000 deaths per year – more than the total number of annual motor fatalities in the three countries put together.

The report's findings were published

just days before another multinational organisation revealed that last years' car crashes cost the world's 29 most developed countries two per cent of their entire annual economies.

An OECD study condemned the "huge personal and economic cost to society" caused by the car.

Another recent report has produced the first concrete proof that traffic fumes cause lung cancer. Researchers in Sweden studying the effects of exhaust fumes on 3,500 men in Stockholm found that those living in areas of high density traffic throughout their study's entire 30 year

period, were 40 per cent more likely to contract the disease. Men who had only lived in areas of heavy traffic for ten years were shown to be 20 per cent more likely to develop the illness.

The effect was the same for smokers or non-smokers and for people of varying economic circumstances. Heavy traffic appears to be impartially carcinogenic.

Professor Goran Pershagen, of the Institute of Environmental Medicine in Stockholm, who led the research team, said: "The results show that further measures are needed to reduce air pollution from traffic and in workplaces."

CHEMICAL WORLD

A special report on new pesticide dangers uncovered so far this year. By Peter Montague.

FEBRUARY: The US Consumers' Union, publisher of Consumer Reports magazine, announced that many US fruits and vegetables carry pesticide residues that exceed the limits that the Environmental Protection Agency (EPA) considers safe for children. "Using US Department of Agriculture statistics based on 27,000 food samples from 1994 to 1997, the magazine looked at foods children are most likely to eat," the *New York Times* reported.¹ "Almost all the foods tested for pesticide residues were within legal limits, but were

Much of the rain falling on Europe contains such high levels of pesticides that rainwater would be illegal if it were supplied as drinking water.

frequently well above the levels the EPA says are safe for young children. According to the Consumers' Union report, even one serving of some fruits and vegetables can exceed safe daily limits for young children," the *New York Times* reported.

MARCH: Swedish scientists Lennart Hardell and Mikael Eriksson published a case-control study showing that non-Hodgkin's lymphoma (NHL) is linked to pesticide exposures. Hardell and Eriksson published a prior study linking phenoxy herbicides to NHL in 1981.²

NHL is a group of cancers that arise

Researchers in the US and Canada announced that they had measured pesticides in the amniotic fluid of 30 per cent of a sample of nine pregnant women in Los Angeles, California.

in the white blood cells. It is increasing rapidly right across the industrialised world. Between 1973 and 1991, the incidence of NHL increased at the rate of 3.3 per cent per year in the US, making it the third fastest-growing cancer in the country.³ In Sweden, the incidence has increased at the rate of 3.6 per cent per



JULIAN COTTON PHOTO LIBRARY

year in men and 2.9 per cent per year in women since 1958.

One of the herbicides linked to NHL by the most recent Hardell study is glyphosate, sold by Monsanto under the trade name Roundup. A previous study of human subjects in 1998 had implicated Roundup in hairy cell leukaemia (cancer of the blood-forming organs), a rare kind of NHL.⁴ Several animal studies have shown that Roundup can cause gene mutations and chromosomal aberrations.⁵

APRIL: Researchers in Switzerland announced that much of the rain falling on Europe contains such high levels of pesticides that rainwater would be illegal if it were supplied as drinking water.⁶ The European Union has set a drinking water standard of 100 nanograms per litre for any individual pesticide. Stephan Müller at the Swiss Federal Institute for Environmental Science and Technology reported finding one sample of rain containing 4,000 nanograms per litre of 2, 4-dinitrophenol, a common pesticide. Müller had previously studied samples of rain from 41 storms over Europe and found the weed-killer Atrazine at levels exceeding 100 nanograms per litre in nine of them.

MAY: A US study published in the science journal *Environmental Health*

Perspectives makes the case that insecticides sprayed on forests in eastern Canada in the mid-1970s led to a dramatic decline in the population of Atlantic salmon (45 per cent reduction in small salmon, 77 per cent reduction in large salmon).⁷ Salmon are born in fresh water but after two or three years they undergo hormonal changes called smoltification, after which they move downstream into salt water. Researchers believe the pesticide interfered with smoltification, killing large numbers of fish.

JUNE: Researchers in the US and Canada announced that they had measured pesticides in the amniotic fluid of 30 per cent of a sample of nine pregnant women in Los Angeles, California.⁸ A baby growing in the womb floats in amniotic fluid for nine months before birth. The pesticide p,p'-DDE is a breakdown by-product of DDT and is known to interfere with male sexual development by de-activating the male sex hormone, testosterone. This is the first time that pesticides have been measured in amniotic fluid.

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Letter Forum

The Vegetarian Debate

As expected, Dr. Stephen Byrnes's article 'The Myths of Vegetarianism' (*The Ecologist*, Vol.29 No.4, July 1999) has sparked off a heated debate, and *The Ecologist* has received many letters on the subject – the most important of which we print in this specially extended Letters Forum, and which Stephen Byrnes responds to. Some readers seem to think that the piece was a general attack on vegetarians, or even a tacit approval of factory farming and industrial agriculture! Needless to say, this is not the case. *The Ecologist* has always maintained that it is modern industrial agriculture which is largely to blame for much of the world's environmental devastation, as well as contributing to the suffering of animals worldwide. Our editorial team (many of whom are vegetarian) are neither 'anti-vegetarian' nor 'pro-meat'. We are, however, pro-debate. The environmental movement should not be afraid to challenge some of its own assumptions. Dr. Byrnes's article, together with your letters, have done just that.

Excuses Excuses

"Diets associated with increases in chronic diseases are those rich in sugar, meat and other animal products, saturated fat and dietary cholesterol... If such trends continue, the end of this century will see cardiovascular disease and cancer established as major health problems in every country in the world."

The World Health Organisation report of 1991 from which this quote is drawn, was a profound condemnation of the West's dependence on an animal-based diet. Our society's determination to go on eating animal protein is a primary cause of degradation of land, sea and air and is dispossessing the Earth's poor. Stephen Byrnes believes the opposite. But anyone who can construct a thesis around the claim that saturated fat consumption has not increased this century can't be taken seriously. Since 1946, the number of food animals killed annually in the UK has increased from 51.6 million to over 800 million, all of them laced with saturated fat and cholesterol. It is similar everywhere in the Western world. I counted a further 30 glaring false assumptions and misquoted science before I gave up in despair.

These are the facts. Vegetarians suffer less from all degenerative diseases – coronary heart disease, high blood pressure, strokes and clogged arteries, cancers, diabetes, gall bladder and kidney disease, osteoporosis and

intestinal disorders. The better health outcomes of vegetarians are profound – 25 to 60 per cent less risk of coronary heart disease and around 40 per cent less risk of cancer. There are no nutrients lacking in a vegetarian diet, and vegetarians live longer than most meat eaters. Over the last few years there has been a deluge of science to support this and five minutes on the Internet will confirm it.

Meat production is as damaging to the globe as it is to our health and one reason is this – it takes about 10 kg of vegetable protein to produce 1 kg of beef protein. Even if reared organically and free-range, meat farming is still the most wasteful and inefficient method of food production imaginable. As the number of people in the world increases, the amount of land available to feed them decreases – alarmingly so. On a diet where just 35 per cent of calories are provided by animal protein, the world can support just 2.6 billion people. On a vegetarian diet it can support today's six billion – and more. Environmentalists have to grasp this.

In Britain, 90 per cent of land is used for grazing or fodder crops but it isn't enough. High-quality food is sucked in from the developing world, the same countries where populations are starving. Even during its disastrous famine of 1991, Ethiopia was exporting fodder to the West. A total area the size of the UK, France, Italy and New Zealand is taken up by fodder for the West.

Most environmental organisations defend meat-eating, bizarrely because it is essential to some indigenous people. This isn't some esoteric debate about whether we can or can't eat meat – it's about life or death. The fact that we can eat meat and some people depend upon it is irrelevant. We cannot eat meat on the scale we do without damaging both health and the environment. Even the Inuit, who traditionally depended on fish, tended to die in their early thirties from brain haemorrhage due to fish oil. Chinese peasants lived to more than twice that age on a largely vegetarian diet.

It is a complete cop out to pretend concern for indigenous people as an excuse not to change your diet when it is your diet which is destroying their way of life. The oceans typify this. Local communities who subsisted on the world's mangrove swamps have been devastated. Fish and prawn farms, again producing mostly for the West, have destroyed over 70 per cent of these ocean nurseries in the sub-tropical regions. With them have gone the breeding grounds for 2,000 species of fish, crustaceans and plants – as well as people.

Historically, humans have eaten very little meat, despite what Dr. Byrnes believes, and the only hope for the future is to move back to that. Yet still we are building our food supplies on the backs of diseased, drugged and dejected animals, living in an increasingly diseased and drugged world. Environmentalists should face these facts rather than looking for badly researched excuses to carry on eating meat.

Tony Wardle,
Deputy Director,
Viva! UK

Byrnes is Wrong

The article 'Myths of Vegetarianism' simply has to be replied to.

Myth 2: "B12". Primates get B12 from bacteria on fruit, which, ingested, continue to metabolise in the gut. Organically grown foods will often contain traces of bacteria from the soil

or even fragments of insects which are hard to see. When foods are grown with pesticides however, bacteria are exterminated, and the processing of food for storage and looks will remove any traces of B12. Does Dr. Byrnes think livestock are born with it?

Myth 4: In fact people have been eating meat in only small quantities through most of history. Only with the advent of land enclosure, livestock monoculture and factory farming could we eat meat in big quantities. The Inuit, Maasai and Australian Aborigines exert themselves greatly. Just so the Hunza and Caucasian peasant farmers. They use their bones, hearts and calories. For the less vigorous, high protein intake markedly causes osteoporosis: it requires more calcium than meat contains to metabolise the proteins. So it is withdrawn from bones. We have been misled as to how much protein we need by the meat industry and its sponsored scientists: human mother's milk contains only two per cent protein – for our period of fastest growth.

Myth 10: "Designed for meat". The herbivore cow has now been fed animal parts. Plainly its four stomachs and pancreas have coped. That something is possible when tried does not mean that therefore it is necessary. In our case, the less animal products we eat the less hydrochloric acid is produced. Hydrochloric acid is not secreted by the glands in the stomach when carbohydrates are eaten. High levels of hydrochloric acid require our stomach to produce increased mucus to protect itself. This passes into the intestines and coats the walls in a rubbery, permanent layer. Food is absorbed through these walls of hardened excrement into the bloodstream. It means reduced absorption, and a constant stream of toxins into the blood.

Myth 11. Modern mass systems of slaughter, long-distance transport and sale in supermarkets permit bacterial growth in meat, e.g. *Salmonella*, *Clostridium perfringens*, *Campylobacter*. When frankfurters from all over the USA were studied, over 40 per cent of them had bacteria growing in them.

Is Byrnes saying that there is enough land to feed the world's population from free-range, organic meat and dairy? If not, then we return to the hormones, antibiotics, nitrates, and concentrated pesticides in meat which he condemns. To large-scale use of land

and high water usage in poor nations to grow cash crops for our livestock feed: to unbelievable cruelty in factory farms.

Paul Jameson,
Essex, UK

Byrnes is Right

Thanks for publishing Dr. Byrnes's article. The piece gives a fuller picture than the 'politically correct' types generally encountered. People who believe one-diet-must-fit-all are usually unaware of the diverse dietary adaptations of biological systems uncovered by anthropology and animal science, as well as the experience gained by health practitioners in clinical practice.

As a nutritionist, I worked with high animal protein, low carbohydrate diets at The Atkins Center in New York and saw benefits to many heart disease and diabetic patients. I saw unhealthy vegetarians who suffered from autoimmune diseases or cancers improve on animal protein (with its natural vitamin B12 and heme iron) and good animal fats in their diets. I also know healthy vegetarians, but they work hard at it. Nutrition is a complicated, evolving field. Thanks to scientific investigations, we learn new facts daily in the intricacies of health and diet. Meat, fish and eggs can be good foods and have been a healthy mainstay of many cultures. Nutritional protocols should be individualised based on an analysis of a person's metabolism, genetics and therapeutic needs at the moment.

The scrimmage between vegetarians and omnivores is not new. Each side has its database. In my opinion, we should agree to stand united against our common enemies, which are those who threaten the nutritional integrity of all food and who continually undermine our ability to stay healthy in an increasingly toxic world.

Lee Clifford, MS, CCN, USA

Contaminated Meat

Several things puzzle me about 'The Myths of Vegetarianism'. Here are just two.

First Dr. Byrnes boasts that he "recently saved two vegans from death from anaemia (iron and B12) by convincing them to eat generous amounts of dairy products". How

brilliant of him. Silly me had always thought that the best sources of iron were dark green vegetables. I would love to know which dairy products are rich in iron.

Second, in his vigorous defence of meat Dr. Byrnes doesn't seem to think it worth mentioning that meat is now invariably contaminated with pesticides and drugs – many of which are carcinogenic. Does he regard this fact as too insignificant to mention? Is it not possible that this could explain why meat now kills far more people than it used to?

Finally, if Dr. Byrnes would like to know of evidence showing (conclusively) that meat causes cancer, I suggest that he toddle along to his local library and borrow a copy of my book *Power Over Cancer* (published by the European Medical Journal).

Vernon Coleman. MB ChB DSc
Professor of Holistic Medical Sciences
UK

More Studies Needed

Though I have not read Dr. Byrnes's sources, I distrust an author who categorically says, for example, that "Vegans who do not supplement their diet with Vitamin B12 will eventually get pernicious anaemia... as well as nervous and digestive system damage."

What we need are careful studies following non-smoking vegans from birth to death – people raised on leafy greens, legumes, nuts, seeds, fresh fruits and grains, with some of their food processed from these sources (tofu, tempeh, seitan, olive oil, sherbet, rice milk, bread, etc.).

In the meantime, it does not seem to be any more 'natural' to drink the milk of the nursing mothers of other species, or to drink any mammalian milk after being weaned, than to take vitamin supplements. Nor has an argument been made merely by citing the fact that people in various cultures consume or have consumed large quantities of animal products. A few years ago, I read a book by Dr. Anna Kingsford that cited passages from 18th – and 19th – century British travellers' memoirs and letters marvelling over the vigour and longevity of peasants in different parts of the world who subsisted on potatoes, barley or beans.

The fact that various world religions have included killing animals and appropriating their milk and eggs for

human consumption does not constitute an argument for continuing these practices. Human sacrifice, cannibalism, mutilations, blood rituals, behaviours of all kinds have been sanctified and commanded by some 'god' or other in the course of history. Few people are clamouring for a return to the 'good old days' of bloody altars and the sacrifice of innocent victims. The same principle can apply to the food we eat.

Karen Davis, PhD
United Poultry Concerns, USA

Important Message

I want to compliment your magazine for running such a fine and thought-provoking piece. Over these past many years of my clinical experience the points in the article 'ring true.'

One brief reference to any quality nutrition source (such as *The Nutrition Almanac* by Lavon J. Dunne which I read daily) will quickly show that the condition pernicious anaemia will soon make itself apparent without a supplemental vitamin source. Vitamin B12 is essential for the body to absorb iron into the body where it is used in the production of haemoglobin in the red blood cells. My compliments to Dr. Stephen Byrnes for accurately addressing this topic and the other 11 myths in his article. As a nutritionally-oriented natural medicine doctor and a naturopathic physician who knows the many benefits of a wholefoods diet that includes organic animal products, I want to applaud *The Ecologist* and Dr. Byrnes for having the courage to print such an important message.

Dr. Larry K. Wilson, NMD, USA

Animal Welfare

Claiming to show that meat consumption does not contribute to famine or deplete natural resources, Byrnes says, "The open range, deserts and mountainous areas yield their fruits to grazing animals, not to arable crops," and "Stall-fed animals... are fed... grains and soybeans." Exactly! Most animal products involve diverting to animals vast amounts of water and food, and hence arable soil, that could be much more efficiently utilised or conserved. And much desert was arable land until overgrazing depleted it.

Animals very much need us to

refrain from eating them. The 'free-range chickens' Byrnes recommends are one of our decade's most harmful myths. Factory farms are not prevented by describing as 'free-range' an animal whose life is as miserable as those without the label. With or without the phoney label, chickens have been selectively bred to grow at a horrifically rapid rate so that soon after hatching, their bones cannot support their obese bodies. Descriptions of the agonising health problems they endure as a result are shamefully long.

Since it is almost impossible to find animals raised for food which are not made to suffer terribly, Byrnes would do a much greater service by explaining the real myths of humanely treated farm animals than he did by conjuring up imagined 'myths' of vegetarianism.

David J. Canton
Farm Sanctuary, New York, USA

Sloppy Logic

I enjoy your magazine and its tradition of probing the assumptions underlying much of the current 'accepted wisdom'. I particularly appreciated the article 'The Myths of Vegetarianism'. However, some sloppy logic undermined the overall credibility of the article. Two examples are illustrative.

The authors states that "...diets of native peoples the world over are rich in saturated fats, and heart disease and cancer are primarily modern diseases." This is a flawed comparison because it does not account for the lengthening of lifespans in modern times. Cancer and heart disease typically occur at ages that in many cases are beyond the average lifespan of native peoples in pre-modern times.

When discussing BSE, the author states that it is "probably not caused by cows eating animal parts with their food, a practice which imitates nature, as cows eating fresh grass consume insect larvae and eggs." This argument assumes that all kinds and amounts of animal parts are equivalent in terms of the risk of contracting BSE. This is decidedly not the case, as commercial herds were being fed significant amounts of mammalian offal mixed in with their feed. The prions identified as the probable infectious agent have not been identified in insects.

Such simplistic and obviously flawed logic is disappointing. It

weakens the impact of your effort to encourage 'Rethinking Basic Assumptions' by making it easier to dismiss the more fundamentally challenging aspects of this and other articles.

Dr. Brock B. Bernstein
California, USA

Meat and Disease

Under Myth 4, Dr. Byrnes states that the belief that meat eaters have higher rates of heart disease than vegetarians is "a stupendous claim... hard to reconcile with historical and anthropological facts." The available evidence, however, shows that mortality from heart disease is indeed lower in vegetarians than in comparable meat eaters. We published last year a pooled analysis of the world-wide data on mortality rates in Western vegetarians. This analysis was based on 8,300 deaths among 76,000 men and women in five studies in Britain, Germany and the US. Importantly, the comparison made was of mortality in vegetarians and non-vegetarians within each study, thus other aspects of lifestyle were similar between the two groups; furthermore, statistical adjustments were made for potential confounding factors including smoking, exercise and body weight. Overall, mortality from ischaemic heart disease was 24 per cent lower in the vegetarians than the non-vegetarians, and for none of the causes of death studies was mortality higher in the vegetarians. Detailed analyses of diet and mortality within the Oxford Vegetarian Study showed that mortality from ischaemic heart disease increased with the increasing consumption of cheese and eggs.

Dr. Timothy J. Key
Imperial Cancer Research Fund
Oxford, UK

Meat Cured Me

Your piece on the myths of vegetarianism rang some bells for me.

In the past I was strongly influenced by the "you can't feed the world on meat" argument propagated by such publications as *Diet for a Small Planet*. However, after 20 years of vegetarianism characterised by increasing ill health (principally eczema) I've now altered my diet to eat meat and fish and cut out many grains

(especially wheat) and dairy products. I now enjoy good health without being dependent on conventional or alternative medical treatment.

Aidan Constable
Heidelberg, Germany

Veganism is Unwise

Vegetarianism in its extreme expression is neither humble nor wise. It seeks to remove man from the biological order and in so doing invokes the Laws of Unintended Consequences. The 'Back to Eden' diet creates for the physical body the living hell of nutritional deficiencies – fatigue, anaemia, nervous disorders, fertility problems – if not in this generation, then in the next.

The talcum-powdered ladies who advanced teetotalism in America as a solution to the world's ills had the best

of intentions, but the unintended consequence of prohibition was the transfer of value-added tax from farm communities to the Mafia. Vegetarianism as a political movement, which blames the world's ills on meat consumption, conjures equally unexpected demons: depletion of our soil through monoculture cropping, dependent on synthetic fertilisers and pesticides; empowerment of the food industry to provide substitute provender, nutrient-poor and additive-rich, impoverishment of the peasant and marginal farmer for whom animal-husbandry is the most sustainable and least capital-intensive form of agriculture.

"Mixed farming cannot feed the world" is the mantra of globalisation. The independent yeoman farmer, who practises truly eco-friendly agriculture by rotating his fields with crops and livestock, is the enemy of the 'New

World Order'. Vegetarianism furthers this agenda by pushing animals off the farm and into the horrors of confinement feeding; promulgating foods based on vegetable oils through the phoney cholesterol hypothesis; and denying growing children the dietary components they need to develop into freethinking and energetic activists for their communities.

The wise and humble steward of the biological order consumes those animal foods he requires to maintain good health – with thankfulness, and he takes pains to purchase his milk, meat, eggs and fish from those who practise agriculture in a way that conserves the soil, nurtures the animal kingdom and enriches the local community.

Sally Fallon
President, The Weston A. Price
Foundation, USA

Stephen Byrnes replies

I expected my article to generate controversy, but it is frustrating that many of its critics do not appear to have read it carefully, and none has checked my references. For example, it is asserted that I gave no proof that vegan diets cause health problems. I, however, referenced Professor Abram's paper on vegetarianism in which he described studies done on children raised on macrobiotic diets who were suffering from anaemia, rickets, stunted growth and emotional problems. I also mentioned my own two patients who were affected by anaemia, on an, apparently, "healthy vegetarian diet."

Dr. Coleman writes that dairy products cannot correct iron deficiency anaemia. It is true that dairy is a poor source of iron, but it does contain small amounts and I specifically said "generous amounts" in the article. The two patients I described refused to eat eggs or meat due to their religious beliefs: dairy was the only option, so that is what I emphasised. They were consuming literally gallons of yogurt and milk a day (along with digestive enzyme supplements to facilitate better absorption).

Tony Wardle's missive on the dangers of battery farming to the environment is another example of missing the point. I am not out to defend the meat industry, factory farming or excessive meat consumption. Neither

am I out to attack vegetarianism per se, merely to explode some of the more dangerous myths put about by its more extreme advocates. I will be the first to agree that humanity has damaged the planet with its 'progress.' Asserting, however, that "becoming vegetarians" will solve our environmental problems (and this is the underlying message of such harangues) is simplistic and myopic.

Several of the respondents keep repeating that myth that native peoples do not eat large amounts of animal foods. Others cited data from the WHO to support this, which in fact do nothing of the kind. I ran this by Leon Abrams, Jr., Professor Emeritus of Anthropology at the University of Georgia and author of eight books and over 200 papers. Though now retired, Abrams is still regarded as one of the top nutritional anthropologists of our time. He stated that such claims are "far-fetched", and asked what data were used to arrive at such a pronouncement. Virtually all cultures show a preference for animal foods of different types, as well as animal fat (see Abrams' chapter on this subject in Food and Evolution (Temple University Press, 1987).

Dr. Key's assertions about heart disease among vegetarians and meat-eaters are suspect in light of analysis done by Dr. Russell Smith in his mas-

sive Diet, Blood Cholesterol and Coronary Heart Disease (also referenced in my article). Abrams' papers also discuss such 'studies'. That native peoples on traditional diets do not suffer from heart disease or cancer (or other degenerative diseases) is a fact which brings us to Dr. Bernstein's comments about longevity.

It is another myth that all people of earlier times died at young ages. The Bible, for example, allots 70 years as the human lifespan (Ps. 90:10). Professor Abrams has done a paper on this subject and I'd be happy to send it to interested readers. Wardle's statement that Eskimos died in their early thirties from brain haemorrhage is nonsense. It is true that when they didn't eat enough saturated fat from mammalian sources they had blood-clotting problems (Stefansson described this in his book). This is why Eskimos went out of their way to hunt and eat caribou and walrus – they knew there was something in those animals that they needed. Further, Price and Stefansson both described Eskimo longevity (Price mentioned it in all groups he studied).

Finally, I would like to point out that, contrary to claims made by some of my most determined attackers, I have no connections with the meat industry, and was certainly not 'paid off' by them.

THE ENFORCER:

Dr. Jack and the Company he Keeps

Dr. Jack Cunningham, the 'cabinet enforcer', is a key figure in the Blair government. He is influential on many scientific issues confronting New Labour, including GMOs and nuclear power. He is also a man with powerful business connections, a love of untested new technologies and a disregard for the Green movement. In this way, Jack Cunningham is almost a personification of the government's attitude to the environment. Here, *The Ecologist* lays bare his record, his connections and his politics. **By Mark Hollingsworth**

On Friday 8 May 1998, a group of British, German and French MPs descended on Chevening Place, a palatial country estate near Sevenoaks in Kent. The 17th century house is the official country residence for the Foreign Secretary. Set in a vast parkland with exquisite gardens, it is an ideal location for entertaining foreign dignitaries. For decades, parliamentarians have been seduced by the luxury of its surroundings.

But this was not just a political gathering to discuss trade and the European single market. It was a private two-day conference organised by a commercial lobbyist who represents the interests of the mighty Monsanto Corporation. The lobbyist was Evie Soames, head of Charles Barker BSMG Worldwide, the powerful political consultants. She organised the meeting in her capacity as director of the Franco-British Parliamentary Committee which paid for the translation services.

In this grimy interface between Labour and the commercial polluters, no politician looms larger or more significant than Dr Jack Cunningham.

some catering and a portion of the travel expenses. As Monsanto partially funds that Committee, the meeting was, in effect, sponsored by the corporation.

Seven British MPs attended the conference: Stuart Bell (paid advisor to Bell-Pottinger, another lobbying company on Monsanto's payroll), Thomas Brake (member of the Commons Select Committee on the Environment), Roger Casale, David Curry (former Agriculture Minister), Quentin Davies, Ian Davidson and Giles Radice. All seven declared that the meeting "was partly funded by Monsanto and Generale des Eaux". The latter, now known as Vivendi, is a French conglomerate with a range of commercial stakes relevant to the ecology movement. It has a foot in the UK's sewers through Onyx UK, a waste management company. Last year, a factory owned by another Vivendi subsidiary released a 300-foot plume of noxious gas over a Derbyshire village, killing pets and vegetation.

Vivendi has long been interested in exerting political influence. Its subsidiaries include General Utilities plc, a waste and water management company, whose "environmental director" is John Selwyn Gummer, the Tory MP and former Cabinet Minister. Gummer is a useful politician to have on the payroll: until May 1997 he was the Agriculture Minister and then

Environment Secretary. Another Vivendi subsidiary is energy management company Dalkia plc whose Chairman is Lord Ezra, a prominent Liberal Democrat peer.

Welcome to the mysterious world of political lobbying and influence-peddling, where the tentacles of big business stretch far and wide. In the debate over biotechnology, nuclear power and waste disposal, the web of connections linking ministers, MPs, peers, PR operators, lobbyists and companies is fundamental. In industries which are so heavily regulated, political influence is viewed as integral to profitability. And for New Labour, of course, commercial prowess reigns supreme.

It was not always the case. During the last General Election, Labour publicly promised to be "the first truly green government". But in private, Tony Blair neither liked nor trusted environmentalists, and he has not implemented many of his 'green' manifesto promises. While New Labour made pro-ecological noises for the voters, behind the scenes it was anxious to appease its business friends. "Labour is driven by the need not to alienate its new voters, which it has identified as middle-class, affluent, car owners living in the south-east", says Ian Wilmore, former policy adviser to Michael Meacher, confirming from the inside what many environmentalists suspect. "It is also desperate to be 'the party of business'".

The Cunningham Effect

In this grimy interface between Labour and the commercial polluters, no politician looms larger or more significant than Dr Jack Cunningham. For nearly 20 years he has been a dominant political force as the senior Shadow Minister for the Environment and then in government as Agriculture Secretary. Now he is the Cabinet Office Minister responsible for co-ordinating government policies, and chairman of the Cabinet Committee on Biotechnology. Cunningham is symbolic of Labour's dismissive attitude towards environmental concerns,

While New Labour made pro-ecological noises for the voters, behind the scenes it was anxious to appease its business friends.

and he embodies a decaying political culture.

Born in 1939, Jack Cunningham was brought up in Whitehaven, Cumbria, where his father, Andy, was head of the northern region of the powerful General and Municipal Workers Union. The family lived an ostentatious lifestyle, with Cunningham senior driving around town in a 3.8 litre Jaguar.



"I know what I want, and I'll bloody well get it", he was renowned for saying.

Young Jack was fascinated by science and in 1966, aged 27, he obtained a PhD in chemistry. His thesis was on organophosphates. But politics was in his blood, and in 1970 he was elected Labour MP for Whitehaven (later changed to Copeland). Three years later, humiliation struck when his father pleaded guilty to corruption charges. He accepted a bribe of a free holiday in return for architect John Poulson being awarded the contract to build a new Union office. Andy Cunningham was sentenced to five years in prison, later reduced to 12 months on appeal.

Devastated, his son threw himself into Labour politics and in 1976 was appointed a Junior Minister in the Energy Ministry under Tony Benn. At the same time, he was building a

Within two years of becoming Shadow Environment Secretary in 1983, he was also hired by the UK subsidiaries of two US corporations: Dow Ltd and Leather Chemicals Ltd.

formidable political power base in the north-east, and in 1983 he welcomed under his wing an ambitious 30-year-old who was elected MP for the nearby Sedgfield. His name was Tony Blair.

Dr. Jack "the Consultant"

But Cunningham had other agendas and interests. In 1980, while Shadow Industry Secretary, he became a paid advisor to Albright and Wilson UK Ltd, manufacturers of chemical food additives. This consultancy became a clear conflict of interest in 1983, when he was appointed Shadow Environment Secretary. Part of his responsibility was Labour's policy on chemical food additives.

In 1986 the Party stated: "It is now recognised that many additives can be harmful. Many children suffer allergic reactions to common colours, anti-oxidants and preservatives. Food workers have experienced ill-health from handling certain additives. The UK controls on additives lag behind those of many European countries". Yet at the same time as this statement was being written, Cunningham was being paid by a company which produced such chemical additives, notably anti-oxidants and nitrates that are used as food preservatives. But the Shadow Minister retained his consultancy, even when Albright and Wilson was regularly found guilty of pollution. In 1989 the firm was fined on five counts for allowing radioactive dust to float around their site at Portishead docks. Two years later it was penalised for discharging heavy metals, including cadmium, into the Irish Sea. Its factories were constantly found to have discharged chemicals above legal levels.

Cunningham was not being paid for his chemical and technical expertise. According to Albright and Wilson, he was being hired for "advice on parliamentary activities and on contacts with ministers and others with whom we do not normally have meetings". In other words: facilitating political access on behalf of the company. When asked about his relationship with Albright and Wilson, he replied: "If people break the law, I'm not going to defend them. I'm not there to apologise for people who do things wrong. I must say that some of this controversy was manufactured and exaggerated, but I don't want to go into the details of that". As recently as March 1997, Cunningham was still on the Albright and Wilson pay-



JULIAN COTTON PHOTO LIBRARY

Cunningham has expensive tastes: he prefers to fly Concorde, at the taxpayers' expense, even if there is no need

roll, and only resigned after Labour was elected into office.

Within two years of becoming Shadow Environment Secretary in 1983, he was also hired by the UK subsidiaries of two US corporations: Dow Ltd and Leather Chemicals Ltd. Dow is America's second-largest chemical company, and the world's sixth biggest pesticide manufacturer and exporter. In the past, it produced DDT, Agent Orange and even ingredients for napalm. Notoriously resistant to government regulation, it is the world leader in chlorine production – though the company always downplays its hazards. This despite the fact that in 1989 the US Environmental Protection Agency (EPA) cited seven Dow facilities as posing a high cancer risk due to toxic air emissions. In five plants, the danger came from chlorinated compounds.

Cunningham and the Poison Merchants

In the 1980s, while Cunningham was a consultant, the EPA found that Dow facilities have been involved in many accidents involving chlorine or chlorinated compounds. In 1988, a study concluded that the company was "the most significant" source of dioxin contamination in the Midland area of Michigan. On one occasion it poisoned sediment and fish in a nearby river. In Ontario, Dow spilled 2,500 gallons of a chlorinated cleaning solvent into a river. The solvent soaked up dioxins from previous spills and formed a toxic 'blob'. According to case studies, dioxin is among the most toxic substances known to science. [see special feature in this issue]

Despite protests from British environmentalists, Cunningham appeared loftily oblivious to the harm of Dow's products. Even when he occasionally spoke out, presumably to keep up appearances, his words were often contradicted by his actions. So, in November 1982, he called for controls on dangerous pesticides. Yet two years later, the company appointed him a paid advisor. Today, Dow is the second-largest chemical producer in the world, following a £7.2 billion take-over of Union Carbide, notorious for the Bhopal tragedy.

In 1992, Cunningham resigned his consultancy with Dow, but the following year joined Hays Chemical Distribution Ltd. Based in Halifax, St. Helens and Congleton (Cheshire), Hays distributes chlorine, mercury, nitrogen oxides, cadmium and hydrogen sulphide. He remained on the company payroll until the 1997 General Election.

It is not just that Cunningham has been in the pay of manufacturers of poison that has aroused such criticism. By privately advising these companies, his status is inevitably besmirched, and his impartiality is cast into doubt. "My con-

stituents send me to the Commons to use my judgement, and I do not see how I can do that if I am prepared to accept money from this or that outfit", said James Cran, former Tory MP and a former CBI director. "As soon as one accepts money for something, one ceases to use one's own independent mind".

Nuclear Jack

Perhaps Cunningham's most controversial relationship is with the nuclear industry. The Sellafield plant is based in his constituency, although he lives 80 miles away in Chester-le-Street, Durham (presumably to avoid contamination!) Half of his potential electors are employed by the plant.

It would be politically sensible for any Sellafield MP to support nuclear power, but Cunningham has gone further. He was sponsored by the General and Municipal Workers Union (GMW) which represents employees at Sellafield. The GMW has regularly paid 65 per cent of his constituency agent's salary and in 1979 contributed to his election costs, including "some direct benefit to me". For the 1992 election the union also paid some of his expenses.

Over the years, Cunningham has occasionally publicly called for inquiries into cancer threats and radioactive discharges at Sellafield. But when it comes to action he sides with British Nuclear Fuels Ltd (BNFL), the owners of the plant, which he claims has a "first-rate safety record". For Labour's 1987 election manifesto, the Shadow Environment Secretary fought a rearguard action for nuclear power to be "slowly phased out" rather than immediately abolished. "The demands for closure of the industry are facile and based on an anti-technology, anti-industrial naivety", said Cunningham – an attitude that became New Labour's stance a decade later.

But most people disagreed, and in the 1980s the nuclear industry was beset with political problems. It was a question of trust. BNFL was viewed as suspect, secretive, patronising

and arrogant about potential cancer dangers and leaks. And so, in the early 1990s, a media and lobbying counter-attack was launched. PR firms like the Communication Group Ltd were hired for "monitoring". Suddenly, BNFL began donating large amounts to charities and local communities. Image was now the priority, as the public needed to be seduced. In 1995, BNFL opened the Sellafield Visitors Centre with a champagne reception where the public could "feast on theme parks and rides". Known as "nuclear tourism", this charm offensive was even extended to the 1995 Miss World (from Bombay, India) visiting the site. Millions were spent building a virtual reality nuclear theme park.

MPs were a special target, particularly as the government polices and regulates the industry. The BNFL pitch was to point out the potential "job losses" from abolition, rather than the "merits" of nuclear power. Top of the list for courting was Cunningham. He was an overnight guest at BNFL's plush country mansion, Sella Park House near Sellafield, where he was entertained in lavish style for free. At meetings, executives always offered guests the finest wine, whisky and food. It was no secret that the Shadow Environment Secretary enjoyed the high life, and the company also paid a proportion of his air fares and hotel bills on two trips to the USA and Japan. On both occasions he was accompanied by his wife. As the constituency MP, this puts into question his ability to make independent decisions on behalf of the voters who elected him.

The closeness of Cunningham's relationship with BNFL even resulted in a police inquiry. In February 1992, the company distributed an internal newsletter to their 13,000 workers in Sellafield featuring an interview with Cunningham in which he supported the controversial plan to build a £2 million underground repository to store nuclear waste. He added that Britain would continue to need nuclear power, which has "a bright future".

As the newsletter was not published until 12 March 1992, the day after the General Election campaign was launched, it appeared as though BNFL was promoting Cunningham's candidature. This would have been a breach of the Representation of the People's Act which states that no-one – apart from the candidate or his agent – can incur expenses on behalf of the candidate. BNFL protested that it was sent out before the election but the Crown Prosecution Service asked the Cumbria police to investigate. After a three-month inquiry, Cunningham was found not guilty of breaching the law.

For the Love of THORP

During the 1992 election campaign, the Sellafield MP was Labour's Campaign Co-Ordinator and one of the party's most influential figures. But despite grassroots hostility to nuclear power, Cunningham remained its most powerful advocate. This was best illustrated by the controversy over the thermal oxide reprocessing plant (THORP) at Sellafield – based on the notion that reprocessing was the best way of disposing of nuclear waste. The danger was that radioactive discharges would be released and radiation doses increase. Before it could proceed, the government needed to give the new plant a licence, and so consultations and inquiries ensued.

BNFL was anxious to avoid any delay, as it was keen to realise profits and avoid large penalty payments to overseas customers with reprocessing contracts. It needed political fire-power. As the debate intensified in early 1992, Cunningham charged in with all guns blazing, demanding an immediate switch-on. He attacked the Tory government for the "delay"



Dr Jack at the heart of government

and accused it of "deliberate obstruction". But even Cunningham was embarrassed when there was a leak of plutonium while he was visiting THORP, and he was not alerted by the management. The leak occurred not far from THORP, in an older section of Sellafield, and was regarded as "serious" by BNFL. But it was later played down. "There was no build-up before the radiation escaped from an obsolete plutonium residue recovery plant being prepared for dismantling", said Graham Smith, then head of the Magnox Division at Sellafield. "It was a one-off situation".

Despite this, Cunningham remained a vociferous pro-THORP campaigner. On 5 July 1993, he went to 10 Downing Street and delivered a letter and report calling for THORP to proceed. It was the second time in six days that Cunningham had personally lobbied Prime Minister John Major on behalf of the nuclear industry. As usual, his primary pitch was not to address the public safety and health issues but the alleged job losses and economic damage.

Eventually, THORP was given the go-ahead, much to Cunningham's delight. "It is a technological achievement of which we can all be proud", said the President of the 'Friends of Sellafield Society'. But THORP has proved highly unreliable. In 1998 it was shut down for five months because of radioactive leaks and, according to a report by the Science Policy Research Unit at Sussex University, the plant is "a loss maker in terms of expected future and new avoidable cash flows".

Today, BNFL, owned by the government but self-financing, is all about making money. Last year, based partly on meeting eight per cent of Britain's electricity demand, the company's turnover was £1.34 billion with post-tax profits of £153 million. However, the proposed sale of 49 per cent of BNFL could be a financial disaster: the new MOX plant at Sellafield has been delayed because of doubts over commercial viability, THORP is not profitable and the cost of decommissioning the elderly Magnox reactors will be enormous.

In Government

On 1 May 1997, Cunningham entered the first Labour cabinet for 18 years, as Minister for Agriculture. It was a provocative appointment, given the Party's election manifesto pledge "to put concern for the environment at the heart of policy making". Cunningham was now jointly responsible – along with the DETR – for issuing and regulating licenses for discharges

when Cunningham and his wife enjoyed a night at the opera at Glyndebourne, Sussex, courtesy of BNFL. By accepting such hospitality, he further compromised his position as the Minister who was partly responsible for regulating the nuclear industry. It was also a breach of the strict Cabinet Office rules governing ministers' conduct, which state:

"Ministers will want to see that no conflict arises nor appears to arise between their private interests and their public duties... No Minister or public servant should accept gifts, hospitality or services from anyone which would, or might appear to place him or her under an obligation".

There were other commercial interests that cast doubt on Cunningham being impartial. Just weeks earlier, the new Agriculture Minister was still on the payroll of Albright and Wil-

Within months of his appointment, he hired a firm of "corporate identity consultants" to draw up a short-list of new names for MAFF. Nothing came of it, but it cost the taxpayer £100,000.

son, producers of chemicals used in pesticides and the production of food additives, and Hays Chemicals, whose subsidiary is one of the leading manufacturers of flavourings for animal feeds. Charles Secrett, director of Friends of the Earth, wrote to Prime Minister Tony Blair:

"We recognise that Dr Cunningham has not sought to hide from public scrutiny these associations, payments and gifts. However, they raise very serious issues of propriety and the ability to carry out Ministerial duties in the public interest. In order to ensure that your Party's important manifesto commitment is upheld throughout MAFF, we are convinced that it is necessary for Dr Cunningham... to resign as Minister".

The timing of Secrett's letter was exquisitely ironic as two days later, on 11 May 1997, Blair delivered a speech entitled 'The Trappings of Power'. In stern terms the Prime Minister told MPs of the need "to uphold the highest standards in public life".

Secrett's move touched a raw nerve. Two weeks later, Cunningham stepped down from taking decisions on Sellafield and British Nuclear Fuels and passed the responsibility to his Minister of State, Jeff Rooker. This acknowledged that there was a conflict of interests. "The Prime Minister considers that this arrangement is a sensible and practical one", wrote Blair's Private Secretary in reply to Secrett's letter, "which should satisfy all concerned that decisions are being taken in a responsible way with full regard to the needs of propriety".

In part, Cunningham was now a lame-duck minister. His year-long tenure in office should have been dominated by the BSE crisis, during which he sensibly set up a public inquiry. Instead, he allowed the agenda to be side-tracked by his predilection for spending public money on his office environment and lifestyle.

Junket Jack

For serious ecologists, the issue of junkets, luxury travel and the cost of hotel rooms may appear trivial and inconsequential. But the accumulative evidence points to a powerful Cabinet Minister spending a disproportionate amount of his time on self-indulgence. It is symbolic of Cunningham's priorities. Within months of his appointment, he hired a firm of "corporate identity consultants" to draw up a short-list of new names

For trips to European capitals, Cunningham usually chartered private jets despite the fact that there were scheduled commercial flights on the same days. This doubled the cost. When he arrived, he usually stayed at the most expensive hotels, notably the six-star Conrad Hotel in Brussels which charges between £250 and £1,450 per night.

of radioactive nuclear waste. For example, decisions still needed to be made about the Mox plant at Sellafield which makes nuclear fuel out of plutonium. As the plutonium and then the fuel is shipped in and out of Barrow to Japan and Germany, it is a controversial issue. Given his pro-nuclear record and cosy relationship with BNFL, it hardly inspired confidence that decisions would be made objectively.

This was starkly illustrated on Saturday 27 June 1998,



DAVID DRAIN/STILL PICTURES

Sellafield nuclear power plant is at the heart of Dr Cunningham's constituency

for MAFF. Nothing came of it, but it cost the taxpayer £100,000.

Then he moved the whole Department from Whitehall to a new set of offices on Smith Square, apparently to impress visiting European ministers. Total cost to the public purse: £2.3 million. This included £37,500 just to refurbish Cunningham's private office. The transfer of all the civil servants alone cost £930,000. He was later heavily criticised by the all-party Agriculture Select Committee for his "back-of-the-envelope" calculations.

For trips to European capitals, Cunningham usually chartered private jets despite the fact that there were scheduled commercial flights on the same days. This doubled the cost. When he arrived, he usually stayed at the most expensive hotels, notably the six-star Conrad Hotel in Brussels which charges between £250 and £1,450 per night. Most MPs and Ministers stay at the more convenient Hotel Dorint, where rooms are £174.

The Enforcer

In August 1998, Cunningham was moved from MAFF, and made Cabinet Office Minister responsible for overseeing and co-ordinating government policy. Known as the 'Cabinet Enforcer', he then proceeded to indulge in precisely the same practices. Within weeks he announced plans to move the Cabinet Office from its eight buildings to a site at Admiralty Arch. When pressed, Cunningham admitted that the total cost to the taxpayer would be a staggering £60 million over four years. An indication of the Minister's priorities was his insistence on a

new Brazilian mahogany conference table and chairs for his private office (public cost £15,000). This was a breach of a government ban on buying wood from Brazilian loggers who have frequently been fined for plundering the rainforests. After protests, he decided not to proceed with the order.

Cunningham was appointed to keep government and min-

As chairman of the powerful Cabinet Committee on GM, Cunningham remains the focus of this network of former cabinet ministers, lobbyists, pollsters and PR consultants, several of whom are in Monsanto's pocket.

isters out of trouble. But he was often the worst offender himself: flying to America by Concorde at a cost of £3,452 to address a conference on "better government" when he could have taken a cheaper flight which left 30 minutes earlier, and would have cost the taxpayer £1,822 less.

What was equally embarrassing was that the details of his ministerial extravagance were deliberately leaked to the press by his own senior civil servants. They were outraged that the public was funding such extravagance. But Tony Blair stood by his troubled colleague, and went on to appoint him Chairman of the Cabinet Committee dealing with one of the most controversial issues of our times: biotechnology and genetically modified food.

The Biotech Champion

Monsanto is acutely conscious of the importance of political lobbying in such a regulated area. If the government bans its genetically-modified food, it will be a major blow to its £450 million per year profits. One tactic is to deceive the regulators. According to Carl Jenkins of the US Environmental Protection Agency (EPA): "Monsanto has submitted false information to the EPA which directly resulted in weakened regulations".

In the UK, the government and media is the target, and so in early 1998 Monsanto launched a major PR and lobbying offensive to win over hearts and minds. A battery of operators has been hired. They play different roles but are connected at the highest echelons of government. The Monsanto network is all-consuming.

Monitoring of parliament has been done by Charles Barker BSMG which organised the conference at Chevening. A key

He strongly opposes a moratorium on engineered crops. "Some of these same people (who advocate a ban) were saying something similar 20 years ago about an industry not a million miles from my constituency", said Cunningham earlier this year. "If these people had had their way at the time, the nuclear industry would have been stopped in its tracks and closed".

Monsanto consultant is Stan Greenberg, an American pollster who worked for President Clinton during his 1992 campaign. His business partner is Philip Gould, an influential Labour strategist, advertising guru and close aide to Tony Blair. The two run a private polling company (together with James Carville, another top Clinton advisor) which was contracted to the Labour Party. This is 25 per cent owned by National Opinion Polling, which in turn is owned by Lord Hollick, proprietor of Express Newspapers and a strong supporter of New Labour.

On the publicity and lobbying side, Monsanto hired Bell-Pottinger Good Relations Ltd, part of the communications empire run by Lord Bell, the renowned former media guru to former Prime Minister Lady Thatcher. Its brief is "to gain public and opinion-former acceptance of genetically modified food and promote the benefits of biotechnology".

Bell-Pottinger was chosen because one of its executives is Dave Hill, Labour communications director from 1992 until he resigned soon after the 1997 General Election. Hill worked for Labour for 25 years at all levels and knows every Cabinet Minister extremely well. In effect, Monsanto's aim was, presumably, to buy political influence to guarantee regulatory acceptance for its transgenic crops.

An even more significant Labour advisor hired by Monsanto's lobbyists is Cathy McGlynn. For six years she was Special Advisor to Jack Cunningham, covering the period when he was Agriculture Secretary. In March 1998, she resigned from Cunningham's private office, but six months later signed a lucrative contract with Bell-Pottinger. She was appointed a mere week after Cunningham became Chairman of the Cabinet Committee on GM. Needless to say, McGlynn works closely with Hill on the Monsanto business.

An illustration of how Hill and Bell-Pottinger lobby Cunningham directly is contained in an internal company memo. On 5 November 1998, three weeks after the Cabinet Committee on biotechnology was set up, Alex Woolfall, a Bell-Pottinger consultant, wrote to Hill: "Regarding the new ministerial group. Would it not be a good idea for us to either write or phone Cunningham and offer some sort of briefing?".

This memo was followed by several private meetings between Monsanto executives, Cunningham and Jeff Rooker, the Minister of State for Agriculture. Since Labour was elected to office in May 1997, government officials or ministers have met Monsanto representatives on 22 occasions.

Bell-Pottinger put no less than five consultants on the Monsanto account: more than for any other client. But its executives have found it difficult persuading the public of the "merits" of GM. In that same memo to Hill, Woolfall lamented: "We have reached a bit of a hiatus with Monsanto, having lurched from crisis to crisis. It would be sensible to get a meeting with Dan Verakis (Monsanto's Director of Corporate Relations) and identify their priorities, so we can determine what our plot should be".

By early 1999, the crisis showed no signs of abeyance. On 17 February, Monsanto was fined £17,000 plus £6,000 costs for failing to ensure its controversial trial crops did not contaminate surrounding fields. Publicly, the company claimed it had taken adequate steps to "stop similar breaches occurring in the future". But privately, Monsanto's PR consultants admitted that the corporation was powerless to stop its GM crops spreading. In a secret note, a Bell-Pottinger executive stated: "My concern is that Monsanto are unable to say publicly what practical steps they are taking to stop this happening again. In reality, there is probably little they can do, but they are likely to be severely criticised if they are unable to at least appear to be working on a programme to tighten up monitoring of GM field trials". In essence, this was an admission by Monsanto that there is nothing it can do to prevent a recurrence of cross-fertilisation.

Crucially, Monsanto has been busy in parliament. The Labour MP Stuart Bell is a paid consultant to Bell-Pottinger, on a fee of up to £10,000 per year. As he does not declare any clients, it is unclear whether he works on the Monsanto account. Just before Stuart Bell joined the PR company, he was asked in the Commons for his assessment of the Church Commissioners' investment in Monsanto. The MP, a Church Commissioner, quoted approvingly from a Monsanto letter which said that "the life science company" is "playing a pivotal role in improving the health and nutritional needs of future generations".

Another MP on the Bell-Pottinger payroll is the Conservative Peter Luff who states that he "provides advice on political affairs only on new business". He also advises on "corporate public relations on new business work". As he is chairman of the Commons Select Committee on Agriculture, there is an appearance of a conflict of interests. But Luff fiercely and vehemently denies that he has ever worked on the Monsanto account, insisting that his only client is the Chamber of Shipping. "Of course I don't lobby for Monsanto", he insists testily.

In the House of Lords, Monsanto has hired Lord Lamont, Chancellor of the Exchequer from 1990 until 1993. Prior to that he was Financial and then Chief Secretary to the Treasury and has been a senior minister in the departments of Energy, Industry and Defence. Lamont has been on the Monsanto payroll as an advisor since 1998 but has not spoken about the GM



Cunningham shows his pleasure at being promoted to 'Cabinet Enforcer' last year

issue in the peers chamber. As he has no professional background in biotechnology (he was and is a merchant banker with N.M. Rothschilds), that can only mean he is privately counselling Monsanto on how to persuade the government that their product should not be regulated against or banned.

As chairman of the powerful Cabinet Committee on GM, Cunningham remains the focus of this network of former cabinet ministers, lobbyists, pollsters and PR consultants, several of whom are in Monsanto's pocket. And the Cabinet Enforcer has been receptive to their support for GM. He strongly

While Cunningham remains the most influential Cabinet Minister on GM and ecological issues, there is little room for optimism.

opposes a moratorium on engineered crops. "Some of these same people (who advocate a ban) were saying something similar 20 years ago about an industry not a million miles from my constituency", said Cunningham earlier this year. "If these people had had their way at the time, the nuclear industry would have been stopped in its tracks and closed".

Despite opinion polls revealing serious public concern about GM, Cunningham has remained staunchly loyal to the biotech lobby: "There is no question over the safety of GM products on sale for human consumption", he insists. This is reminiscent of John Gummer, Agriculture Minister in the last Conservative government, who sought to calm unease over the quality of British beef by feeding a hamburger to his daughter on TV. Shortly afterwards he was embarrassed by evidence which showed that BSE was a genuine problem. Blair adopted a similar approach, announcing that he and his wife were happy to eat GM food, although privately Cherie avoids it.

Faced with public and media concern, the government set up a special unit called the 'Biotechnology Presentation Group'. Based in the Cabinet Office, it is chaired by Cunningham and attended by senior Health, Agriculture and Environment ministers. It acts as a rebuttal unit to discredit "old stories" released by environmentalists and promote the benefits of biotechnology. According to the minutes of a meeting on 9 May 1999, the group decided to "identify an independent scientist to appear on the 'Today Programme'" to refute the findings of a Christian Aid report on the impact of GM foods in the Third World.

Ministers and their officials also decided to revise a key secret paper by the Chief Medical Officer and Chief Scientific Advisor on the health and environmental risks of GM. The original draft concluded that not enough was yet known about the dangers of growing GM food. The 'Presentation Group' concluded: "The paper should be revised to make sure it is intelligible to the lay reader and so that it contains clear recommendations. But Ministers needed to guard against the charge that the Government was seeking to influence the findings of the paper. The revised draft should be cleared by a future meeting of the Presentation Group".

Two weeks later, Cunningham announced voluntary guidelines on monitoring and surveillance checks on genetically engineered crops and new advisory groups. These were dismissed as "miserably inadequate" by doctors who said they failed to meet safety concerns. But the Cabinet Enforcer remained defiant. "Biotechnology has the potential to improve our quality of life in many ways", he told the Commons.

New Labour, New Lobbying

While Cunningham remains the most influential Cabinet Minister on GM and ecological issues, there is little room for optimism. But it is simplistic to believe that one man's prejudices are moulding and controlling all government policies on the environment. The more complex truth is that Monsanto, BNFL and others have devoted millions lobbying officials and ministers, and promoting their products. There is no free market or fair competition when it comes to influencing legislation which affects the health and safety of this planet. It is a lopsided debate because of the force and wealth of the corporate juggernaut.

The Monsanto campaign of PR spin-doctoring and influence-peddling has also received a bonus in that New Labour is a government of and for Big Business. It is mesmerised by the power and money of multinationals whose allegiance, as they freely admit, is to their shareholders not the public. Just as it was seduced by the cash of Formula One, Labour was receptive to Monsanto. As its own 'Invest in Britain Bureau' acknowledged this year:

"The UK leads the way in Europe in ensuring that regulations and other measures affecting the development of biotechnology take full account of the concerns of business".

Cunningham's career and record is a testament to the fact that when it comes to the environment, political expediency and the interests of commerce will always be a major influence.

Mark Hollingsworth is a freelance journalist and writer. He is the author of *MPs For Hire - The Secret World of Political Lobbying*. His latest book is *Defending the Realm - MIs and the Shayler Affair*.

The author would like to thank Stephanie Roth and Emmett Borcik for their excellent research in the preparation of this article.

REPRESENTING THE PEOPLE?

The following British politicians have outside interests in companies which conduct business that affect the environment. Those with an asterisk against their name have a poor environmental record, according to recent surveys. **By Mark Hollingsworth**

HOUSE OF LORDS

LIFE PEERS

LORD BAKER OF

DORKING: Director of Millennium Chemicals Inc * (drug discovery and development company, incorporating genetics)

LORD BARNETT: Chairman of Mercury Recycling Ltd (waste management)

LORD BUTLER: Director of ICI plc * (chemicals)

BARON CAVENTISH OF FURNESS: Director of United Kingdom Nirex Ltd*, a major waste management company in the nuclear industry. He is also a landowner with interests in agriculture, the environment, estate management, mineral extraction, forestry, field sports, building, industry and wind generation.

LORD CHRISTOPHER: Public Affairs Consultant (euphemism for lobbyist) for British Nuclear Fuels plc (BNFL) *

LORD CLARKE: Chairman of Unichem plc (pharmaceuticals distributor)

LORD EZRA: Chairman of Dalkia plc * (subsidiary of Vivendi), Chairman of Sheffield Heat and Power Ltd

LORD FRASER: Director of Elf Exploration UK plc *; Chairman of International Petroleum Exchange; Chairman of JKK Oil and Gas plc; Director of Star Oil Technology Venture Capital

LORD GAREL JONES: Adviser to British Petroleum Co plc*/Amoco

LORD GRAY OF CONTIN: Consultant to Scottish Nuclear Ltd (East Kilbride), BNFL's largest customer *

LORD GREGSON: Chairman of British Nuclear Fuels Expert Panel *; Chairman of Waste Management Industry Training and Advisory Board

LORD HOWE OF ABERAVON: Adviser to British Petroleum Co plc *

LORD LAMONT: Adviser to Monsanto Corporation *

LORD MOYNIHAN: Director of Ranger Oil Ltd; Director of Enron Renewable Energy Corporation; Managing director of Independent Power Corporation plc and affiliated companies; partner in CMA Consultants (lobbies

for clients who are predominantly energy and engineering(c)related companies)

LORD PATTEN: Director of Energy Power Resources Ltd

LORD SIMPSON OF DUNKELD: Director of ICI plc

BARONESS SMITH OF GILMOREHIL: Member of British Petroleum Advisory Board for Scotland*

LORD WAKEHAM: Director of Enron Corporation USA

HEREDITARY

DUKE OF ABERCORN:

Chairman and Director of Calor Gas Northern Ireland and Calor Gas Republic of Ireland

EARL OF ARRAN: Parliamentary advisor to Institute of Waste Management. This is a consultancy "involving payment or other incentive or reward for providing parliamentary advice or services".

EARL OF CRANBROOK: Chairman of Environmental Advisory Board of Shanks Rechem Group plc * (waste disposal)

LORD CULLEN OF ASHBOURNE: Parliamentary consultant to British Gas plc*. This retainer involves "payment or other incentive or reward for providing parliamentary advice or services".

LORD GLENARTHUR: Director of Millennium Chemicals Inc * (drug discovery and development company, including genetics)

LORD GORDON OF STRATHBLANE: Member of BP Scottish Advisory Board*

EARL OF LAUDERDALE: Parliamentary consultant to Elf Exploration UK plc *.

"Advises on parliamentary developments".

LORD LUCAS OF CHILWORTH: Consultant to Environmental Services Association. This is the trade and lobbying association for companies that provides waste management and related environmental services. It represents 70 per cent of the UK's 3.5 billion waste industry by turnover. Lucas' consultancy "involves payment or other incentive

or reward for providing parliamentary advice or services". He is also a director of Zero Emissions Vehicle Company Ltd, a manufacturer of fuel cells.

VISCOUNT MASSEREENE AND FERRARD: Director of an oil rig disposal company

LORD NORRIE: Consultant to S Grundon (Services) Ltd (waste disposal)

MARQUESS OF READING: Consultant to UK Waste Management Ltd

EARL OF SHANNON: Chairman of Synroc International Ltd (nuclear waste disposal) *

VISCOUNT TORRINGTON: Consultant to companies involved in oil, gas exploration and production;

Director of Heritage Oil Corporation (a Canadian company)

VISCOUNT ULLSWATER: Member of British Nuclear Fuels Ltd Environment Council *

Source: Register of Lords Interests, 23 February 1999, HMSO

HOUSE OF COMMONS

VINCENT CABLE: Economic advisor to Shell * (his former employer)

ANNE CAMPBELL: Director of Welding Institute which is

partly funded by the oil, gas and power industries. She is paid between £5,000 and £10,000 a year.

R. MICHAEL CLARK:

Parliamentary advisor to British Chemical Engineering Contractors Association (fee is up to £5,000 a year; Parliamentary advisor to British Gas plc * (fee is up to £5,000 a year)

ALAN DUNCAN: Owner of Harcourt Consultants which trades as an oil broker and adviser on energy matters

JOHN GUMMER: (Secretary of State for Environment, 1993-1997); Chairman and a shareholder of Sancroft International Ltd (environmental consultants);

Environmental Director of General Utilities (waste and water management), owned by Vivendi (used to be known as Generale des Eaux), the French utilities conglomerate *; Chairman of Valpak Ltd (runs a compliance scheme which aims to help businesses meet legal obligations to achieve UK targets for recovery and recycling of waste);

International environmental advisor to Johnson Matthey plc * (refiners and manufacturers of catalytic converters and fuel cell parts)

PHILIP HAMMOND: Adviser to CMA Consultants to clients principally, but not exclusively, in the energy industries. One of its clients is the Enron Renewable Energy Corporation which is involved in off(c)shore wind powered electricity generation.

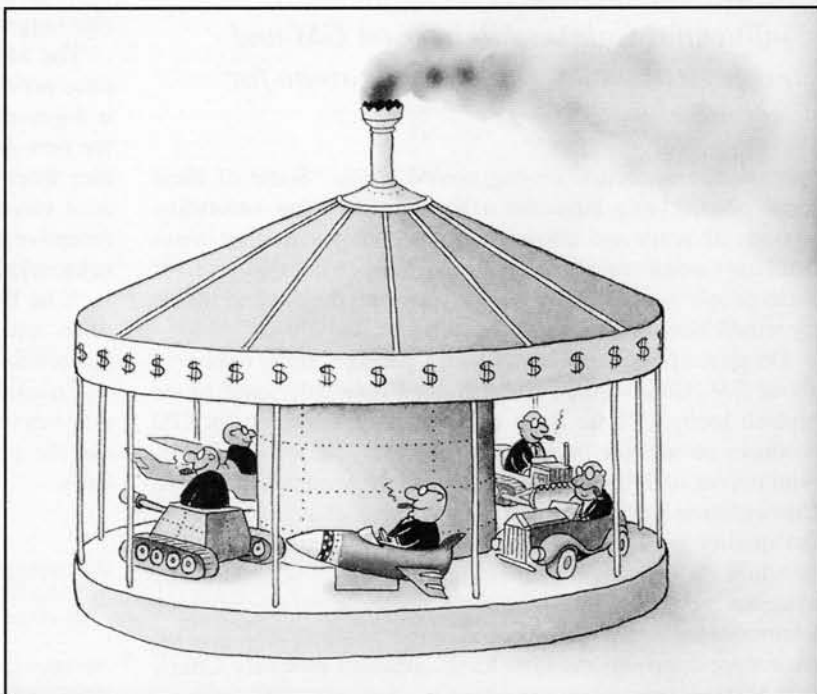
OLIVER LETWIN: Shareholder in Aasvogel Ltd (manufacturer of waste compactors)

DIANA ORGAN: Shareholder in Swallowfield plc (aerosol business)

RICHARD OTTAWAY: Director of International Energy Group plc, International Energy Group (Europe) Ltd, International Energy Group (Asia Pacific) Pte Ltd and International Energy Group (Resources) Ltd

CHARLES WARDLE: Consultant to UniChem plc (pharmaceutical distributor)

TIM YEO: Adviser to Atlantic Power and Gas (a process facilities management company serving the onshore and offshore oil and gas industry). He is paid between £10,000 and £15,000 a year. Source: House of Commons Register of Members Interests, 1 February 1999, HMSO



STAN EALES

The WTO and Public Health

For over fifty years, access to health-care for all has come to be regarded as a fundamental human right in many countries. Today, though, health-care is increasingly considered as a new field for commercial activity. Next month's meeting of the World Trade Organisation in Seattle is set to accelerate this creeping privatisation of public health-care.

By Agnes Bertrand and Laurence Kalafatides

The medico-pharmaceutical industry is one of the world's leading business sectors, and is increasingly seen by corporate leaders to be one with enormous potential for growth and profits in the coming century. For this to be possible, however, governments must fully co-operate with industry, and must refrain from holding back commercial developments in health-care. The major commercial players in the health sector tell us that the privatisation and globalisation of health-care is now inevitable. But if this is so, it is because powerful lobby groups are hard at work worldwide struggling to accelerate this process.

As it happens, an extraordinarily-timely opportunity will present itself in Seattle at the end of November, at the World Trade Organisation (WTO). In this beautiful city, the 136 Trade ministers of the WTO member states will meet to launch the next wave of global trade liberalisation, under the grandiose title of the 'Millennium Round'. On the agenda of the new Round are the revision of past agreements on agriculture, on services and on intellectual property, which were written into the Final Act establishing the WTO. Each of these agreements contains provisions which could allow further "roll-backs", i.e. further deregulation of any national legislation which is seen to be inimical to trade. This, in the jargon of the WTO, is referred to as the "built-in agenda". As well as this, fresh negotiations are tabled for agreements on Investment,² on Public Procurement, on Competition Policy and on Trade Facilitation.

The Health 'Service'

Top of the list for the Millennium Round is the revision of the General Agreement on Trade in Services (GATS). Needless to say, industrial interests played an unprecedented part in setting the agenda for this GATS revision, foremost among them the American Coalition of Service Industries (CSI) which sees it as providing great potential advantages: in their own words, "an opportunity for a quantum leap".³

The service sector, in which health-care is included, is as vast as it is undefined. It covers everything from telecommunications to transport, distribution, postal services, insurance, the construction industry, environment and real estate, as well as tourism and entertainment industries of all sorts, from the McDonalds in Moscow to the brothels of Bangkok. According to the WTO, services that fall within the scope of GATS cover no less than 160 separate sectors. Though there is no common view on what should be included as 'service' industries, the WTO has taken care from its inception to ensure that health-

care is included in the jumbled list of sectors earmarked for commercialisation and liberalisation. This, astonishingly, has given rise to no debate whatsoever, not even to a single article anywhere in the mainstream press.

While the issue of agriculture attracted a lot of attention when it became a battleground between the US and Europe, the GATS agreement as a whole passed by almost unnoticed. The Uruguay Round of GATT, coupled with the setting-up of the WTO, was signed under tremendous pressure from the leading industrial countries. When hurriedly ratified by the parliaments of the member states,⁴ very few MPs had the vaguest idea of the far-reaching implications of the GATS (or indeed of

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GATT/WTO agreements in general). One of the reasons for that, incredible as it might seem, is that the list of sectors affected by the agreement was never made available to them. Nevertheless, the then French Foreign Minister, Alain Juppé, even though he was an adherent of everything that smacked of 'free' trade, had to admit that "the definition of the sphere of application of the GATS accord applies to all services in all sectors, with the exception of those provided by the state." This meant that "education and health are covered by the agreement when competition exists between at least two service providers".

The aim of all this is worryingly clear: after the liberalisation of telecommunications and financial services, and that of postal services and air transport currently underway, it is now the turn of the health sector to be opened up to competition and eventual takeover by corporations. This, we are assured, will enable it to benefit from economies of scale, and thereby become more 'efficient'. All affiliated sectors are targeted: hospital care and other care services, ambulance services, care for the aged, social benefits, 'telemedicine', and the highly-lucrative area of plastic surgery. Patients would henceforth become customers, and hospitals health-care supermarkets. (One wonders when the first cut-price sales will be held?)

Voodoo Economics

One must bear in mind certain obvious realities. First of all, in the logic of modern economics, it is not human needs that are taken into account but 'effective demand': in other words, only those needs backed up by hard cash. Private companies catering for the market can indeed provide expensive high-technology care for wealthy customers, but everyone else will have to be satisfied with a considerably cheaper form of health-care, provided by hospital services operating under tight budgetary constraints. This will mean longer waiting lists, shortages of equipment, and of course the exploitation of the workforce, working longer hours for less pay. Indeed, to subject health-

After the liberalisation of telecommunications and financial services, and that of postal services and air transport currently underway, it is now the turn of the health sector to be opened up to competition and eventual take over by corporations.

care to the laws of the market can only lead to increased inequity and tensions. In Britain, a number of hospitals in the Greater London area have been closed recently. In France, hospitals like that of Alès in the Gard, have seen some of their services closed down as a result of budget cuts. Meanwhile, the huge company Vivendi has already acquired holdings in two clinics in the same area, and the same thing is repeated in other regions.⁵ Recently *Le Monde* announced that, as a result of hospital 'reform', no less than 100 hospitals in the Paris region will be closed in the next five years.⁶

Prevention or Cure?

In addition, it is important to remember that it is not health which makes money but ill health. That is why there is practically no move on the part of the medico-pharmaceutical industry to take prevention seriously. On the contrary, governments, egged on by industry, have declared war on alternative medicine. In France, homoeopathy is under attack. Twenty-seven medical preparations essential to the practice of homoeopathic medicine have recently been banned, under the ludicrous pretext that their sale should be discontinued pending their screening for content of residual animal products. The homoeopaths, like the herbalists, are competitors that a totalitarian medico-pharmaceutical industry cannot tolerate and must destroy. It is this sort of situation that makes a mockery of business and



Homeopathic medicines are under attack from the medico-pharmaceutical industry



It is not health which makes money, but ill-health

WTO claims that a commercialised medical system will be a 'free' market.

With a little imagination one can also foresee the fate of medical research if the WTO is allowed to redefine the health-care sector. The press is currently full of promotional articles stressing the progress of science and the development of future high-tech therapies, with genetic engineering at the top of the list. State and European funding for research programmes in 'genomics' and gene-therapy are massive, though it is the private sector that captures the bulk of it, leaving the taxpayers to foot the bill without any say over how the funding is used. Needless to say, scientific research also happens to be another 'service' sector that the GATS has been careful to earmark for revision.

The Smokescreen

But the benefits corporations expect to derive from this revision are by no means in the bag. There are concerns that the fiasco of the Multilateral Agreement on Investment (MAI) – the agreement that was torpedoed by public opposition – may be repeated. For this reason, the corporate lobby groups⁷ see it

Recently Le Monde announced that, as a result of hospital 'reform', no less than 100 hospitals in the Paris region will be closed in the next five years.

as vital that neither national parliaments nor the public should be allowed to know exactly what is being negotiated next month. Hence the opaqueness of the preliminary confidential document prepared by the WTO Council on Trade in Services. The issues it raises are clouded and largely incomprehensible – designed, among other things, to confuse the reader. Nevertheless, with patience, it is clear that the document is very comprehensive, not one issue having been overlooked.

The Coalition of Service Industries has persuaded the WTO to adopt a 'flexible' and 'innovative' negotiating strategy. In particular, it has advised it on how to classify the different service sectors, explaining, in its own words, that they "need flexibility to include some services which may not be captured by (existing) definitions".⁸ The Council on Trade in Services, which has already endorsed these negotiating positions, is ready to deal with any opposition that might arise to the commercialisation of any aspect of health-care.

In contrast with the USA, health is a sensitive issue for European voters. It is thus essential to maintain maximum secrecy as to the true nature of the Millennium Round negotiations to be approved at the ministerial meeting in Seattle in November, especially of the GATS revision, already scheduled to start as early as January 1st, 2000.

Some of the measures proposed seem limited in their scope, but in reality this is only true in the short term. Admittedly, governments have placed restrictions on the liberalisation of some activities, but this has meant registering them for liberalisation in the longer term. In other words, by seeking, for instance, to protect hospitals from corporate encroachment, governments by the same token have in effect issued corporations with a licence to take them over later on.

The WTO Council on Trade in Services has already developed a method to achieve this. Thus, under article 1.3.C of GATS, for a service to be considered to be under 'governmental authority' and hence exempt from 'liberalisation', it is now argued that it "should be provided entirely free". However, since hospitals and clinics charge the patient or his insurance

In Europe, people are no more willing to hand over the protection of their health to the uncaring forces of the market than they are to be force-fed with hormone-treated meat. This suggests that at Seattle the corporations and their allies will not have it all their own way, nor are they likely to meet with less opposition from Third World NGOs, and perhaps even from some official delegates.

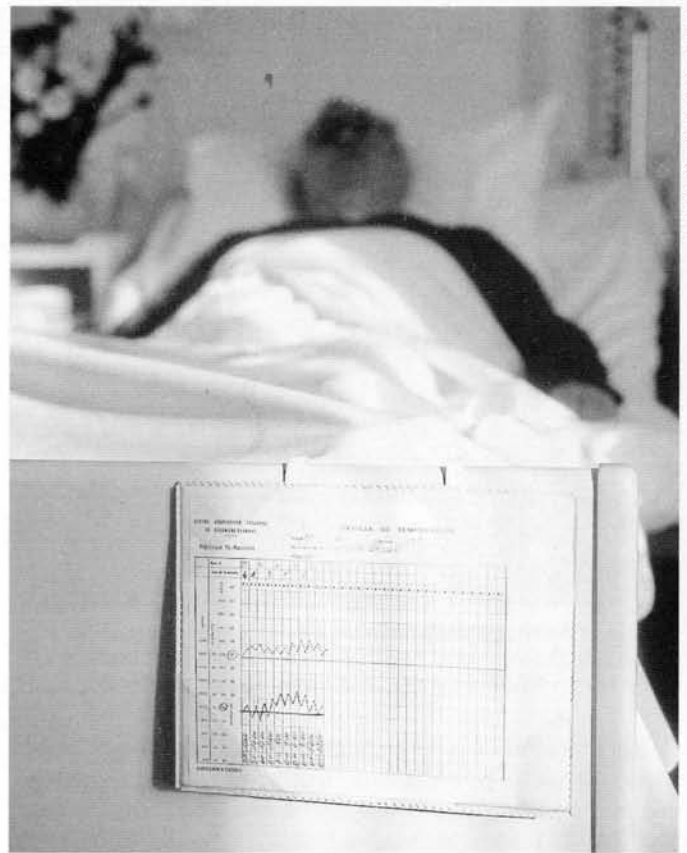
for the treatment provided, "it seems unrealistic in such cases to argue for continued application of article 13.C." In other words, if a treatment is free for the patient, but paid for by "subsidies or other similar forms of financial advantages" then not only must the sector be opened to competition, but the same "subsidies" should be offered to competing commercial suppliers.⁹

To make matters worse, there is a proposal to adopt what is referred to as the "horizontal approach", which means that if a particular measure is agreed in one sector – say telecommunications – it is automatically applied as well to all other sectors, including health. In the case of the sub-sector of 'telemedicine' for instance – which involves patient-customers consulting distant doctors and receiving prescriptions via video-phone – it will forcibly have to be liberalised, since member countries have already signed on to the Agreement on Telecommunications.

Even if this arsenal of provisions proves insufficient for assuring the liberalisation of health-care, other devices for doing so have been anticipated. For instance, the Agreement on Government Procurement, itself backed up by another proposed Agreement on Competition Policy, which the US and the European Union intend to table for negotiation in the Millennium Round, could perfectly well serve the same purpose.

Keeping it Simple

It is essential not to be intimidated by the technicality of these issues. In reality the situation is quite simple. The world's health budgets are massive, amounting to billions and billions



What treatment does the WTO have planned for us?

of dollars. Why not then classify the health sector, not only as a service industry but also as a public procurement? One of the favourite methods used by the WTO to liberalise any sector is to reclassify it under a different category. In numerous countries, the CSI complains, "contracts are awarded by the state following closed procedures which run contrary to the interests of foreign suppliers". Clear rules are therefore essential for ensuring that all public procurement contracts, whether for road construction or, as they hope, for health too, are always awarded to the most "competent companies". But above all, redefining health-care as public procurement offers a huge advantage, that the funds spent – or rather redistributed – by governments, in this case social security contributions, can then be tapped by private companies, whether national or foreign. In France, the AXA group has already bid for the management of health insurance in at least one region. The day this company obtains official consent, a precedent will have been set. Under the obligation to treat foreign companies and local firms alike (national treatment) the same conditions will have to be granted to whatever foreign corporation makes a similar bid. What is truly depressing is that the same thing is on the way with pensions, so as also to open up this sector to commercial competition.

As for the Agreement on Competition Policy, it does not involve reclassifying activities as in the GATS, but in establishing "constraining principles" and "disciplines". As Robert Vastine, President of the CSI, explained in a recent speech in Tokyo, "the WTO members will be asked to consider making reforms to their regulatory regimes". National regulations, he tells us, should have four central attributes: "adequacy, impartiality, least intrusiveness and transparency". Needless to say, he is not demanding transparency of corporate practices, or non-intrusiveness of transnational companies over people's lives. What, in effect, he means, and what the Agreement on



REX FEATURES

Staff at St Bartholomew's hospital, London, hear news of its closure. WTO-sanctioned health service 'reforms' will lead to many more such shut-downs, in the interests of efficiency

Competition Policy is about, is that parliaments, whatever legislation is under consideration, will have to issue regulations that are "adequate" and "impartial" towards business interests. The TABD further recommends that, with the Millennium Round, the Dispute Settlement Body of the WTO be strengthened. "Compensation is not enough," he declares. "The Dispute Settlement Body must insist on Members conforming to WTO rules." Clearly, this means that when a WTO panel ruling condemns the European prohibition of American beef treated with hormones, the raising of barriers by the US on European exports by US\$ 114 million is not enough. Next time the EU refuses to import an American product of this sort, it must quite simply be made to open its market without any further delay and impose it on the people living within the Community, whether they like it or not.

Resistance is Vital

However, in Europe, people are no more willing to hand over the protection of their health to the uncaring forces of the market than they are to be force-fed with hormone-treated meat. This suggests that at Seattle the corporations and their allies will not have it all their own way, nor are they likely to meet with less opposition from Third World NGOs, and perhaps even from some official delegates. The economic globalisation that has already occurred under the auspices of the WTO is impoverishing and rendering destitute hundreds of millions of people, especially in the Third World. With this assault on public health, corporations are simply going too far, and no efforts must be spared to prevent them from going any further. Their attempts to commodify, privatise and globalise the world's health-care must be exposed, and stopped.

Agnes Bertrand is founder of The Observatoire de la Mondialisation, the main NGO in France fighting the global economy. Laurence Kalafatides is a researcher and member of the Institute for Economic Relocalisation, Gard, France.

References:

1. The negotiators signed the Final Act: concluding the Uruguay Round of GATT and establishing the WTO in Geneva in December 1993.
2. Even before the Multilateral Agreement on Investment negotiated at the OECD was officially declared dead (December 3, 1998), French Prime Minister Lionel Jospin had declared that the WTO was a better forum for an agreement on investment.

US Fights Rearguard Action to Protect 'Biopiracy'.

by Paul Kingsnorth

A recent report in the *Washington Trade Daily* revealed that the US government and its corporate allies are keen to keep TRIPS – Trade-related Intellectual Property Rights – off the agenda at the Seattle WTO meeting next month. The US is worried that objections from 'developing' countries might stall attempts by Western corporations to extract and patent life forms from the South.

The report quoted "a senior US trade official" expressing concern that, if TRIPS were to be negotiated again in Seattle, objections from the South could lead to "backsliding" from the original agreement, which was intended, in a groundbreaking move, to massively extend the patenting of biological resources by corporations.

TRIPS was negotiated during the Uruguay Round – the talks which led to the setting-up of the WTO in 1995. Its regulations – tying all WTO nations to a US-style patent regime which allows a company to patent "discoveries" (including plants and even human cell-lines) – came into force for industrialised nations in 1995. But some 'developing' countries, who negotiated a "phasing-in" of the TRIPS agreement, will not have to comply with it until next year, or, in some cases, 2002.

Growing concern – particularly in the South – about the implications of TRIPS, which accords local populations no rights over the biological resources they may have been utilising for generations, has led, according to the quoted official, to several Southern governments calling for a renegotiation of the treaty, and a longer phase-in period. Some nations are also suggesting that TRIPS should be rewritten to take other international agreements – such as the 1992 Biodiversity Convention – into account, and to safeguard indigenous knowledge and resources.

The US is desperate for TRIPS to remain untouched. Its corporations are already making rich pickings from 'biopiracy' in the South, and are deeply unhappy at the suggestion that local communities be given a say in who controls the 'Green Gold' of their biological resources. So the US stance at Seattle will be to block, if possible, any renegotiation of TRIPS. They will complain that the WTO TRIPS Council already "has much work to do without new duties", and insist that any delay in implementing TRIPS would be a setback for the development of "international patent and copyright protection".

3. Stated by Robert Vastine, President of the Coalition of Service Industries, Oral Testimony before the Interagency Trade Policy Staff Committee, May 19th 1999.
4. On April 15 in Marrakech, Prime Ministers or Trade Ministers of GATT member countries officially signed "The Final Act establishing the World Trade Organisation". By the end of that year ratification had been rushed through the national parliaments of member countries which constitution required it, which is not the case of the United Kingdom.
5. It is interesting to note that the health department of Axa is headed by Francois Hercereau, former director of the Sécurité Sociale.
6. *Le Monde*, August 1999.
7. For readers who wish to enquire further on these lobbies, their web-sites are: CSI: www.uscsi.org/, TABD : www.tabd.org, ESN: www.globalservicesnetwork.com
8. "Services 2000 : innovative approaches to services trade liberalisation", J R. Vastine, USCI, 13 May 1999, Tokyo.
9. In scheduled sectors this suggests that subsidies and any similar economic benefits conferred on one group would be subject to the national treatment obligation under Article XVII: In Council of Trade in World Trade Organisation RESTRICTED, S/C/W/50, 18 September (98-3558) Council for Trade in Services. In towards a Successful WTO Ministerial Meeting TABD, mid year report, May 1999.

"No-one Ever Died From Dioxin"

The Dioxin Problem in Britain

The recent Belgian food scare brought dioxins into sharp focus. Thanks to the chemical industries and incineration, few places are free of these dangerous chemicals, which have been accumulating in nature, in foodstuffs and even in the human body, for decades. In this special focus, three specialist writers explain different aspects of the dioxin problem.

By Ralph Ryder

Once again, the most notorious by-product of chlorine chemistry, dioxin, is making headlines around the world. The discovery of polychlorinated biphenyl – (PCBs) and dioxin-contaminated food products in Belgium earlier this year (see box on page 371) resulted in a number of EU countries imposing restrictions on that country's farm produce. Countries outside the EU, including Russia, Hong Kong and Israel, imposed bans on Belgian farm produce, while the USA banned all farm produce from the EU.

Despite the best efforts of politicians and the chlorine and incinerator industries to play down the dangers from dioxin and dioxin-like substances,* research has shown that minuscule amounts of this unwanted by-product pose a very real threat to human health.

What are Dioxins?

During the 1930s and 40s, chemists discovered that attaching chlorine atoms onto petroleum hydrocarbons produced a vast array of 'chlorinated hydrocarbons'. These gave rise to many of today's pesticides, solvents, plastics, oils etc., most of which contain dioxins. 'Dioxin' is the name given to a group of unwanted chemical by-products of this process, (the most potent being 2,3,7,8 tetrachlorodibenzo-p-dioxin [TCDD]), that are produced whenever chlorinated hydrocarbons are processed or burned in an incinerator. Dioxins are extremely persistent and bio-accumulative in the environment and lodge in the fatty tissues in our bodies. Dioxin-containing substances surround us every day, in food containers, plastic products, and oil-and-solvent-based fluids.

Dioxins and Human Health

Industry and advocates of industrial waste incineration (the main way that dioxins – from the burning of waste, plastics and oils – are released into the environment) have argued for decades that dioxin does not pose a major health threat, claiming consistently that "no one has ever died from dioxin." Its chief impact is simply chloracne, say these apologists – an "unsightly skin complaint". But if this is really true, why did so many countries take such drastic action against the dioxin-con-

taminated produce of Belgium?

The reason is that, despite the best efforts of politicians and the chlorine and incinerator industries to play down the dangers from dioxin and dioxin-like substances,* research has shown that minuscule amounts of this unwanted by-product pose a very real threat to human health, particularly that of the developing foetus and the breast-fed child. While it is true that chloracne is the most obvious external symptom of high dioxin exposure, dioxin is now acknowledged as being a highly potent carcinogen and disrupter of the reproductive and endocrine (immune) systems in wildlife and humans.

A History of Poisoning

There have been two previous dioxin food contamination incidents very similar to that in Belgium today. One in Yusho, Japan, in 1968 saw a serious mass intoxication of 1,700 people after they had consumed rice contaminated with PCBs from a leaking oil coil. Heating (by cooking) of the contaminated oil produced high levels of dioxin, and about 20 people died as a result. Other symptoms included chloracne, melanosis, oedema

Dioxins are extremely persistent and bio-accumulative in the environment and lodge in the fatty tissues in our bodies. Dioxin-containing substances surround us every day, in food containers, plastic products, and oil – and solvent-based fluids.

of the eyes, swelling and stiffening of the limbs, headaches and hearing difficulties.¹

Children subsequently born to exposed parents had malformations of various kinds. They were undersized with small heads and brown, hyperpigmented skin (they were dubbed 'cola babies'). They had abnormally shaped tooth roots and altered eruption of permanent teeth. They grew and developed slowly, had learning difficulties and emotional and pulmonary (lung) problems. Long-term studies identified a high incidence of malignant neoplasms (primarily liver as well as lung, trachea and bronchus). There were significantly increased liver cancer and lung cancer and a slight increase in diabetes, heart disease, chronic liver disease and cirrhosis.^{2,3}

*The term 'dioxin' is used to connote the group of 210 similar substances, polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans. Certain types of polychlorobiphenyls (PCBs) have similar biological effects and are included among dioxin-like substances.



Very few food products are dioxin-free

The second incident occurred in 1979 in Yu Cheng, Taiwan. This was a virtual repeat of the Yusho PCB-rice oil disaster with more than 2,000 identified victims. Children exposed prenatally developed slowly and are still retarded. They had brown skin, chloracne, pulmonary problems, and extensive stimulation of P450s.⁴

Dioxins have entered the human body in other ways, too. In the Italian town of Seveso, on July 10, 1976 an explosion at the Hoffman-La Roche chemical plant saw a visible chemical (dioxin) cloud spread over several square miles. Studies covering 1976-1986, a short period in which to find cancer occur-

A study of 1,189 workers exposed to dioxin between 1952 and 1984, at a pesticide-manufacturing plant in Hamburg, Germany, found increases in all deaths among the dioxin-exposed workers when compared with a control group of 2,528 non-dioxin-exposed workers in the same region.

rences, showed an increase in heart diseases and connective – and soft-tissue cancer. Both men and women showed an increase in rare blood and liver cancers.⁵

Fifteen years after the accident, deaths from all forms of cancer had increased, with a three-fold increase in rectal cancer in men; a significant increase in blood cancer in men and women; and a six-fold increase in Hodgkin's disease and myeloma in women.^{6,7} There was also an increase in heart attacks, thought to have been a result of ischaemic heart disease which has now been noted in other studies on dioxin-exposed groups. Ischaemic heart disease refers to a narrowing of the arteries with consequent reduction of blood flow which can result in a heart attack.

A study of 1,189 workers exposed to dioxin between 1952 and 1984, at a pesticide-manufacturing plant in Hamburg, Germany, found increases in all deaths among the dioxin-exposed workers when compared with a control group of 2,528 non-dioxin-exposed workers in the same region. These included cancer deaths and ischaemic heart diseases, compared with same-aged individuals in the control group. The disease-relat-

ed deaths increased with the dose of dioxin to which the workers were exposed: greater dioxin-exposure was related to higher death rates. The authors concluded that the results of the study "support the hypothesis of a dose-related effect of PCDD/F [dioxin and furans] on a cancer and ischaemic heart disease mortality."⁸

The Great Dioxin Cover-up

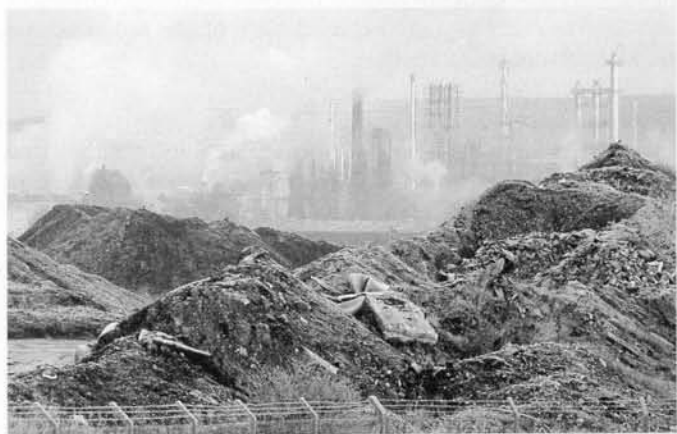
Despite such evidence, the chemical and incineration industries continue to insist that dioxins are "virtually harmless". They have supported these absurd claims with data from falsified, industry-conducted studies of incidents involving chemical workers. To give one example: the officials of the United States Environmental Protection Agency (EPA) took industry-supplied data as read, and used it to assess the human health effects of dioxin. Re-examination by independent scientists, sometimes working on behalf of workers, then revealed that a number of these studies were falsified.^{9,10,11}

After being exposed to dioxin-contaminated Agent Orange during the Vietnam War, US veterans suffered a multitude of health complaints including soft-tissue sarcoma, non-Hodgkin's lymphoma and Hodgkin's disease, Porphyria cutanea tarda (PCT) (a rare blood disorder), and chloracne – not, as industrialists would have the public believe, "a nasty skin complaint", but a disfiguring, systematic disease that can last for decades and even recur over 20 years after exposure. Consequent studies of the veterans found "sufficient evidence of a statistical association with exposure to herbicides or dioxin."¹²

But a later study commissioned by the US Centre for Disease Control (CDC) to determine if veterans were suffering health problems from exposure to Agent Orange was headed by Dr. Vernon Houk of the Centre for Environmental Health and Injury Control. This study was abandoned three years later when Houk concluded that it was "impossible" to identify who had been sprayed and who hadn't. The National Academy of Science did not agree, saying: "there was more than enough evidence to complete a creditable epidemiological study", but the CDC still abandoned the study.

A Committee on Government Operations in 1986 concluded that the CDC study had been "flawed and perhaps designed to fail", and that the government had "effectively used the CDC study to stifle any attempts to link Agent Orange to health effects," which would have seen the government liable to compensate the veterans.¹³

To give another example – one town exposed through 'dioxin' spraying of a different nature was the Missouri town of



The Coalite Chemical Plant in Bolsover, England, was the scene of one of the most determined dioxin cover-ups of recent years

The Belgian Dioxin Crisis, 1999 by Miriam Jacobs

In February 1999, Belgian chicken farmers noticed signs of acute poisoning in their flocks – in particular, an increased death rate, failure of eggs to hatch and severe nervous disorders. This was later found to be caused by a cocktail of dioxins in the chickenfeed. After analysis for nutrient deficiencies, the veterinary inspector sent a sample of feed, and a dead hen, to the national lab for food quality in the Netherlands. It is believed that about 8 litres of used PCB oil, probably from a transformer, ended up in an 80 tonne batch of recycled fats used to make animal feed, mainly for chickens. It was sold as recycled animal fat, but contained vegetable oil too.

The Belgian government was informed of the problem in late April 1999, and further analyses were conducted. The dioxin levels found in two eggs were extremely high. Another 10 chicks were also analysed, and were found to be contaminated. On 26 May 1999, Belgium informed its neighbours and the European Commission – as required by law. The Commission has

now commenced court action over this delay. Belgium then withdrew chickens and eggs from market, then products made with eggs. They then also removed beef, pork and butter, and stopped exporting milk on order of the Commission, although it was still sold within Belgium. Analyses being conducted at the time of writing are aimed at making sure that the dioxin content of foods for human consumption is within the acceptable range.

Symptoms of toxicity became apparent for the birds, but may not have been so obvious for dairy or beef cattle or fish, (as the TEFs involved are higher for birds, and the chickens may have had a greater dose) and thus may not have been detected for some time (except by Germany, which actively monitors milk for dioxins). Routine monitoring would have caught this at an early stage.

This crisis could yet prove to be a turning-point in Europe's relationship with dioxins. For it has raised a number of questions that need to be answered

not only by the Belgian authorities, but by governments across Europe. For example; initially, despite public concern, only limited data on the dioxin content of the affected chickens were released, PCB contamination was subsequently found to account for around 80 per cent of the dioxin-like toxicity in samples, and PCDD/Fs for only about 20 per cent. Initial official statements therefore understated the risk to consumers by a factor of five. Why was this allowed to happen, and what does it say about the public's right to know what chemicals are really in their food?

Furthermore, if this incident had not occurred, would there still be an unsafe level of dioxins in animal feeds – and therefore in meat and dairy products – which the public didn't know about? And did the accidental addition of transformer oil to the animal feeds simply add to PCB and dioxin levels which were already unnecessarily high?

Miriam Jacobs is an anthropologist, nutritionist and toxicologist studying for a PhD in toxicology at the University of Surrey.

Times Beach (population 2,242). Its dirt roads were (unknowingly?) sprayed with dioxin-laced oil in the early 1970s in an effort to keep down the dust. Winter floods carried this contaminated oil into homes, and residents developed illnesses similar to the Vietnam veterans.

Even here, the true facts of dioxin's effects on health were diluted, with a study being conducted on only 66 people. Many residents whose health problems could be attributed to dioxin exposure were deliberately omitted, and people like delivery men, telephone engineers and even incidental visitors to the town were included. The results, announced by Vernon Houk, caused Marilyn Leistner (the last Mayor of Times Beach) to say it was the "phoniest study in the whole world."¹⁴ In fact, the pollution was so bad that the government eventually bought out the town's 800 houses and 30 businesses for \$36.7 million and demolished every building.

And such cover-up attempts are not confined to the USA. In April 1968 an explosion at the Coalite Chemical works in Bolsover, England, showered workers with dioxin. Seventy-nine cases of chloracne were recorded, and Dr. Jenny V Martin, Consultant Chemical Pathologist at Chesterfield Royal Hospital, was commissioned by Coalite to research the effect on the workers. After completing her study, the company told Dr. Martin that it did not wish to have the information published, and informed her of the nature of the control group used in the study. Dr. Martin realised the study had been devalued by Coalite, who had included management staff not exposed in the control population, instead of restricting it to the exposed chemical workers. Dr. Martin then arranged a second study – without Coalite's involvement – and published the results of blood chemistry from eight workers suffering from chloracne

in *The Lancet* in February 1979. Shortly after this, her home was broken into and the medical records of the Coalite workers were stolen. Nothing else was taken.¹⁵

Depressingly, the cover-ups didn't stop there. The Coalite plant was in the news again in 1991 when random testing by the Ministry of Agriculture, Farms and Fisheries (MAFF) discovered that its on-site incinerator had released large amounts of dioxin over the surrounding countryside. This caused the milk of 27 farms to exceed the government's 'acceptable dioxin contamination' level. To deal with this problem, government experts simply raised the acceptable level of contamination by a factor of ten, thus magically 'detoxifying' the milk of 25 farms with the simple action of a pen. This 'fact-free detoxification' avoided a national scare like that in Belgium today, and kept under wraps the serious incompetence and deceit of politicians who had ignored recommendations in 1982 for an inquiry into potential dioxin pollution from the Coalite plant.

While the plant was operating without the on-site incinerator, the heavily dioxin-contaminated waste residues were kept in holding tanks on site. This waste, along with the milk from the two farms still above the 'new' acceptable contamination level, was transported along the busy M62 motorway and disposed of in a hazardous waste incinerator with a history of fires, explosions and chemical releases (as many as seven in one month) at Ellesmere Port, Cheshire.

Incineration is the main way of disposing of many plastics, oils and industrial wastes – it is also the main way that dioxins are released into the environment. Samples taken in 1989 and 1991 around a municipal waste incinerator in Winchester were kept secret by Her Majesty's Inspectorate of Pollution (HMIP) until 1994. When the results were finally made public, they

Monsanto's Dioxin Fraud

The following leaked memo to the US Environmental Protection Agency, summarised by *The Ecologist*, shows how Monsanto lied to the US authorities about its dioxin production, and deliberately falsified data to prevent compensation claims or the tightening of regulations.

DATE: November 15, 1990.
SUBJECT: Criminal Investigation of Monsanto Corporation – Cover-up of Dioxin Contamination in Products – Falsification of Dioxin Health Studies.
FROM: Cate Jenkins, PhD, Chemist, Regulatory Development Branch.
TO: John West and Kevin Guarino, Special Agent Office of Criminal Investigations, EPA.

As per our meeting yesterday, I am summarising information available to me supporting allegations of a long pattern of fraud by Monsanto Corporation. The fraud concerns 2,3,7,7-tetrachlorodibenzodi (dioxin) contamination of Monsanto's dioxin-exposed workers.

Significance of Monsanto's Dioxin Fraud

Monsanto has in fact submitted false information to EPA which directly resulted in weakened regulations. The Monsanto human health studies have been submitted to EPA by Monsanto as part of public comments on proposed dioxin rules, and Agency-wide dioxin health studies are continually relied upon by all offices of EPA to conclude that dioxins have not caused cancer or other health effects (other than chloracne) in humans. Thus, dioxin has been given a lesser carcinogenic potential ranking, which continues to be the basis of less stringent regulations and lesser degrees of environmental controls. The Monsanto studies in question also have been a key basis for denying compensation to Vietnam Veterans exposed to Agent Orange and their children suffering birth defects from such parental exposures.

Dioxin Contamination of Monsanto Products

Monsanto covered up the dioxin contamination of a wide range of its products. Monsanto either failed to report contamination, substituted false information purporting to show no contamination, or submitted samples to the government for analysis which had been specially prepared so that dioxin contamination did not exist.

The earliest-known effort by Monsanto to cover up dioxin contamination of its products involved the herbicide used in Vietnam, Agent Orange. Available internal Monsanto correspondence in the 1960s shows a knowledge of this contamination and the fact that the dioxin contaminant was responsible for kidney and liver damage, as well as the skin condition chloracne.

Early internal Monsanto documents reveal that samples of Agent Orange and other chlorinated herbicides and chlorophenols submitted to the US Department of Agriculture in the 1970s were 'doctored'. In other words, highly contaminated samples were not submitted to the government... These analyses were subsequently adopted by EPA in a 1980 publication and were used without any data from other sources as the basis for 1984 regulations under RCRA.

Fraudulent Dioxin Health Studies

The following are a few key instances where obvious fraud was utilised in the conduct of Monsanto's epidemiological studies:

Dr. Raymond Suskind at the University of Cincinnati was hired by Monsanto to study the workers at Monsanto's Nitro, West Virginia, plant. Dr. Suskind stated in published studies in question that chloracne, a skin condition, was the prime indicator of high human dioxin exposures, and no other health effects would be observed in the absence of this condition.

Unpublished studies by Suskind, however, indicate the fallacy of this statement. No workers except those having chloracne were ever examined by Suskind or included in his study. In other words, if no workers without chloracne were ever examined for other health effects, there is no basis for asserting that chloracne was "the hallmark of dioxin intoxication". These conclusions have been repeatedly utilised by EPA, the Veterans Administration, etc., to deny any causation by dioxin of health effects of exposed citizens, if these persons did not exhibit chloracne.

Dr. Suskind also covered up the documented neurological damage from dioxin exposures. At Workers Compensation hearings, Suskind denied that the workers experienced any neurological health effects. In the Kemner,

et al. v. Monsanto proceedings, however, it was revealed that Suskind had in his possession at the time examinations of the workers by Monsanto's physician, Dr. Nestman, documenting neurological health effects.

Another Monsanto study involved independent medical examinations of surviving employees by Monsanto physicians. Several hundred former Monsanto employees were too ill to travel to participate in the study. Monsanto refused to use the attending physicians' reports of the illness as part of their study, saying that it would introduce inconsistencies. Thus, any critically ill dioxin-exposed workers with cancers such as non-Hodgkin's lymphoma (associated with dioxin exposures) were conveniently excluded from the Monsanto study.

There are numerous other flaws in the Monsanto health studies. Each of these misrepresentations and falsifications always served to negate any conclusions of adverse health effects from dioxins. A careful audit of these studies by EPA's epidemiological scientists should be obtained as part of your investigation.

The false conclusions contained in the Monsanto studies have been refuted by the findings of a recent study by the National Institute of Occupational Safety and Health (NIOSH). This NIOSH study, recently circulated by Dr. Marilyn Fingerhut for review, found a statistically significant increase in cancers at all sites in the Monsanto workers, when dioxin-exposed workers at Monsanto and other industrial locations were examined as an aggregate group.



revealed figures similar to those found around the Coalite plant.

In Rijnmond, Holland, in 1989, the milk from 16 farms was so contaminated by dioxins from a municipal waste incinerator that the fat was skimmed off and sent to a nearby hazardous waste incinerator for disposal. In France, a number of municipal waste incinerators were closed only last year because of heavy dioxin contamination of farm produce in adjacent areas.

The Public Wakes Up

In the early 1990s, the chlorine industry, considering regulations on dioxin too restricting and costly, applied pressure on the US EPA to 'reassess' dioxin's toxicity. The EPA consequently began what turned out to be the most extensive study ever undertaken on a chemical by-product using all available scientific literature. They employed 100 outside scientists as well as their own in-house staff on a programme that took three years. The report concluded that:

- the largest source of dioxin was municipal and clinical waste incinerators;
- dioxin was more toxic than had been originally believed, and was capable of damaging health in ways not widely anticipated, e.g. immune system suppression, endocrine system/hormone disruption;
- these non-cancer effects occurred at levels 100 times below the level that caused cancer.¹⁶

The report's findings shocked many people, not least the chlorine industry itself, which had been hoping for a white-wash. A number of conferences were organised about this time by concerned independent scientists and community activists to inform the public of the truth about dioxin. Dr. Barry Commoner told delegates at one such conference:

"Dioxin is now known to interfere with the most delicately balanced biological process in our bodies; they are man-made chemicals that, present in only minuscule amounts, can alter the natural bio-chemical process that determines how people develop, grow, and behave."¹⁷

Dr. Linda Birnbaum (Director of Environmental Toxicology Division, EPA), responding to the industry's desperate claims

that "dioxins are natural" and "humans are not as sensitive to dioxin as animals", said: "People have done analyses of Egyptian mummies from more than 2,000 years ago and frozen Eskimos from northern Canada, and the levels are below detection limit. Dioxin is a product of modern industrialisation"¹⁸

"When you say that it [incineration] is acceptable, it is acceptable to the more articulate sections of the population. From what you have said, the incinerator ends up in the less articulate section of the population. I do think we ought to make that point quite clear"

But the Love Affair Continues

All this extensive scientific data didn't stop self-confessed advocate of incineration, Professor Dame Barbara Clayton, immediate past President of the National Society of Clean Air

Incineration is today acknowledged by the British government to be responsible for between 60 and 85 per cent of the UK's current dioxin contamination.

and Environmental Protection (NSCAEP) shamefully misleading a House of Lords inquiry into waste incineration in March this year with the statement: "If you look at the massive exposure of people to dioxins as a result of two major accidents, there is no evidence that the population was harmed apart from developing severe chloracne, which is a nasty skin complaint, but that was with massive exposure."¹⁹

In an attempt to convince the inquiry that incineration was harmless, Dame Clayton claimed that she "would live next to a modern incinerator," safe in the knowledge she will never have to. This was made quite evident when Lord Judd, questioning Mr. Richard Mills (also of NSCAEP) on his evidence, said: "When you say that it [incineration] is acceptable, it is acceptable to the more articulate sections of the population. From what you have said, the incinerator ends up in the less articulate section of the population. I do think we ought to make that point quite clear"²⁰

Incineration is today acknowledged by the British govern-

Dioxin contamination of European animal feed in 1998

In 1998, a significant increase in dioxin levels was detected through routine milk monitoring in Germany¹. Elevated dioxin levels were also found in milk in other EU member states, and contaminated feed was imported into the UK. The contamination source was traced to Brazilian citrus pulp used in European animal feed manufacture.

Whilst the alarming levels found in citrus pulp used in Germany resulted in direct government action and publication of their data, no such data were released by MAFF in the UK. And whilst other European countries acted immediately to prevent further contamination of the food chain, the UK waited until the EU Commission issued a directive (98/60/EC) before issuing draft regulations introducing a Maximum Permitted Level

(MPL) for dioxins in citrus pulp used to feed farm animals. These measures, which came into force in August 1998, prevent all citrus pulp containing dioxins above a specified level from entering the EU; but they do not affect the citrus pulp already in Europe.

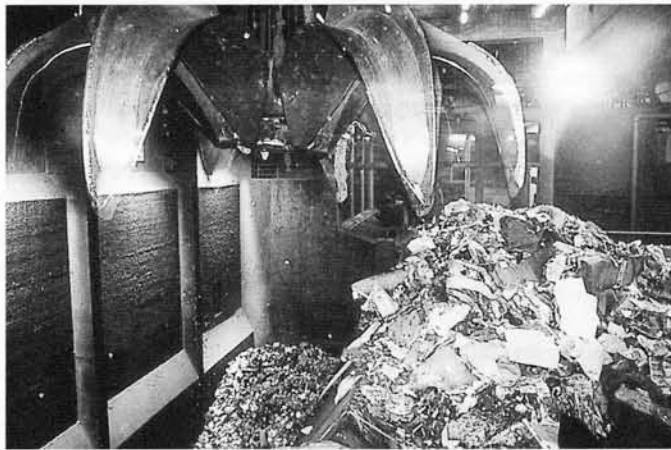
This problem is being dealt with on a national, not an EU level. In the UK, there are reports of stockpiles of 192,000 tonnes of this contaminated feed, which has been widely mixed with uncontaminated feed. MAFF² report that they have written to local authority enforcement officers to alert them to the proposed Regulations (as they have the responsibility to enforce animal feed controls). However, there is little evidence that the problem has reached the ears of dairy and beef farmers, and no evidence

that contaminated citrus pulp has been fully withdrawn from UK animal feeds. Citrus pulp is a major market for both importers and the exporters – Brazil produces about 60% of the citrus pulp used seasonally in the EU.

The use of contaminated lime in the pulp extraction process appears to be the most likely cause; a recent Greenpeace investigation lays the source of the contamination at the door of the Belgian based Chlorine producer Solvay.

– Miriam Jacobs

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STILL PICTURES

Waste incinerators are a major source of atmospheric dioxin

ment to be responsible for between 60 and 85 per cent of the UK's current dioxin contamination. They estimate that even the most modern plants will contribute approximately 6-18 per cent of this country's future dioxin contamination.²¹

Yet, astonishingly, despite these findings, the UK government has announced that 177 new incinerators will be built in Britain over the next decade or so. Indeed, on the recommendation of 28 representatives of the packaging industries, (a

"People have done analyses of Egyptian mummies from more than 2,000 years ago and frozen Eskimos from northern Canada, and the levels are below detection limit. Dioxin is a product of modern industrialisation"

major sources of the mountains of unwanted waste that will be incinerated), the British government is already pursuing this huge building programme – in a scheme that will, effectively, kill off any large-scale environmentally friendly recycling schemes for the next 30-35 years.

Communities threatened by this new wave of incinerators are being told that, though old incinerator plants may have had their problems, the new ones are 100 per cent safe. Yet it is the persistent, bio-accumulative chemicals like dioxin, created and released during the combustion of today's complex chemical waste stream, that are the problem. The chemicals that pose such a terrible threat to the unborn and breast-fed child, and of which there is no safe level, will still be emitted by even the most modern incinerator every single day of its 30-35-year operational lifespan. Through incineration, the chemical industry has poisoned our food chain and bodies to such an extent that researchers at the Foetal and Infant Toxicology Unit at Liverpool University recently found over 400 chemicals in the umbilical cord of a new-born baby.

On June 4th, 1998, after a four-day debate, 40 specialists from 15 countries within the World Health Organisation (WHO) declared they had lowered what they'd maintained for a decade was a tolerable, daily intake (TDI) of dioxin from 10 picograms per kilogram of body weight a day to between 1 and 4 pg.²² They issued the statement, saying: "The experts recognised that subtle effects may already occur in the general population in developed countries at levels of 2 to 6 pg." But if this is the case, why are the WHO experts talking in terms of a tolerable level of 1 to 4 pg (kg/bw/day) and not simply 1pg, when

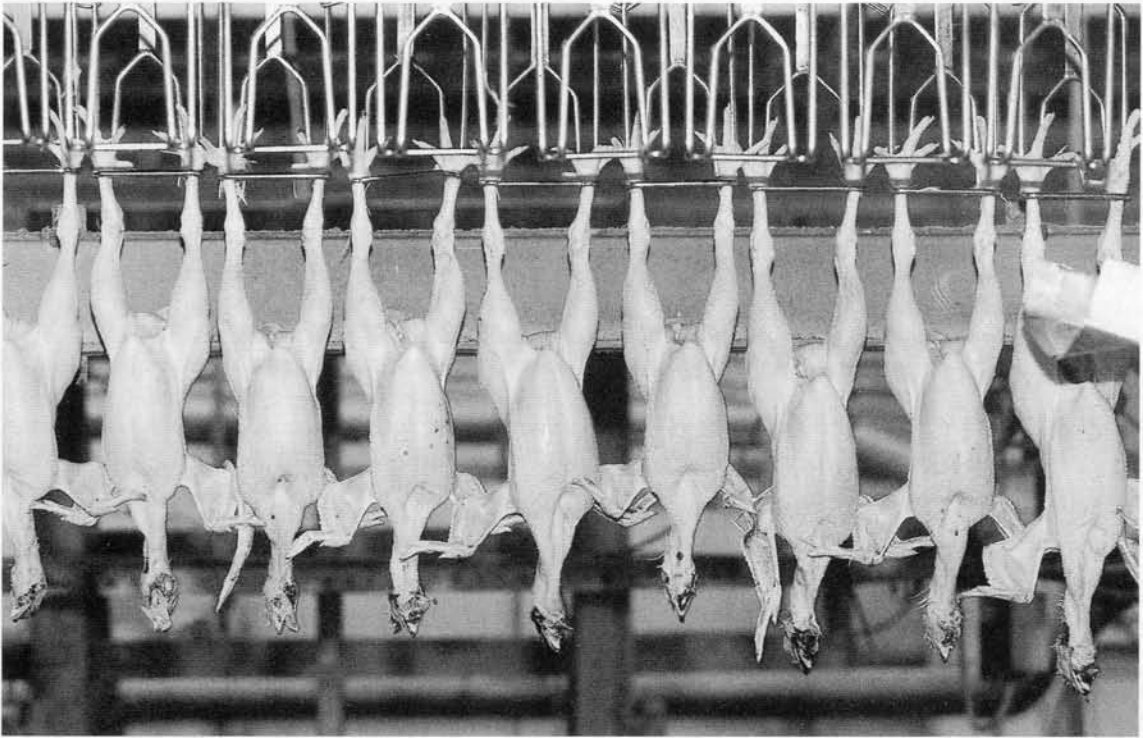
they recognise that effects occur at 2 to 6pg? The simple answer is that with current industrial processes and the planned expansion of waste incinerators throughout Europe, the 1pg level is simply impossible to obtain. In fact, industry now speaks of this as a "normal background level". Unfortunately it seems that the lies about the health effects and toxicity of dioxin and its 'detoxification' with the stroke of a pen, is not confined to the industrial boardroom, the corridors of Westminster or the House of Lords. Even the WHO is now bowing to the needs of industry and tacitly accepting permanent chemical pollution of the air and water.

The chemical industry may well have brought society many benefits, but its processes and methods of waste disposal have poisoned us and our food chain to a level that endangers the health of each and every one of us – especially our babies and young children – with a lot more than a "nasty skin complaint".

Ralph Ryder is co-ordinator of Communities Against Toxics, a coalition of long-suffering communities in the UK. He is also National Co-ordinator for Healthcare Without Harm, a newly-formed international organisation.

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REX FEATURES

The Belgian factory-farmed chickens at the centre of the dioxin scare

Dioxins in France

The French Government is building vast new incinerators, despite dioxin-related health risks. **By Pierre-Emmanuel Neurohr**

Industry and government in France have been covering up the truth about dioxins for years. The most significant recent misinformation campaign was in 1994, when the renowned Academy of Sciences released a report stating among other things, that “humans appear to be less sensitive than most of the studied animal species” to dioxin’s harmful effects (how lucky!) and that “an excessively stringent regulation imposing limits of dioxin emissions on waste incinerators should be avoided.”¹

It soon turned out that the group of authors who wrote this well-balanced piece of scientific literature was composed of and headed by representatives of the most powerful dioxin-emitting industries. Many of them came from the incineration sector and the cement producers that use more and more toxic wastes as ‘fuel’.

The Incinerator Programme

Despite this, though, the government (and much of the press) took the Academy’s word that dioxins were harmless, and used its report to justify the construction of new incinerators across the country. France is a very centralised country, and the government is accustomed to imposing huge schemes on the regions. This new incinerator programme is rooted in a 1992 law, which presumes against dumping domestic waste if it is possible to either recycle its material content or generate energy by burning it. On the face of it, this sounds like an admirably ‘green’ regulation. Unfortunately, though, like other environmental legislation in France, the 1992 law was tailored to the needs of industry rather than the environment. It is easier to put mixed waste into an oven and burn it than to compost and recycle the waste, and the 1992 law actually gave equal

consideration to recycling and incineration – meaning that no industry had any incentive to recycle at all if it could incinerate instead.

Dioxins in Food

Dioxin is a highly stable compound and tends to concentrate – or ‘bioaccumulate’ – in animal fat. It is thus widely present in yoghurts, cheese, milk, eggs, etc. As a result, the French population eats and drinks, day in day out, doses of dioxin that are twice the authorised French limit for adults and three times that for children, as was shown by a study released in 1998 by the National Centre for Independent Information on Waste (CNIID).²

Such contamination has already put the administration, especially the Agriculture Ministry, in a Kafkaesque situation. To take but one example, limits have been imposed on the sale of dairy milk: above 5pg of dioxin per gram of fat, and it must be banned from sale.³ Yet, at the same time, what is arguably the most precious resource of all – human breast milk – typically reaches mean values of 20pg, *four times higher* than what is allowed in bottled milk.⁴ But no action has been taken against mothers breast-feeding their babies.

That French babies should be exposed to such levels of poison without provoking parental riots can actually be explained. Unlike asbestos, dioxin does not have an explicit marker – that is, a serious illness that could be directly attributed to its presence. Being a promoter of all types of cancer, dioxin kills, according to an official estimate, between 1,800 and 5,200 people each year in France.⁵ But barring the discovery of a direct link, these are statistical, faceless victims – and dioxin cannot be conclusively identified as the culprit.

In addition, cancers promoted by this toxic compound typically take 20 to 25 years to declare themselves, which might as well be eternity for the elected officials in charge of public health. Nevertheless, the scandals of recent years that have involved high officials – such as the cases of AIDS-contaminated blood used in transfusions – have at least one positive aspect: politicians now know they can be put behind bars if it can be proven that they failed to act on illnesses that are not the result of fate but of corporate neglect.

French politicians have responded to this new political climate by speaking cautiously – in public – about taking danger-

Imagine the Interior Minister announcing that on a certain designated day, the police will check all drivers in the country for their alcohol intake. They do so, find no drunk drivers, and conclude that no one ever drinks and drives. Dioxin pollution measurement is the equivalent of this.

ous health risks. Recently, Environment Minister Dominique Voynet expressed caution about a proposed new incinerator in eastern France. "I don't want to be sued one day by someone who has developed cancer,"⁶ she said, frankly.

Pollution Propaganda

Despite such 'caution' though, the government's incinerator programme goes on. In order to reconcile these two extreme positions – "it could kill people but I want to develop it" – the dioxin lobby's misinformation campaign has taken new, more subtle forms. Far from playing down the risks, which is becoming difficult at a time when even the WHO admits that dioxin is dangerous, we have now reached phase two of the PR battle, which could be summed up as follows: "True, it's dangerous, but the risk is manageable." The industry readily admits today that incinerators can be polluting. At the same time, it assures us that the new generation of burners that should be built as soon as possible will see the emergence of "clean incineration". Their propaganda goes as far as actually claiming that the air going out of the smokestack will even be purer than ambient air, thanks to new filtration systems.⁷

The French Environment Ministry is currently trying to claim that dioxin emissions from domestic waste incinerators in France are falling dramatically. This claim is based on an array of lies. The first of them is the pretence that filters make pollution disappear. Most of the time, filters stop only one part of the pollutants, and the more efficient they are, the more pollution they accumulate that will have to be dealt with some other way. This usually means mixing the trapped dioxins with cement in order to dump them in a hazardous waste landfill.

At the same time, another piece of misinformation is heard. 'Bottom ash' – the remains of the domestic waste burned by the incinerator – has always been acknowledged as being toxic, especially given its heavy metal content. France's waste incinerators produce an estimated 3 million tons of bottom ash a year.⁸ To dispose of such huge amounts in dumps would incur large expenses. The solution found by the industry is as simple as it is revolting: bottom ash has been 'detoxified' by a piece of legislation that allows it to be used in road construction. Although it is now supposed to be an inert material, this law nevertheless forbids any use "within a 30-metre distance from any source of water".⁹

Shaky Statistics

A brief look at the Environment Ministry's method of calculating dioxin pollution makes a mockery of the statistics it regularly produces to 'measure' the levels of pollution from incinerators. Imagine the Interior Minister announcing that on a certain designated day, the police will check all drivers in the country for their alcohol intake. They do so, find no drunk drivers, and conclude that no one ever drinks and drives. Dioxin pollution measurement is the equivalent of this. Incinerator operators are told beforehand that they will be inspected for dioxin emissions on a certain date – or are even allowed to set that date themselves. This practice violates the administration's own principle of "unannounced control" – "contrôle inopiné" – which is supposed to form the basis of its activities.

Moreover, dioxin emissions cannot be monitored on a continuous basis, as it is "too expensive" for the government to fund. So the government asks for only one test per year, and only on the biggest incinerators. This operation lasts between three and six hours, which means that the results heralded by the French Environment Ministry represent for each incinerator at best six hours out of 8,000 hours of operation per year.

Furthermore, a key obstacle remains the stance of the packaging industry. A major user of waste incinerators, packaging already constitutes a third of the weight and half the volume of French domestic waste. In 1991, then Environment Minister Brice Lalonde asked Antoine Riboud to write a report on the subject. Mr. Riboud happened to be one of the most powerful packaging industry CEOs in France and beyond. The Environment Minister might as well have asked the wolf to guard the sheep.

The result was not too surprising. Mr. Riboud explained that disposal was better than reuse or recycling, and "any change [towards reuse] would imply considerable investments without economic profitability. It is obvious that the French agro-food industry has better things to do."¹⁰

The French dioxin debate will no doubt continue to mobilise the environmental movement as well as the public relations firms working for the industry. The WTO's recent lowering of allowable limits of dioxin pollution (see Ryder in this issue) should, in theory, lead to a moratorium on the building of new burners. But it is clear that this kind of political move will not take place in the face of scientific evidence alone – it will also need a strong environmental movement to keep up the pressure. And most of all, it will be essential for the Green movement to put dioxin back in its more general context. Although a real threat by itself, dioxin must be fought because it represents the chemical warfare led by humankind against Nature and itself. □

Pierre-Emmanuel Neurohr is Director of the National Centre for Independent Information on Waste (CNIID) in Paris.

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Reviews

Fiddling while Rome burns



GOD'S LAST OFFER – NEGOTIATING FOR A SUSTAINABLE FUTURE

by Ed Ayres,

Four Walls Eight Windows, New York,
1999, 357pp, £14.99,
ISBN 1 56858 125 4

Ed Ayres is the Editorial Director of the WorldWatch Institute and one of America's most prolific writers on environmental issues. His latest book is a wake-up call to all who are unaware, or in denial, of the fact that the Earth is facing some of the most profound and devastating changes since the dawn of human life. With solid underpinnings of scientific data, the author describes four destructive phenomena now impacting our planet and their synergistic relationship – each adding fuel to the others in an apocalyptic crescendo:

- *The surge in climatic disturbances that drove 300 million people from their homes in 1998, including more than 2,000 tornadoes in the US, 70,000 tropical fires and devastating floods in 54 countries.*
- *The fastest biological mass extinction since the age of the dinosaurs: from one species per year a few decades ago to many thousand species per year today.*
- *The consumption of finite resources: the nett forested area of the Earth is shrinking by the size of two football fields every second, and we use up as much fossil fuel in one day as was created in 10,000 years.*
- *The number of mouths to feed, which*

has grown as much in the last ten years as in the 10,000 years prior to the industrial revolution. Nett world population now increases as much in three days as in the average century of early human history.

These four phenomena are illustrated with graphs showing the 'spikes' for carbon dioxide emissions, bio-extinction, human consumption and population respectively. They are so similar that their inter-relation becomes obvious even to those who have been unaware of any threat to their accustomed lifestyle, or who refuse to accept the fact that we face a crisis of unprecedented severity. With each passing month, the four spikes become more entangled by feedback loops through which they aggravate and exacerbate each other.

Ayres also identifies some of the societal forces that perpetuate public indifference:

- *Our faith in technology has become a panacea for all our problems. He reminds the reader that technology has never been anything but a tool – an extension of those faculties we already possess – and says that we must look beyond technology for a solution to our human predicament. He dismisses as "a colossal foolishness" the notion that all we need to do to fix our broken educational system is to put more computers in every classroom. It is "an extension of the doctrine espoused by the World Bank" that a proliferation of power plants, super-highways and other high-tech infrastructure would liberate Third World countries, whereas in many cases they have resulted only in poverty.*
- *The information explosion has become information obliteration, as our knowledge becomes increasingly fragmented, and we are inundated by self-serving corporate disinformation.*
- *Each day we are more disconnected from the physical world, as 'virtual reality' and the make-believe world of entertainment media become substitutes for real-life experiences. In the process, the distinction between fame and*

infamy has been effectively obliterated: media exposure has become the only yardstick for measuring success.

• *Roman emperors knew that the best way to keep their subjects docile was to satisfy their appetite for bread and circuses. For many in today's high-tech world, the PC has become the Panem et Circenses of choice. In their rush to escape reality, others wrap themselves in the comforting blanket of a drug-induced stupor, or seek refuge in a fundamentalist religion.*

• *The growth of a global shadow economy, which is accountable neither to any national government nor to future generations for its depletion of resources and its degradation of our biosphere. Ayres' most scathing criticism is reserved for traditional economists and bureaucrats who refuse to factor in the ecological costs in the price of a product – potentially a catastrophic blind spot in conventional accounting.*

The question is – can we learn from our mistakes? In a chapter entitled 'Ambushes of the past' the author gives a brief run-down of past civilisations that have succumbed – not to superior military might, but to corrosive forces from within. The Sumerian, Tehuacan, Mayan, Roman and Indus civilisations all disintegrated because of abuse and overuse of the natural resources which sustained them for centuries. A microcosm of this phenomenon, repeated throughout human history with a regularity which in retrospect seems pre-ordained, is the demise of the culture that lasted for a millennium on Easter Island. Once forested and fertile, it was colonised by Polynesians, who established a thriving society, epitomised by some 600 giant stone figures erected at the peak of its civilisation. But as all the trees were felled to provide building material for houses and boats, firewood and logs for transporting the massive effigies to their final resting places, the soil eroded, and the population eventually shrank to a pitiful handful of cave-dwelling cannibals, the last of whom

were greeted with a hail of bullets by the Dutch explorers who 'discovered' the island on Easter Sunday 1722.

The fate of the Easter Islanders is an apt metaphor for the dilemma in which we find ourselves at the end of the 20th century: we may have 20/20 hindsight, but our foresight is sorely lacking.

But Ayres doesn't just assess the severity of the situation or assign blame for our abuses. He also offers many constructive suggestions, such as new standards for news reporting, new measures of accountability for global corporations and governments, and limits on personal and corporate consumption. And, beyond policy suggestions, he focuses his sharp analytical intellect on the fears and yearnings driving our collective perceptions, and shows how they can be channelled into new constructive paths.

While many of the facts and figures assembled in *God's Last Offer* are well-known to the experts in different fields, the author's greatest accomplishment lies in bringing them all together in one book, and showing their interdependence in text and illustrations that any layperson can easily comprehend. Ayres has skilfully pieced together what hitherto seemed an overwhelming and puzzling flow of fragmented information. There is not one person on Earth who will not be profoundly affected by the four congruent curves of Ed Ayres' graphs and their potentially devastating effect on the future of our planet. In the author's words: "In the language of religion, God has given us an offer: to see the consequences of our actions and assume moral responsibility for them, or to be consumed by them."

— Gard Binney

Gard Binney is an environmental activist and writer.

Sidelining Darwin

THE SYMBIOTIC PLANET; A NEW LOOK AT EVOLUTION

by Lynn Margulis,

Weidenfeld and Nicholson, 1998,
£12.99(hb)

How remarkable in this age of neo-Darwinism to read a book on evolution that pays so little heed to natural selection and mutating genes. Instead, we are presented with a theory of evolution that puts symbiosis centre stage as the driver of grand evolutionary change. The assertions that Lynn Margulis makes in this book are radical; they imply that if conventional neo-Darwinistic evolution

occurs (and we have an extraordinary dearth of evidence that it actually does lead to new species) then it is just a peripheral mechanism tagged on to the main and substantial evolutionary process of symbiogenesis. And whereas classic neo-Darwinism sees natural selection as the force that drives change relentlessly towards closer-fit adaptations to the environment, in symbiogenesis natural selection is seen as the stabilising hand that tends to keep things as they are once an evolutionary leap-forward has occurred. To put it mildly, too far out of line and you get clobbered.

The author is not afraid to challenge scientific assumptions. In the evolutionary scale, says Margulis, humans are neither more highly nor more lowly developed than a microscopic bacterium. That provocative remark stems from her conviction that we humans are here courtesy of a life-long symbiotic history in which the players are primarily bacteria. In her complete serial endosymbiotic theory, SET, which she has been touting convincingly for more than 20 years, our cells are the result of symbiotic associations that took place between bacteria billions of years ago, and which gave each one of them the basic structure, machinery and chemistry that would enable them to live and reproduce.

Much against their will, the most ardent of neo-Darwinists have had to accept the compelling evidence that certain components of eukaryotic cells (cells with the chromosomes tucked away in a nucleus) are likely to have had a bacterial origin. The all-important mitochondria that unleash the energy of glucose through respiration and enable eukaryotic cells to breathe in oxygen and burn up sugars look worthy candidates for symbiogenesis as do the chloroplasts which photosynthesize those same carbohydrates. Both these organelles are now recognised as the likely relics of bacteria that more than a billion years ago found themselves a haven in other cells.

What convinced the sceptics in those two instances was the discovery of DNA remnants associated with both those organelles, and the realisation that their reproduction is independent of cellular reproduction. Even after such an unparalleled period of domestication, both mitochondria and plastids carry sufficient traces of their past that microbiologists such as Margulis have been able to pinpoint their likely free-living relatives. Mitochondria were once free-living purple bacteria and chloroplasts were free-living photosynthesising cyanobacteria.

That is the easy, first part of the general thesis and that is just about as far as enlightened, neo-Darwinists are prepared to go. At the Third Oxford Gaia Conference in March 1999, Oxford's Bill Hamilton conceded that symbiogenesis may have helped certain fundamental forms to evolve in the distant past, but insisted that symbiosis as a mechanism of evolution has had its day; instead we are now entrenched in a classic evolutionary process of chance mutations and the culling hand of natural selection.

No stranger to controversy, Margulis insists here that such a weak acknowledgement of the role of symbiosis in evolution is the result of our current ignorance about the extent to which organisms owe their being and survival to symbiotic associations. For her, one of the fundamental events in the evolution of the cell was the symbiotic fusion between squirming spirochaetes and ancient forms of bacteria that tolerated heat and acidic conditions. That combination generated the foundation of the nucleocytoplasm, the ground stuff that fills the cell and gives it structure. That event took place so early in evolutionary history that we can only conjecture on its validity. However, that merger has left traces in other ways, such as in the special tubulin proteins we find in eukaryotic cells and in the minuscule bodies that we call the centriole-kinetosome. These bodies are associated with the dance of the chromosomes when they undergo division and get drawn apart as the cell divides. They are associated too with cilia, a reflection indeed of the movements of the free-living spirochaete.

Margulis is unshakeable in her view that the eukaryotic cell owes its existence to that fusion between two very different kinds of bacteria. That symbiogenesis therefore anticipated the later fusions of the mitochondrial-like bacterium and the chloroplast ancestor with the same, fundamental eukaryotic cell. The total package, composed of three fundamental symbiosis and involving four separate bacterial entities, therefore paved the way for the evolution of plants and animals. Yet even here symbiosis continues to be essential: we have only to think of the termite able to digest wood because of the microscopic creatures which inhabit its gut. And, like a Russian doll, just one of those essential creatures, the protoctist, *Mixotricha paradoxa*, is itself composed of five kinds of organisms, including spirochaetes that, with their tail-ends beating in synchrony, can send the host organism, like a super-charged

tank, whirling on its way. And what about the cow and all the other ruminants? Their ability to digest cellulose comes from a veritable garden of different bacteria, including the belch-inducing methanogens.

Her symbiotic view of nature has coloured her way of seeing the panoply of nature, and from early on in her career, Margulis has been engaged in working out an evolutionary classification of living organisms and their ancestors. Her five-kingdom approach, which she acknowledges was based on the work of other prescient biologists such as Robert Whittaker of Cornell, sees bacteria as the base of all past, present and future forms of life. They are the prokaryote – organisms without a cell nucleus. Then come the largely overlooked, neglected protocists, many unknown, unstudied, but which feature among them 250,000 different species, amoebae, ciliates, algae, slime moulds and a plethora of strange organisms like *Mixotricha*. The protocists are neither animal nor plant, but according to Margulis' classification, they provide the launching pad for the myriad multicellular organisms that we know of as fungi, plants and animals.

Sex, says Margulis, arose out of predation and cannibalism among the early protocysts, in which the organism became burdened with excess nuclei and genetic material. It was a way of getting back to the haploid state – and then it became institutionalized. Advantages accrue from the generation to generation shuffling of the chromosome deck and the dispersion of new combinations of new attributes. But sex condemns the organism that indulges in it to ageing and death.

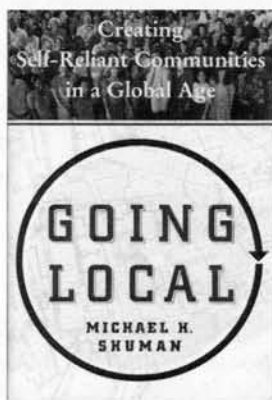
Fascinating in what is a personal account of her convictions and how she got to them, is Margulis's notion that the truly big steps taken by life, such as the colonisation of the land some 450 million years ago, must be attributed to symbiosis. Here she pays homage to the inseparable association between fungi and algae, which paved the way for the evolution of plants. Lichens, composed of associations between fungi, algae and bacteria, are a first step, though still very much in evidence and essential in the production of soil from bare, exposed, maybe newly-generated rock. Even inhospitable Antarctica hosts more living matter in the form of lichens – some 130 million million tonnes – than is the total for the oceans. The next step is the evolution of what we classify as true plants. Here again, the association between fun-

gal mycorrhiza and the growing plant are essential. The result of that all-pervading symbiosis is the proliferation of life on land, giving us the world we know.

The ultimate symbiosis is the sum of all such associations and it generates the self-enriching, self-regulating phenomenon that we have dubbed Gaia. It is that interconnectedness, the thread that passes right through evolution that ties the whole system together: the surface of the planet with its rocks, ocean and atmosphere with life in its totality. The emergent property of the system is its ability to regulate planetary phenomena such as the gaseous content of the atmosphere, the salinity of the oceans and the attributes of climate that help regulate surface temperature, such as the transfer of energy through the intervention of the living system from hot, sun-drenched equatorial zones to the high latitudes.

As a personal summary of Lynn Margulis's life's work to date, *The Symbiotic Planet* is a powerful antidote to the more conventional view of evolution and how species came into being. Margulis's is certainly a point of view that needs to be heard. – *Peter Bunyard*

The Two-pronged Attack



GOING LOCAL: CREATING SELF-RELIANT COMMUNITIES IN A GLOBAL AGE

by Michael H. Shuman
Free Press, New York, 1998,
ISBN 0 684 83012 4
\$25.00 (hb),

A classic military-style pincer movement is required to get globalisation under control. One prong of the attack is already well-developed – book after book, study after study has shown that the free movement of goods and of capital around the world has widened the gap between rich and poor countries, and

between rich and poor people. It has made life worse, riskier and less sustainable for the majority of the world's population.

Even eminent economists are starting to admit this. Writing in the prestigious US journal *Foreign Affairs* recently, a respected trade theorist from Columbia University, Jagdish Bhagwati, said that "the claims of enormous benefits from free capital movements are not persuasive."

Research at Harvard University bears this out. Drawing on data from 100 countries between 1975 and 1989, Dani Rodrik found that those countries which had restricted external capital flows had not generated any less economic growth or had a lower level of investment than those which had exposed themselves to all comers. "We have no evidence that [capital mobility] will solve any of our problems, and some reason to think that it may make them worse," Rodrik concluded.

And economic growth itself is starting to look suspect. In a 1997 study, *Life During Growth*: William Easterly, a senior economist at the World Bank, set out to investigate whether "life improves when a poor Togo becomes a richer Togo". He looked at how 95 indicators of human well-being in a wide range of countries had been affected by increases in national income over the past 30-40 years. He found, much to his surprise, that only five indicators could be shown to have been improved by growth. The improvements were higher protein and calorie intakes, more telephones, more commercial vehicles (some of his measures of human welfare are rather odd), and governments which broke contracts less often. "The evidence that life gets better during growth is surprisingly uneven," he concludes, grudgingly.

But evidence like this is not enough by itself to persuade our politicians to change direction. Indeed, it's not even enough to convince some of our activists. "It's easy enough to attack globalisation," someone from the Worldwide Fund for Nature remarked to me recently. "It's much harder to present an alternative."

He was right. The missing arm of our pincer attack is our lack of a coherent re-localisation strategy, and the importance of Michael Shuman's book is that it goes a very long way indeed towards developing one – for residents of the United States. I want to stress this. *Going Local* is not a global book, and this is its strength rather than its weakness. It

would have been ridiculous for it to have tried to present a global approach to localisation. It is its wealth of specific information that makes it so valuable.

Shuman starts by discussing the problems that giant corporations have created in most American towns and cities, and shows that US communities probably have a better legislative framework than anywhere else on the planet for dealing with these problems and returning economic activity to local hands.

Commenting on what happened in Nowata, Oklahoma, in 1994, when Wal-Mart closed its store there after driving half the local shopkeepers out of business, he writes:

"Few local governments in the world enjoy the powers that American communities have to prevent this kind of economic debacle. US mayors and city-council members have a policy toolchest that enables them to invest, contract, zone, tax, lobby and police. They have the ability to spend public funds on almost anything. While these powers are not unlimited, it's fair to say that the problem facing US local governments is not the absence of powers, but

the absence of political will to exercise them."

Shuman, who is a lawyer, discusses these powers in detail: "Current court doctrines allow localities to enact a wide range of nondiscriminatory [his emphasis] laws that impinge on commerce. The key is that... regulations must be applied even-handedly on local and non-local economic players." So, when in 1978 Maryland passed a law which prevented companies which refine petrol from operating gas stations in the state and was taken to the Supreme Court by Exxon, the law was upheld because it was non-discriminatory – the handful of outlets owned by local refiners were affected too.

He shows that it is well within the power of a state, or even a town, to ban goods of a certain type (Fox, Arkansas, bans the sale of liquor), to specify how a particular product must be packed, or even, as California has done, to lay down how motor vehicles must be powered. I was amazed when I read all this. Small towns in the US seem to have more powers than European governments.

These powers have been curtailed by the World Trade Organisation to some extent. Shuman notes that local authorities can no longer subsidise locally-owned businesses if that "displaces or impedes" imports or exports from another country. "Almost any subsidy can have some effect on foreign imports or exports," he comments. Communities are also unable to set their own food standards unless they can demonstrate a scientific justification for them. And even local currencies might be deemed unlawful if they favour local businesses, which is what they are generally intended to do.

But there are plenty of other shots in Shuman's locker and the book presents a convincing picture of how relocation might be achieved through the establishment of co-ops and 'community corporations' in which only local residents would be allowed to hold voting stock. "The only firms that almost never skip town are co-operatives, nonprofits and publicly-owned enterprises," he says. The new organisations would generally concentrate on meeting local needs for food and energy rather than supplying

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luxuries to markets far away. Local investment trusts and banks are also considered.

Going Local is a good, interesting read and it would be hard to imagine a better book for two groups of people – ordinary Americans wishing to find a new way for their communities and elected officials able to bring such a future about. If just one community somewhere in the US adopts a radical self-reliance policy as a result of Shuman's book, he'll be able to regard it as a great success. – *Richard Douthwaite*

Richard Douthwaite's book *Short Circuit* (Green Books, Totnes) looks at ways in which communities in the industrialised world have achieved greater self-reliance.

MUSIC REVIEW

Ecological Outlaw



THE MOUNTAIN

by Steve Earle and the
Del McCoury Band,
Grapevine Records, 1999,
£13.00

Any diagnosis of the popular music scene based on the evidence of MTV videos, the Eurovision Song Contest or the Top Twenty charts could only conclude that this aspect of human culture is in a pretty parlous state. Modern music seems to alternate between utterly pasteurised muzak, (the musical equivalent of McDonalds), on the one hand, and, on the other, equally empty but even more tuneless beats, as painful on the ear as on the mind. Yet there are exceptions, and one is the latest CD from the American musician Steve Earle, a veteran of the country and folk rock scene.

The Mountain sees him teaming up with the premier bluegrass band built around the three McCoury brothers on guitar, banjo and mandolin, with fiddler Jason Carter and double-bass player Mike Bub, plus assorted guests. Earle's life has had its ups and downs, with more than its share of drugs, divorce and

general disorder, including a spell in jail. Yet, somehow, he has survived and is producing work light years away from the bland commercial pap of so-called New Country artists like Garth Brooks. This CD is dedicated to the memory of the great bluegrass artist Bill Monroe and surely he would have been pleased with the results.

There are several reasons why ecologically-minded listeners should lend an ear to *The Mountain*, and to Earle's work in general. Some readers, for example, might have seen the group performing on BBC 2's Jools Holland Show. Part of the degeneracy of contemporary music-making is its sheer artifice, not least its dependence on technology such as mixing desks and backing tapes as a substitute for actual talent. By contrast, on that show, Earle and his partners gave a classic exposition of what musicianship is all about, grouped around a single microphone, giving individual instruments prominence simply by leaning forward. Refreshingly, music-making, not ego-boosting, came first.

But it is also the content of the music which is so refreshing, not just the way it is performed. All the songs on the CD are written by Earle and the lyrics are deeply rooted in both place and history, mainly in this case the eastern mountains of the USA. Insofar as most pop songs contain any audible words, they often reflect the self-indulgent nature of consumerist society. Earle's writing stands in marked contrast. It is as sharp as his voice, with a political edge far more cutting and focused than, dare I say it, the likes of Bob Dylan. Listen to, for example, 'Harlan Man', a song about a Kentucky miner: "I took a union stand, not what the company said." (Some readers may remember his song 'Good ol' Boy', attacking Ronald Reagan's assault on workers' rights, and Earle's support for Farm Aid). Earle's songs are infused with a love of the land. In *The Mountain*, the lyrics open grandly but starkly, to a gorgeous melody: "I was born on this mountain a long time ago, before they knocked the timber and strip-mined the coal." Other songs delve further into history, such as 'Dixieland', the story of an Irish rebel fighting for the Union army.

Earle stands in the footsteps of such luminaries as Woody Guthrie and Pete Seeger. Earle follows Guthrie in tackling the Depression and the Dust Bowl disaster. His work similarly portrays an America scarred by injustice and heartlessness. But I suspect there is a deeper ecological sensibility in Earle's work

and, musically, it has more attack than either Guthrie or Seeger.

Perhaps Earle somewhat indulges himself in the 'outlaw' persona on some of his CDs. After all, one person's 'rebel rouser' is another's anti-social pest. But Earle has served his time on the music scene and it is far richer for his efforts. The excellent recent CD, *Car Wheel on a Gravel Road*, from Lucinda Williams, a bluesier folk artist, was, for example, part-produced by Earle.

Globalisation and the commercial imperative together might be ironing out the once rich diversity of musical cultures around the world. But as long as Steve Earle and others ploughing a similar furrow (Ry Cooder springs to mind) survive, there will still be riches to be found amidst all the dross. – *Sandy Irvine*

Sandy Irvine is a member of *The Ecologist's* Advisory Board

The Age of Cognitive Dissonance

Geoff Simons



IMPOSING ECONOMIC SANCTIONS: LEGAL REMEDY OR GENOCIDAL TOOL?

Geoff Simons, Pluto Press, 1999,
224pp., ISBN 0 7453 1395 7.
£14.99 (pb)

On March 24, President Clinton defended the launch of an air assault on Yugoslavia, explaining that "we" were upholding our values, protecting our interests and "advancing the cause of peace." Across the Atlantic, Prime Minister Blair said much the same, arguing that military intervention was required "to prevent a humanitarian catastrophe." Much of the debate that followed focused on the credibility of these claims, with the overwhelming majority of mainstream commentators concluding that NATO should be given

the benefit of the doubt.

'Cognitive dissonance' is a phrase sometimes used to refer to facts and ideas that fail to add up, that seem to contradict each other in some way. A good example is the cognitive dissonance created by comparing Western claims of humanitarian concern in Kosovo – in response to the death of an estimated 2,000 people on all sides in the 12 months leading up to the NATO air assault – with the actuality of Western actions in Iraq.

In August 1997, UNICEF-Iraqi statistics recorded that the West's sanctions had so far killed some 878,856 children. These figures supported previous estimates in the prestigious medical journal *The Lancet* (December 1995) that, since 1990, some 567,000 children had been killed by "an international community intent on maintaining sanctions", for reasons which may well have more to do with US efforts to keep Iraqi oil off world markets than with any worry about 'weapons of mass destruction'.

The figures continue to rise. Ramsey Clarke, a former US Attorney-General, has recently issued a "Criminal Complaint Against the United States of America . . . for Causing The Deaths of More Than 1,500,000 People including 750,000 Children Under Five By Genocidal Sanctions." In August this year, a new UNICEF report highlighted the deaths of Iraqi children once again, and called for the lifting of the sanctions.

Total siege of this kind, Geoff Simons notes, is nothing new; indeed it is sometimes considered "the oldest form of warfare". Josephus, outside the walls of the besieged city of Jerusalem in AD72, described how the ensuing famine "consumed whole households and families; and the houses were full of dead women and infants; and the streets were filled with the dead bodies of old men . . ."

It seems the effect on the emotions was remarkable. There was no crying or lamentation, "for famine overcame all affections." The dying beheld the dead without tears – the city died silently. Beyond the city walls there was also a marked absence of emotion, notably remorse. Josephus recorded that Titus, commander of the Jerusalem siege, raised his hands to heaven and called God to witness that "it was not his doing."

Fast-forward to Madeleine Albright, May 1996, with hands raised to her prime-time viewing audience, insisting that the regime in Baghdad, not Washington, was to blame for the deaths of

500,000 Iraqi children – one every six minutes – and anyway, "we think the price is worth it."

Simons uses history to illuminate a present shrouded in self-denial and the deceptions of power. To be horrified by a medieval siege is important if we then grasp that the "technique of total siege was not abandoned in the Middle Ages but has had genocidal manifestations – involving vast cities and entire countries – in modern times". Indeed the complexities of the modern inter linked global economy mean that the contemporary version of total siege – all-encompassing economic sanctions – truly dwarfs any mere city siege.

In addition to a chapter devoted to the destruction of Iraq, Simons examines the strangulation of the Cuban economy through the amusingly titled 'Helms-Burton Cuban Liberty and Solidarity Act'. Bill Clinton explains the goal:

"I will do everything I can to help the tide of democracy that has swept our entire hemisphere finally reach the shores of Cuba."

Senator Jesse Helms reveals the true meaning of both 'democracy' as used here, and 'Liberty' as used in his own 'Liberty and Solidarity Act':

"Let this be the year Cubans say farewell to Fidel. I don't care whether Fidel leaves horizontally or vertically, but he's leaving."

As ever, then, liberty and democracy mean the freedom to be ruled by individuals and governments acceptable to the powerful. Or perhaps the libertarian dreams of ordinary Cubans really do converge with those of Clinton and Helms. An independent 1994 Gallup Poll reported that 88 per cent of Cubans said they were "proud of being Cuban"; 58 per cent considered that "the revolution's successes outstrip its failures"; 69 per cent identified themselves as "revolutionaries" (but only 21 per cent as "communist" or "socialist"); 76 per cent said they were "satisfied with their personal life", and 3 per cent said that "political problems" were the key problems facing the country. This after decades of economic, military and terrorist warfare waged by their superpower neighbour.

Undeterred, US crusaders continue to work to ensure that the same 'tide of democracy' that has left 40 per cent of Latin Americans in the hemisphere languishing below the poverty line reaches Havana. In 1997, *The Guardian* reported that "the United States trade embargo has led to needless deaths, left hospi-

talised children lying in agony as essential drugs are denied them . . ." Simons quotes some of the detail from the American Association for World Health:

"Child cancer sufferers are some of the most distressing victims of the embargo, which bans Cuba from buying nearly half of the world-class drugs in a market dominated by US manufacturers. This team visited a paediatric ward which had been without the nausea-preventing drug, metoclopramide HCl, for 22 days. It found that 22 children undergoing chemotherapy were vomiting on average 28 to 30 times a day. Another girl, aged five, in a cancer ward lacking Implantofix for chemotherapy, was being treated through her jugular vein because all her other veins had collapsed. She was in excruciating pain."

Strangely, for a country in such urgent need of 'democracy', "only the pre-existing excellence of the [health] system and the extraordinary dedication of the Cuban medical community have prevented infinitely greater loss of life and suffering", in the words of a report by a team of American doctors and research scientists after a year-long study of the country.

The legality, let alone the morality, of these economic sanctions are, Simons makes clear, very much open to debate. In 1992, one national government wrote bravely of how it "condemns all violations of humanitarian law, including . . . the deliberate impeding of the delivery of food and medical supplies to the civilian population . . ."

The same government also recorded that it "defines 'international terrorism' as acts dangerous to human life . . . that appear intended to coerce a civilian population or to influence the policy of a government by intimidation or coercion." Acts and policies intended, for example, to ensure that a leader "leaves horizontally, or vertically", just so long as he leaves. What rogue government might be the source of these dangerous views – views which could surely be taken to imply that the US and other Western governments are guilty of gross violations of 'humanitarian law' in regard to Cuba, Iraq and others, and even responsible for major acts of 'international terrorism'?

The answer, of course, in this, the Age of Cognitive Dissonance: the US government. – 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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27-29 October 1999: TechNet Europe – The 20th AFCEA Europe Symposium and Exposition, Renaissance Hotel, London Heathrow. AFCEA is a high technological weapons fair previously thrown out of Belgium and the Netherlands. Belgian parliament deemed AFCEA "politically and ethically undesirable in the EU". For details of demonstration and action against this 'exhibition' contact Campaigns Against Arms Trade, 11 Goodwin Street, Finsbury Park, London N4 3HQ. Tel: 0171 281 0297; Fax: 0171 281 4369; e-mail <caat@gn.apc.org>; website <http://www.gn.apc.org/caat>

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23-25 January, 2000:

1st INTERNATIONAL SYMPOSIUM AND WORKSHOP ON ARID ZONE ENVIRONMENTS. Beach Rotana Hotel, Abu Dhabi, UAE. The symposium and workshop will be conducted in English. For more information, contact: Environmental Research and Wildlife Development Agency, PO Box 45553, Abu Dhabi, United Arab Emirates. Fax: +971 2 414131; e-mail symp@erwda.gov.ae

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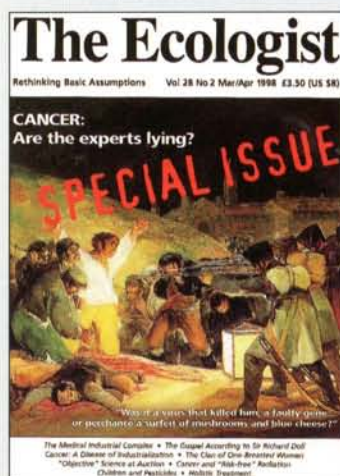
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