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Number 57 Autumn 1989 \$3.00

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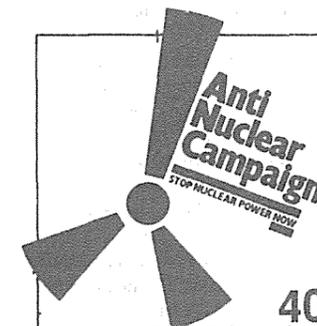
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LETTERS

Ozone

"Ozone: a holistic approach", the excellent overview by Stewart White in the summer CR should give us all an understanding of where the problems lie.

I would like to add a little more on the subject of domestic refrigeration and car air-conditioners (CAC's). Domestic refrigerators (the kitchen 'fridge') are what is called "sealed units". In other words, the electric motor and the compressor, which pumps the refrigerant (CFC), are sealed together in one steel case. From here the CFC cycles to the evaporator (the bit that gets cold), then to the condenser (the black "grill" on the back of the fridge) and then back to the compressor. All the pipe joints are brazed, so barring any physical damage, they are unlikely to leak. (If you are moving a fridge be very careful not to knock any tubing.) In fact, sealed units are incredibly reliable little beasts and often purr on happily for years. The release of CFC to our precious atmosphere will most likely occur during servicing (eg replacing a faulty compressor). A responsible technician can minimize the amount released. I understand that retrieval systems can contain most of the released CFC.

Unfortunately, car air-conditioners (CAC's) are a little different. On a hot, sunny day the heat load on a CAC is enormous. This is where shade tree planting in car parks and along roadsides is a step in the right direction. Because cars can get so hot, CAC's have sizeable compressors that, unlike sealed units, are driven externally by the car's engine. Therefore, a shaft has to stick out of the compressor to accept the torque from the engine via a v-belt. This shaft turns in seals that are supposed to keep the CFC in the system, but in fact the system may regularly lose small amounts of CFC to the atmosphere through these seals. In addition, the compressor is connected to the condenser via flexible hoses and small amounts of CFC can diffuse through the walls of the hoses. Now CAC's also include a filter/drier which also acts as a reservoir of CFC. Until this reservoir runs down, the system will still work

efficiently even if it has been slowly leaking for a year. And every time a CAC needs servicing, it is likely that more CFC will be on its way to the Ozone layer.

The same situation exists with many boats that have motor driven refrigeration (the so-called "eutectic" system), but you can add further potential leaks at the many flare points and perhaps due to corrosion. Therefore, boat refrigeration systems have a largish reservoir (a receiver) to accommodate leakage. I have heard boat owners announce "my system doesn't leak, it has been working trouble-free for 18 months." And yet the system may indeed have a slow leak -- it will not show up as long as the receiver still contains a reservoir of CFC.

On another tack, I know of a yacht owner who carried frozen meat on a trip from Sydney to lake Macquarie. He anchored his boat at Belmont only a few minutes walk from butcher shops! Another couple cruising on a so-called sailing yacht had to run their diesel engine 4 hours a day when in Cairns to keep their food frozen. This is not a fuel efficient method of keeping food. Boats in the tropics get quite hot enough without running the engine several yours a day; of course, the hotter the boat gets, the harder it is for the refrigerator to keep food cold. It is a vicious circle of wasted energy.

The three points I am trying to clarify are:

1. Externally driven refrigeration systems, eg car air-conditioners, are real-devils when it comes to CFC release. (Car chases can cause CFC release also.) Don't have air-conditioning in your car. Better still, don't own a car - most of the earth's inhabitants manage without one.

2. Sealed unit refrigerators, eg the kitchen fridge, are not normally a problem in their daily use.

3. The way we use (or misuse) refrigeration, eg cooling a car that has been parked in the sun, plus the examples I gave of boating use, has caused a demand for refrigeration where none is necessary.

I make these points so that people will understand that all refrigeration systems are not equally to blame while they are in use. They are all to blame if dumped irresponsibly. Also I would remind readers that even zero ozone depleting refrigerants that will be phased in over the next few years have tremendous greenhouse warming potential (several thousand times the warming effect of carbon dioxide). So if we fix up the ozone (or lack of) problem we still have to change to an environmentally harmonious lifestyle. Luxuries like air-conditioners have got to go even if we get ozone levels back to normal.

If we cannot reverse Ozone depletion, we haven't got a ghost of a chance of fixing the depressingly long list of other environmental problems such as habitat destruction and greenhouse.

Ross Bridges
Sumner Hill, NSW

Philippines Visit

I recently visited the Philippines as part of the Australian delegation to the Asia-Pacific Peoples Conference for Peace and Development. I would lie to take out a subscription for a friend who would find the information in Chain Reaction useful.

Our four weeks in the Philippines was enlightening and inspirational. We saw devastating evidence of environmental destruction by large transnational agricultural and mining companies; human rights violations by vigilante groups and the Filipino army; poverty, malnutrition and repression of ordinary people; destruction of ancestral land holdings and cultures of indigenous people; U.S. military and economic intervention in local affairs.

We were also inspired by the resistance to these forces and the small scale, people based responses to poverty and harassment. The 'cause oriented' groups and organizations who support the people's struggle are strong, well-organized and have good political analysis- they are also very much under threat.

It would support their cause if Chain Reaction could feature some articles on the Philippines situation this year.

Some suggestions are:

-Large scale logging and co-operative contour farming land restoration responses to the environmental destruction.

Land Reform- Peasants' local actions to take it into their own hands

-U.S. bases and their economic, military and social cost in the Philippines

- Low intensity conflict- the total war policy of the U.S. and Aquino Governments- and its effects.

I am enclosing a list of Filipino organizations who may be able to contribute articles or information. There were over eighty Australian delegates to the Conference who can be contacted through the Australian Anti-Bases Campaign Coalition, c/o Dennis Doherty, 1st Floor 300 Sussex St. Sydney NSW 2000

I hope this information is useful and that you can follow it up.

Yours in solidarity
Debby Hartman
Tennant Creek NT

National Organizations
Gabriela National (a national umbrella women's organization)
PO Box 4386 , Manila 2800 Philippines.

KMU (a national progressive union organization)
International Department
3rd Floor Japoon Bldg
510 M Eamshaw St.
Sampaloc, Manila Philippines

KMP (Peasant Movement of the Philippines)
210 Kaimo Bldg
101 Quezon Ave, Corner Sto Domingo St
Quezon City 113 Philippines

Link Philippines
Rm 320, Euzon Bldg
E Rodriguez Ave.
Quezon City Philippines

Local Organizations
Cordillera Peoples Alliance
RM 208 FMSG Bldg.
E Rodriguez Corner New York
Cubao, Quezon City Philippines

LETTERS

Democrats Ignored?

I had been contemplating not renewing due to the magazines very blinkered political presentation of very important issues.

Surely working towards solutions of the planets problems is more important than allowing personal political prejudices become the censor to what is printed in Chain Reaction. My wife is the publicity officer for Senator John Coulter (Australian Democrats) and has on many occasions sent your magazine articles and press releases on issues that are routinely covered by Chain reaction. I have never once seen any reference to these

articles, even though the Australian Democrats are the only political party in Australia trying to make the needed changes to our countries legislation.

Also, about 2 years ago I made a submission to the South Australian Government Select Committee on Energy on the matter of alternative energy options for the State. This submission was based on Australian Democrat Policy and presented viable examples of wind energy, solar energy and conservation that would have saved

ISW (International Solidarity
Work Committee)
PO Box 3
Tagum, Davao
Mindanao Philippines

Labor Greens?

We might all rejoice that there are now Green Networks/Movements/Factions/whatever in the Labour Party. Earth and all her people, furry or otherwise need all the help that we can get. I guess our biggest danger is sectarian divisions, and band waggoning just for power.

So leap on Labor Greens and take heart. You'll need it. Especially when you study Senate Hansard

You might compare the similarities of Labor/Liberal, organization, base assumptions (e.g. growth) policy, and Parliamentary voting; then contrast with the constitutional differences and thwarted Bills of the Democrats. Pick the Green tips, boil, and serve all round with damper.

The hierarchical Labor power structure might make it vulnerable to capture (ugh) if you can get past the blocs, and you might find some idealists surviving in the party/union rubble. But don't get hurt by setting your hopes too high. Giving it your best is all that any of us can do.

I reckon trying to turn the Labor movement Green is like trying to promote free love throughout the

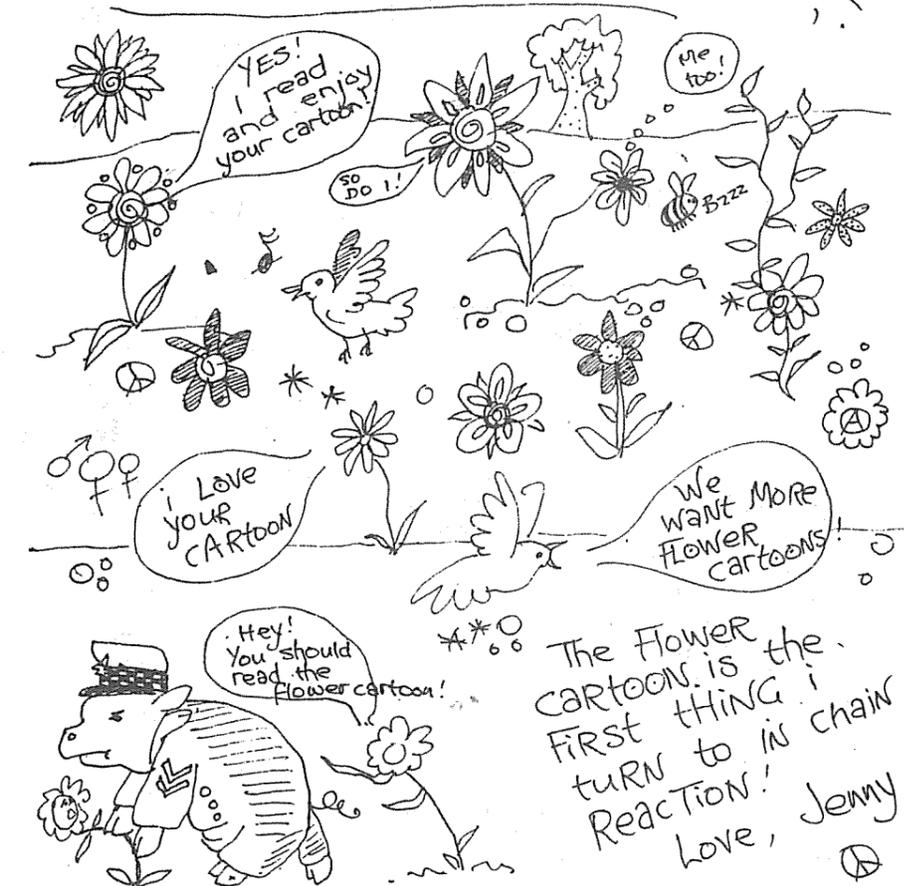
Vatican. It may have been the only buggy in town for half-radical ideas. In its best days it provided shelter, but if the passengers looked like upsetting the Powers too much, it usually managed to turn ideas into dead pedestrians if the Liberals didn't kidnap and basket case them; but I think its wheels were somewhat square and fell off altogether years ago. So there are better vehicles now.

But Labor Greens might at least help ensure the wreck obstructs the road minimally. So, cheerfully, let's all help them gladly to do whatever they can to modify the old trolley and its attendant wheelbarrows, which are far more important.

Eric Mack
Glen Osmond Adelaide



To the Flower cartoon -



LETTERS

around \$1,000,000,000 over the next 20 years and also reduced the planned electricity generation capacity by about 500MW. I sent a complimentary copy of this to your office, but never received any acknowledgement of receipt and have never seen any comments about it in Chain Reaction.

Perhaps if your magazine had the courage to give fair coverage to people and politicians of different political persuasions to your own, who are working very hard towards the same goals as Chain Reaction purports to, then the circulation of Chain Reaction would likely increase and your problems with printing costs would disappear.

Yours Sincerely
AJ Kanck
State Policy Co-ordinator
Australian Democrats (SA)

CR prints those articles it receives worthy of printing; we usually agonise long and hard over what to include; please be assured that the

political affiliation of the author is not one of our criteria. We do not have the resources to acknowledge every item we receive, we certainly won't acknowledge media releases. Your submission to the Senate Committee may have been new to the SA government, but CR has been covering such issues for over a decade. We prefer to publish original or timely material; because of our quarterly frequency, we can't report on every news item. Finally, you'll find a very wide range of political views represented on the CR collective — far wider than currently represented in parliament! [RO]

Chernobyl Revisited

On the 26th April, three years on, Chernobyl still haunts the world, and the magnitude of the disaster will not dim with the passing of the years. The cloud of radioactivity affected a large area of Europe and the USSR — radioactivity has no respect for national boundaries, like acid rain. A major city, Kiev, just 130 km away was only spared because of a favourable wind direction. But south-east Germany was heavily contaminated by

fallout. Will we ever know the full costs of Chernobyl? \$20 billion is a likely figure.

For the long term, human consequences of Chernobyl, we should turn to John Gofman, Professor Emeritus of Medical Physics at the University of California. He delivered a paper in September 1986 to the American Chemical Society, "Addressing Chernobyl's Cancer Consequences." In that paper, Gofman's tabulation for the USSR and the countries of Europe show that malignancies from Cesium 137 fallout will be 640,000 as a lower limit, and one million as a likely estimate. Of these, half will be fatal. More will occur outside the USSR than within it. Hence, to quote Gofman, "the Chernobyl accident obviously represents the most serious industrial tragedy in history, and by a very large factor."

It is far more than an accident that killed 31 people. The basic fact is — cancer risk is proportional to dose; right down to the lowest conceivable doses, there is no safe "threshold".

An apt quote is used by Gofman from the German philosopher

Schopenhauer. "Every truth passes through three stages before it is recognised. In the first, it is ridiculed, in the second it is opposed, in the third it is regarded as self-evident."

The truth about the danger of low-level ionising radiation is passing through these stages. Chernobyl will certainly advance it towards being self-evident.

Yours Sincerely
Bert King
FOE Fitzroy

ERRATUM

IN THE LAST CHAIN REACTION, WE LEFT OUT A LINE OF TYPE IN THE REVIEW OF "RAPE OF THE WILD" BY LINDEN GILLBANK.

THIS SMALL OMISSION CAUSED THE SENTENCE TO HAVE THE OPPOSITE MEANING TO THAT INTENDED. OUR APOLOGIES. THE SENTENCE, IN COLUMN III, P45 OF CR 56, SHOULD READ IN FULL:

"She charts the conversion under patriarchy of gynocentric societies whose allegiance was to the natural world and Mother Earth to those whose primary allegiance is to nation rather than nature, and offers an alternative guestimate about the development of human societies."

THE SECTION IN ITALICS WAS MISSING FROM THE REVIEW.

EARTH NEWS

ALP policy review kept busy

At the time of going to press, the Australian Labor Party's Uranium Policy Review Committee had rolled into Perth after having sat in Sydney, Brisbane and Darwin. The Committee has received a considerable number of detailed submissions from interested members of the public and environmentalists. For example, the time allocated for the Melbourne hearings of the Commission had to be doubled and many people were turned away. The evidence runs overwhelmingly against any extension of the nuclear industry on economic, environmental and social grounds but it is predicted that the committee will recommend an extension of the uranium industry, split 5:3 on factional grounds with the possibility of a minority report. Speaking in Adelaide at a public meeting on Monday 8 May, left wing committee member Richard Mills said that he believed that the review committee process was 'dinkum' and not a farce.

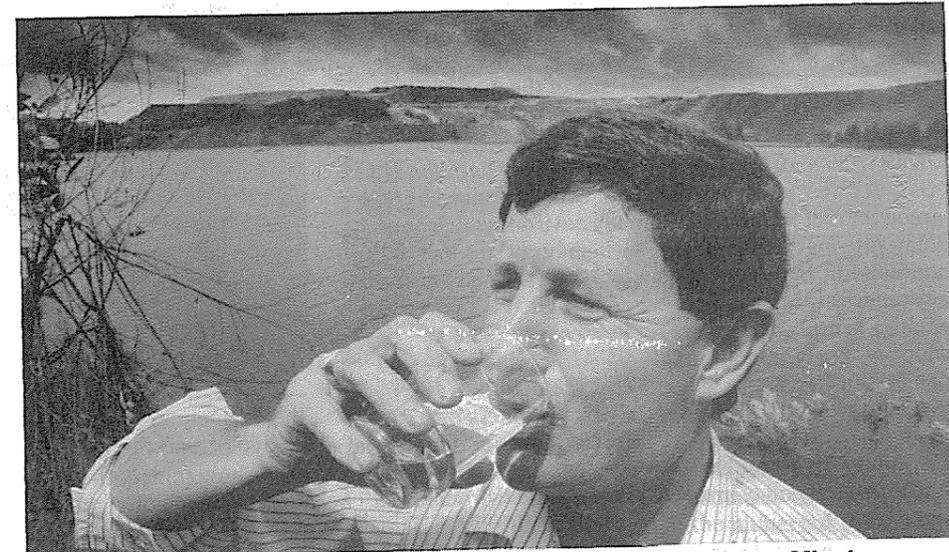
More 'accidental' releases at Ranger

Late February saw further releases of radioactive water from the tailings dams at the Ranger uranium mine near Kakadu National Park.

Water was released from Retention Pond Four at Ranger into the Magela Creek system (which flows into the East Alligator River), without, according to local traditional owners, adequate notice either to themselves or to the Office of the Supervising Scientist.

According to press reports at the time, there are strong grounds for suspicion that the water was contaminated by radiation coming from material 'accidentally' dumped in 1988 at the

Source: Australian Labor Party contacts.



Mr Barry Coulter drinks radioactive water from Ranger Uranium Mine's Retention Pond number four. A spokesperson for the Office of the Supervising Scientist, Dr Glen Riley, stated at the time that anyone drinking water from the dam put themselves at 'unnecessary risk'.

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waste rock dump at the mine.

In February 1988, Chain Reaction reported that between 20 and 100 cubic metres of contaminated water from the Ranger mill had overflowed containment facilities and flowed into the 'restricted release zone' of the mine.

The Chairman of the Northern Land Council, Mr. Galawary Yunupingu slammed both the Federal government and the mine operators for not acting to improve the situation. He said, "Senator Richardson has the power and he should use it now."

Yet it appears he has done little. Following a number of television and radio interviews in which he castigated the Ranger company, saying that Kakadu was fast becoming

'a drain' for Ranger's operations, and threatening to close the mine, Senator Richardson appears to have done little to act upon his apparent concern. Source: Land Rights News, March 89; Advertiser, 14 March 1989; ABC Radio's 'PM' 13 April 1989

ANSTO gets more

As part of the government's new \$390 million science package announced on 9 May 1989, the Australian Nuclear Science and Technology Organisation (ANSTO), formerly the Australian Atomic Energy Commission, was given a further \$2.5 million of funding (to be spent over 5 years) on top of its already huge budget allocation. Source: Advertiser, 9 May 1989.

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periodicals available or the money to subscribe to all these periodicals. The subscription rate for a year is US\$40/ (by airmail) OR US\$30 (by seamount). All payments to: SAHABAT ALAM MALAYSIA/ Friends of the Earth, Malaysia, 43, Salween Road, 10050 Penang, Malaysia. A small donation to support the work of this non-profit environmental conservation organisation will be greatly appreciated.

Note: Due to the expensive bank commission levy on overseas cheques, please try to send all payment to us by BANK DRAFT/INTERNATIONAL MONEY ORDER.

Greening of British supermarkets

British supermarkets are attempting to outdo each other in order to corner the 'green market'. This deliberate marketing ploy is undoubtedly based on an awareness of the reach of environmentalism. Tesco, which was only rated third in a Green Consumer guide published in 1988 appears now to be in front, ahead of Sainsburys, Safeway, and Asda. Its new policy involves:

- phosphate free detergents and bathroom cleaners
- no CFC blown foam trays
- PDCP free toilet fresheners
- no CFC aerosols
- stocking only unleaded fuel by end of 1989
- introducing a range of organic produce.

Unbleached paper products such as dioxin free disposable nappies, were available in the UK three weeks after public outcry following television reports. However, according to a report in the *Age*, 9 May, the general manager of Kimberly-Clark Australia, Mr Jim Osborne argued that "99.9 per cent" of consumers wanted chlorine bleached, snow white nappies, and announced that his company had no intentions to introduce any other kind of product.

Source: *Guardian* 14 January 1989; *Advertiser* 8 May 1989

More rubbish from the water board

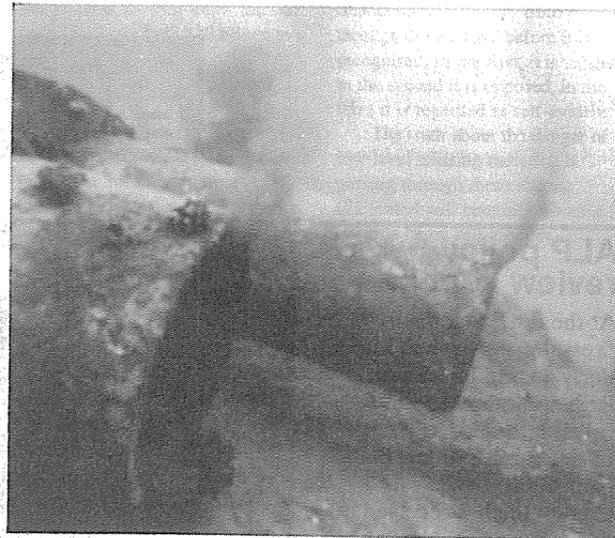
A massive concert and much media attention have made it clear that Friends of the Earth and other environmental groups have succeeded in putting the issue of the marine pollution at the top of the political agenda in Sydney.

April's *Turn back the Tide* concert, organised by Sydney environment groups, which boasted some of the biggest names in Australian rock, pulled a huge crowd in excess of 200,000.

Mr Greiner now says that the pollution of Sydney's waters by barely treated turds and industrial waste is the State's "most important environmental problem". Daily, a billion litres of barely treated sewage and industrial liquid waste (a rich cocktail of chlorinated hydrocarbons, organochlorines, zinc, lead, arsenic, cyanide) enters Sydney harbour.

1989 has seen a number of developments:

- The NSW Government appears to have adopted a strategy of 'hanging in there' until after next summer when the first of the 'long range deep water outfalls' three to four kilometres off Malabar comes on stream. This suspicion is confirmed by the commissioning of a US based engineering firm Camp, Dresser, and McKee for an apparently pointless review of the existing strategy of long range outfalls. The firm already appears to have the same view as the Water Board, that the ocean is the 'world's largest purification plant' -- the Project Manager for the firm, Jonathon French, went on record as saying



Outfall pipe discharges both household and industrial waste into ocean water.

"the Tasman Sea is a mighty big pile of water".

- The government recently announced a 'pollution tax' of \$80 per year, which in its original form would be applied equally to businesses like ICI, as to households, regardless of the extent of discharge or income.

However, pressure from environmentalists forced the government to announce that it would charge businesses more, and in relation to the amount of discharge. Unfortunately it became clear that the government had no commitment to revealing what the extra money would actually be spent on.

- Early in March the NSW Government prosecuted ICI Australia for discharging illegal quantities of mercury (up to 12 times the legal limit) into Sydney's sewage system.

- Results of a secret test carried out in 1987 by the State Pollution Control Commission which found that sea bream caught near one of the outfalls had concentrations of benzene hexachloride (BHC) 122 times the National Health

and Medical Research Council's maximum safe level were leaked by a disgruntled public servant to the media in January. Source: *FOE Sydney; Time Australia*, 20 February, 1989; *Australian Financial Review*, 2 May 1989; *Sydney Morning Herald*, 2 May 1989.

APM to start recycled paper manufacture

Senior representatives of paper conglomerate APM recently announced their intention to produce 100 per cent recycled, unbleached, and unde-inked high quality paper. The representatives of APM, present at a meeting of the Victorian government's Recycling and Litter Advisory Committee on 4 May, said that the project would proceed, given orders for a mere 20 tonnes of the product. To make an order, contact:

Mr Denis Shaw
Executive General Manager
APM Packaging
1st Floor, Railway Parade
Camberwell, Victoria, 3124
Source: *FOE Fitzroy*

Thai logging ban nearly revoked

On May 4 the Thai Government was forced to push through three royal decrees in order to narrowly uphold its January ban on all logging. The Opposition, backed by powerful business interests, had sought to have the ban revoked, arguing that it was crippling the logging industry.

The ban, precipitated by massive flooding and landslides of November 1988, appears to be a major victory. With only 18 per cent of Thailand still covered by forests, it has also appeared at the right time. However, investigation carried out by a researcher for Thailand's Project for Ecological Recovery, Larry Lohman, has shown that more fundamental changes must occur if the problem is not to be simply transformed, or indeed, exported.

Lohman argues that the net effect of the Thai ban is simply to export deforestation to neighbouring countries such as Burma and Malaysia.

Already, Burma has opened 20 logging concessions to Thai operators, and Thailand's numerous sawmill operators have arranged supplies of timber from Laos, Cambodia, Indonesia, Malaysia, and even the Ivory Coast.

So far the ban also appears not to have been very effective. 200,000 illegally felled hardwood

logs have already been seized by authorities.

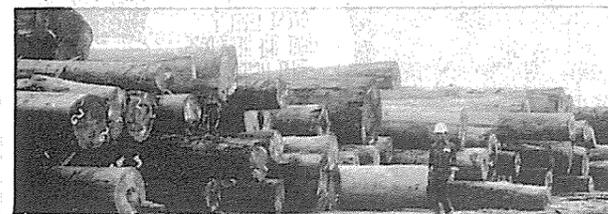
One can only imagine how many others escaped detection. One journalist has likened the Royal decrees banning logging to those which outlawed prostitution and opium cultivation. Among the hundreds of loggers arrested so far have been employees of the Department of Forestry.

The ban has created a climate in which reforestation is officially 'in', regardless of the type. Companies, both local and multinational such as Shell, and a number of Japanese paper companies are rushing to set up plantations of fast growing eucalypts.

The companies are likely to be able to secure rental of so-called 'degraded' government forests to establish their capital intensive plantations of eucalypts which make great demands on groundwater levels and soil nutrients. These rental arrangements will push squatters previously resident on the land out, forcing them to encroach on forest frontiers elsewhere. Lohman says, "Without serious attempts at land reform ... commercial reforestation often only accelerates deforestation".

The other aspect of commercial reforestation is that it poses a risk to democracy as commercial organisations are able to

Tropical rainforest timber ready for export



take control of forest areas away from local people. These people traditionally derive a large number of products from their forests of varied trees -- such as fodder, firewood, medicines, and food.

Source: *Third World Network Features; Australian* 6 May 1989; *Age*, 9 May 1989.

Reduction of rainforest imports?

On 24 April, the Federal Environment Minister, Senator Richardson, told a lunchtime protest rally that he had commissioned a study into impact of banning of the importation of rainforest timber. He announced his attention to use the report of this study to make a submission to Cabinet later this year proposing a ban on rainforest imports.

Each year Australia imports around 200,000 cubic metres, or \$85 million dollars worth of rainforest timber.

On the same day the media made much of the protests organised in 12 cities by casts of *Les Miserables* but neglected to mention the other 140 protests that were occurring around the world which were organised by the International Rainforest Action Network, or the reason why the 24 April had been chosen.

This day corresponded with the trial of 42 Malaysian tribal people (Penans) who were charged with various offences related to establishing blockades of logging roads to defend their forest homes. Source: *ABC Radio, PM*, 24 April 1989; *Sydney Morning Herald*, 25 April 1989.



Penan charges dropped

On April 24, a large number of Penan tribesmen stood trial in a Sarawak courthouse for their alleged involvement in the blockading of logging roads. Presumably as a response to the numerous protests anticipated, the authorities decided to have the charges against the 42 Kayans at the Marudi Magistrates Court dropped.

Outside the court, a spokesman for the Kayans announced their intention to seek an injunction against logging in their traditional area. The basis of the application is essentially one of claiming land rights. If it is ruled that their traditional lands are legally theirs, then it will be unlawful for logging to occur without their permission. A spokesperson for the Rainforest Information Centre expressed doubts that the tribals would be able to raise the large amount of money necessary for the application. Send your donations to: Penan Campaign, Rainforest Information Centre, PO Box 368, Lismore, NSW, 2480. Source: *Rainforest Information Centre*, 13 May 1989.

Australia lags on ozone

At around the same time as the nations of the European Community agreed to a complete ban on CFC production by 1999, the Australian Government got around to discussing its measures that would, at best, have only halved CFC production by 1999.

Having decided last November, largely for political reasons, not to back an Australian Democrat bill which went way beyond the outdated requirements of the Montreal Protocol, the Government presented its own Ozone Bill.

The bill was criticised for not exceeding the requirements of the Protocol. Democrat amendments to completely phase out CFCs by the start of 1996 were rejected by both Government and Opposition.

The other obvious weakness in the Government Bill was the peculiar export provision which was even weaker than the Montreal Protocol. The Protocol set 1986 as the reference for the phase-out of CFC exports. Instead of following, or going beyond this, the government set 1987 as its base year. This made the already massive exports loophole in the Protocol even wider, as the level of exports in 1987 was 3,800 tonnes, 1,500 more than in 1986. This would mean domestic producers could get around the forced reduction in domestic sales by exporting a larger

percentage of their production.

Given the the aerosol industry's voluntary phase-out of CFCs, the Government's legislation actually makes it possible for the other CFC-using sectors of Australian industry to expand their consumption by up to 50 per cent, as by the end of 1999 approximately one-third of Australian CFC production will be available for their use.

The Federal Minister for Science, Barry Jones claimed at the London ozone conference in March that Australia had one of the world's toughest legislation packages because "we are the only nation that has imposed a ban on exports". This falsehood was quickly disputed by the Democrat's Senator John Coulter. He said the "Federal Government has passed the weakest ozone protection legislation in the world ... under the Government's Bill we will be the last nation on Earth to be manufacturing and exporting these life-threatening substances".

Coulter pointed out that the Government even rejected the weakest offer of an amendment he could make, one of a 5 per cent per annum reduction in exports over 20 years.

An Australian refrigeration manufacturer, Kirby Australia, recently announced its intention to establish a plant in Thailand to produce 13 million compressors a year, using CFC12, rather than an ozone friendly CFC.

Source: *Conservation News*, August 1988; *Australian Financial Review*, 8 March 1989

Montreal Protocol obsolete

A four day international conference on ozone depletion held in Helsinki (May 1989) saw participants agree to update the Montreal Protocol in the light of new evidence which showed that depletion of the ozone layer was much greater than had been previously perceived.

Countries abiding by the Montreal Protocol were required to make a 50 per cent cut in CFC production by the year 2000. The new agreement requires a 100 per cent cut within the same period. The conference was attended by representatives from nearly 90 countries and from 100 environmental groups.

Conflict arose at the conference over the proposal presented by Mustafa Tolba of the United Nations Environment Programme, for an international fund which industrialised countries would contribute to in order to assist poorer industrialising countries to avoid the use and production of CFCs. The strongest opposition to the proposal came from Japan, USA, Britain and Canada.

The Helsinki conference essentially captured on paper the verbal commitments made at a conference in March convened by Margaret Thatcher. The March conference saw the EEC exceeding proposing a

complete ban on CFCs instead of the 85 per cent or perhaps 95 per cent cut that had been expected. One of Mrs Thatcher's principal aims at the March conference was to get poorer nations to sign the Montreal Protocol. In one sense she succeeded, as 20 new signatories were captured. However, many of the more industrialised Third World nations were not so keen to act -- Argentina, South Korea and Thailand (which all will soon have large electronics and refrigeration industries) all stayed away, and China and India -- both huge potential CFC users -- refused to sign the Protocol.

There were other complaints about the effectiveness of Thatcher's conference. The Citizen's Symposium on Ozone Depletion, organised by non-government organisations, which preceded the government conference, called for a complete phase out of CFCs by 1995 -- five years faster than cutbacks announced by the EEC. In addition, a representative of NASA, Dr. Robert Watson, criticised the government conference for not coming to any resolutions about carbon tetrachloride and methyl chloroform, which both release ozone destroying chlorine.

Source: *FoE Link*; *Science*; *Age*; *Australian*; *ABC Radio*; *Advertiser*



Simply Living

CFC manufacturer sued

A US company using CFCs to blow plastic foams was recently ordered to pay a State Government US\$ 700,000 for excessive releases of CFCs. The State of Massachusetts brought suit against PI, Inc., accusing it of releasing 1,300 tons of CFCs into the atmosphere, in violation of that State's Clean Air Act.

This case has set a precedent and will clearly help the US' Environmental Defense Fund when it tries later this year to force the US Environment Protection Authority to use the Federal Clean Air Act to end CFC production altogether.

Source: *Earth Island Journal*, via *EcoNet*

Roxby health reports 'doctored'

On 10 April 1989 in the South Australian House of Representatives, the leader of the Democrats revealed two reports which showed that in 1982, the Deputy Opposition Leader, Mr Goldsworthy (Liberal) had had independent reports on the health risk to miners at Roxby Downs changed so that the mine would go ahead.

The first report estimated that 17.3 per cent of miners at Roxby could be expected to die of lung cancer as a result of exposure to radon gas.

Mr Goldsworthy admitted in Parliament on 10 April that he did not believe that the controls he had negotiated would allow so many miners to die as a result of exposure to radon gas. Consequently he had had the report, which he

saw as 'too pessimistic', revised. However, he admitted that the first report was compiled by 'competent' scientists.

The Reports, which were tabled by the ALP's Health Minister, Mr Frank Blevins, are the first and final submissions of the South Australian Health Commission to the Roxby Downs Select Committee in May 1982.

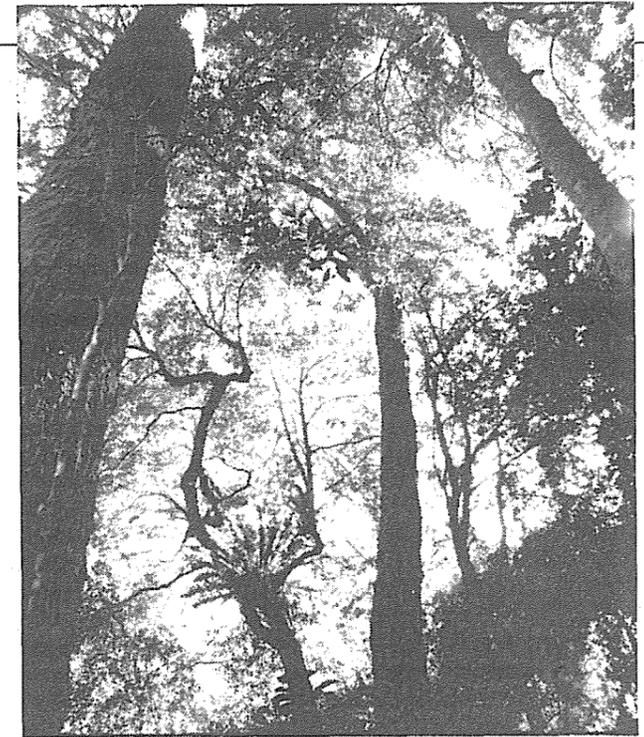
Source: *Advertiser*, 10 April 1989

Agent Orange finding disputed

A national conference entitled *Evatt Revisited* held in Canberra in April came to an almost unanimous rejection of the finding of the Evatt Royal Commission that Agent Orange was not guilty of causing any adverse health effects among Australian soldiers who had been exposed in Vietnam. Thirteen of the fifteen speakers at the conference concluded papers that the Evatt Report's conclusion was based on bad science and was arrived at by using poor judicial process, under heavy political influence. Approximately 90 per cent of the conference participants were scientists. The keynote speaker, Dr Olaf Axelsson, released findings of an epidemiological study based on 30 years of research into the health of Swedish forestry workers who had come into contact with herbicides. These findings indicated a clear increased risk factor resulting from exposure to phenoxy herbicides. The Department of Veteran's Affairs banned any of its employees from attending *Evatt Revisited*.

This raises many questions about whether it is acceptable to re-define animals as commodities. The Oncomouse is a genetically engineered mouse designed for use in laboratory experiments where it die of human cancers within 3 months.

Source: *FOE Fitzroy*



Recycling paper would assist the preservation of our natural forests.

Numerous animal patent applications

In April 1988, the first patent on a genetically engineered animal, the 'Oncomouse', was granted in the US. 8,000 applications for patents on genetically modified animals and plants have already been placed in the US. Twelve applications for similar patents have already been taken by the Australian Patents Office. According to the Office, there is nothing in Australian law to prevent similar patenting occurring here.

The Oncomouse is a genetically engineered mouse designed for use in laboratory experiments where it die of human cancers within 3 months. Source: *Total Environment Centre*.

Government to buy recycled paper

Speaking on ABC radio's program PM, on 3 May 1989, Senator Richardson made clear his long term intention to have the use of unbleached recycled paper made standard policy in all Federal government departments.

On Monday 8 May the news broke that Hawke backed plans for a pulp mill producing unbleached paper. Sceptics brushed it off as pre-election hype. Mr Hawke was non-committal when asked if the Federal Government would step in to prevent the construction of a further four chlorine based pulpmills planned for various sites around Australia (such as Orbost in East Gippsland, and in Grafton, NSW, and another in Western Australia).

Source: *Channel 10*, Page One, 8 May 1989

FOE Sydney gets into shit

Throughout the world, the development of centralised sewage treatment facilities and the water carriage of human and liquid industrial wastes has been the ideal for which communities have strived. Flush toilets and reticulated water systems that drive them have become synonymous with 'hygiene' and 'efficiency' since their development late last century. Like many technical fixes, however, the downstream consequences are finally catching up with us.

When faeces and urine are mixed with potable (drinkable) water, a crime against humanity is committed in a world where a lack of resources to obtain pure water is a major cause of infant mortality. Whether it is treated or not, if the effluent is discharged to streams or oceans this is a waste of valuable nutrients in a world where soil loss is one of the most serious ecological crises that we face. When the resultant effluent is discharged with anything less than tertiary treatment and chlorination to oceans or streams there is a major health risk from water borne viruses. When vast amounts of scarce public funds are spent on water supply, on crumbling city sewer mains, and in chasing incremental improvements in sewage treatment this represents the end result of a 'spiral of impossibility' from which the only escape seems to be to start again from a different premise.

Is there a cheaper, more hygienic, ecologically balanced way to deal with human wastes? Recent work by Friends of the Earth (Sydney) suggests that there is, but that the emphasis on a debate between land disposal and ocean disposal misses an important point. The problem, and new evidence about water borne viruses suggests this is a bigger than previously imagined, comes when we mix the waste with water. In fact if we weren't so obsessed with collecting everything together and then sorting it back into its components again waste

disposal wouldn't be the fuss and bother that it has become.

A decentralised strategy of dealing with wastes is the way to go argue Friends of the Earth. Such a strategy aims for methods that treat wastes as close as possible to the source and are designed to suit the needs and environment of that source and its ability to cope.

What would this strategy, sometimes called 'zero waste discharge' mean in the case of human waste? Well one important component is toilets that don't use water, but which are odourless, destroy pathogenic viruses or bacteria and yet allow the nutrient content of the waste to be returned to the soil from whence it came. Biological composting toilets, which offer waterless, aerobic decomposition of wastes to an excellent and safe soil conditioner are a candidate here. The household greywater can then be readily dealt with by filtration then aerobic treatment or aquatic macrophyte trenches or treatment of whatever sophistication was demanded by the surroundings. The point about having a strategy, rather

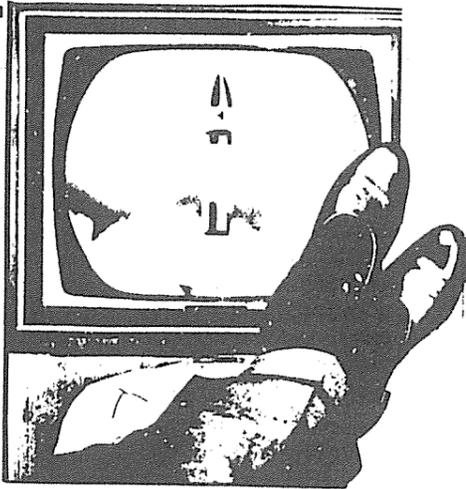
than a single minded solution is that there is always a consideration of the needs of the local situation, the total ecology, people and all, and the particular method may vary accordingly.

What is needed is a community scale application of such a strategy. Some people are trying. The feisty citizens of Pacific Palms on the NSW coast north of Sydney are battling to allow themselves to remain free of the centralised water and sewage spiral. They are happy with rainwater tanks and household aerobic treatment systems with spray irrigation. Their success would be a giant step in the right direction, but everywhere else where the centralised path has long since been travelled. We need to address the question of how to turn it around - which in the long run is the only possible option.

Copies of the report A Decentralised Sewerage Strategy for Byron Bay is available from Friends of the Earth Sydney, 4th Floor, 56 Foster St, Surrey Hills, 2010 for \$4 (Australia) or \$5 (overseas) includes post and packaging.

**DON'T JUST
SIT THERE**

**JOIN
FRIENDS
OF THE
EARTH**



FoE (Adelaide) gets Roxby news

Friends of the Earth (Adelaide) has reported that the Roxby Downs uranium mine tailings dams had been breached during recent heavy rains, requiring bulldozers to repair the walls. The surrounding areas have been inevitably contaminated.

Migratory birds have also been using the tailings ponds to rest and feed during their long flight. It is believed that some 15-20 species of birds are using the ponds, including migratory waders which travel from Northern Russia and Alaska to Bass Strait.

FoE said that these problems are typical of the sort of thing that the Government has been warned of in submissions on uranium mining in the past. Recent bleatings by the State Government about the failure of the Roxby Management to make public its environmental report are pathetic to say the least.

Premier Bannon knew that the Roxby Indenture Act entitled the Joint Venturers to do just about what they wanted when he said in Parliament, while in Opposition, that the Act "means that at least until 1991 if the project fails to go ahead, and for very much longer if it commences, the question of uranium mining is in the hands of the companies, we will have transferred our right to decide from this Parliament to the boardrooms of London and Melbourne. The State has its hands tied in regards to conditions."

Friends of the Earth (Adelaide) also organised a public rally on the steps of Parliament House to commemorate Chernobyl Day, at which about 250 people attended, and were co-organisers of a demonstration outside the ALP headquarters during the Adelaide hearings of the ALP's uranium review committee.

Flinders University FOE formed

A Friends of the Earth group was formed at Flinders University, South Australia this year just in time for the start of the academic year. Latent interest in environmental issues kindled by mainstream media coverage provided fertile ground, 50-70 people have joined already. One of the strengths of the group at this stage appears to be the large number of members who are enthusiastic and willing to take responsibility for the hard work of organising. According to co-convenor, Nick Gill, the group has already staged a number of successful events this year, including a joint demo with Adelaide University FOE and the Adelaide Rainforest Action.

The group has also produced a greenhouse display which has been used at both the Adelaide and Flinders university campuses.

Estonians join FOE

An environmental group from Estonia has been added to the growing ranks of FOE International members, becoming the first independent Soviet association ever to join an international environmental organisation.

The Estonian Green Movement was elected to associate membership of Friends of the Earth International by the 60 delegates from 33 countries at the annual General Meeting held in October 1988, in Krakow, Poland. The group became the second Eastern European environmental group to join FOE International. The first, Polski Klub Ekologiczny (FOE Poland) joined in 1986.

The Estonian Green Movement was created in May 1988. They are campaigning for the development of a government environmental strategy, public discussions on nature protection, and observation of international agreements signed by the USSR, such as no dumping of phosphates into the Finnish gulf and stopping the use of Estonian oil shale.

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Flying into Greenhouse

Ian Grayson's article 'Driving into the Greenhouse' (*Chain Reaction* 54) warned of the crisis developing if we continue to gobble up fossil fuels in cars and trucks. Ashley Campbell looks at the effects of air travel

Many people usually say that overseas travel is a good thing. It broadens our outlook, gives us a new perspective on our own society, helps increase international understanding, we may meet relations and old friends and we can show solidarity with others struggling for peace justice and environmental harmony.

However, as the equation (in box) shows, if everyone in the world

travelled an average of 3,000 km by jet each year (equivalent to an Australia to Europe trip every ten years), we would use 80 per cent of our current consumption of oil on jet travel alone. Obviously this is too high because:

- our present consumption of oil is too high (greenhouse effect, depletion of reserves, oil spills, acid rain etc.)
- oil should be saved for more efficient forms of transport, such as trains, buses and ships.
- oil should be saved for the production of essential petrochemical products.

Should we go overseas less often but for longer stays? Should we use sea travel more often when we visit other countries? The alternatives could be to go sightseeing locally and learn more about our own region -- the vegetation, animals etc. Remember

Energy used in jet travel:
 = 7,700 Btu/person/mile¹
 = 4.56 MJ/person/kilometre
 This is for half full jets inter-city in the United States. Let's assume 3 MJ/person/kilometre for overseas trips with modern jets and less empty seats.
 Australia to Europe and back is about 30,000 km -- 90,000 MJ/person. The indirect energy used -- to build the jets, maintain them and build airports -- is estimated to be about the same as direct energy use.² This brings the overall figure to 180,000 MJ/person.

If everyone on the planet used jet travel this much every ten years, total energy used each year
 = 5×10^9 people \times 180,000 MJ/person
 10 years
 = 90×10^{12} MJ/year

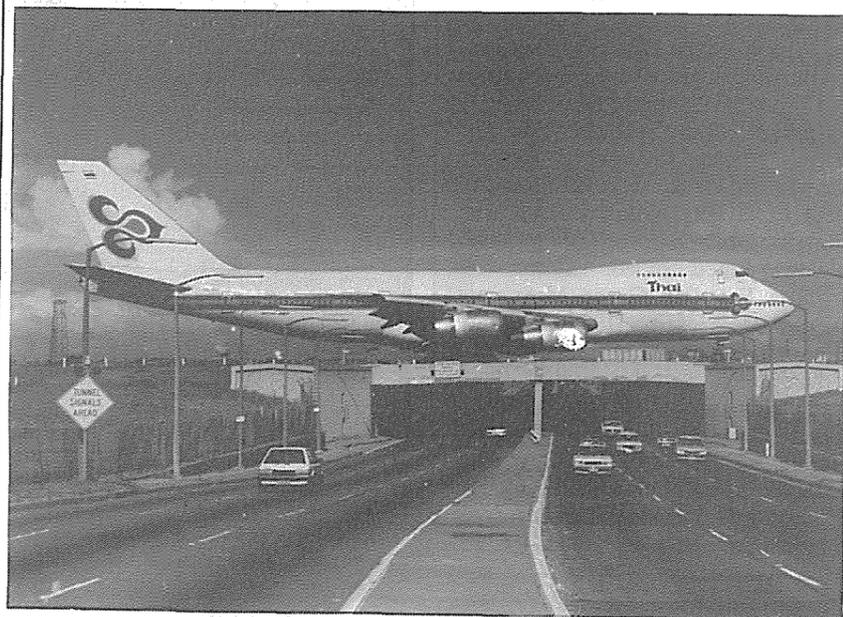
This is about 80 per cent of present world oil consumption of about 110×10^{12} MJ/year.

Sources:

1. Eric Hirst, *Science*
2. Nicholas Clark and Associates, *Transport and Energy in Australia*, Bureau of Transport Economics, 1975

the sticker which says 'Cycle touring - the ultimate trip!' There are lots of people in our community who were born overseas. We can spend more time with them learning about their country, language and culture. If we do go overseas think about countries nearby in the Asia/Pacific area. Sea travel becomes more practicable in this case, and sea travel is four to five times more energy efficient than air travel.

Ashley Campbell is a *Chain Reaction* subscriber.



Brian Alexander

Peace: time for a new myth

Even those with some misgivings about celebrating the bicentenary of the white invasion of 1788 have recognised that the event might provide a unique opportunity for reflection. Tony Smith looks at our image of war.

Many commentators have remarked that our most enduring traditions might well be denied in older cultures. Convict origins, larrikin worship, and military withdrawals don't seem ideal models for a national consciousness. And yet, here in the antipodes, we've managed to turn these negative forces on their heads and to cherish loss, misdemeanour, inadequacy, apathy and dissension. While the bicentenary may serve to remind us that the convicts, racist and misogynist bush-toilers, bushrangers and other anti-heroes had their roots in the theft of the land from the original inhabitants, all of these features were turned into something positive. This was achieved by absorption into the Anzac myth. Wouldn't it be far easier to remove the Union Jack from the corner of the flag but for appeals to patriotism by those who assure us that generations of soldiers died for the existing flag?

Anzacs

The Anzac legend has been one of the dominant forces of Australian political culture during the past three generations. It's regarded by some as being as old as Australia itself, because the Anzac experience was an essential

experience in the birth of the nation. Political culture may be loosely defined as the repository of those attitudes, beliefs and customs which form the agreed basis for the political life of any state. Only those elements which endure long enough to be transmitted between generations as traditions qualify as part of political culture. In seventy years, three generations of Australians have inherited the Anzac legend as an indispensable part of our national understanding.

For seventy years the Anzac myth has been considered an essential part of Australianness. This interpretation of history holds that for a century or more we were an embryo nation enjoying adolescence as an irresponsible larrikin lounging about in an antipodean paradise. But then, nationhood was installed, adulthood conferred, and a rightful place achieved amongst the nations of the old world by the Anzacs. This is a very controversial idea, because unfortunately, these great changes were achieved only by blood sacrifice. The Anzacs were, of course, young Australians whose lives were lost or drastically altered by participation in armed combat.

History has since condemned the very first Anzac battles as defeats and fiascos and has judged the 1914-18 conflict as a whole harshly. Nevertheless, the Anzac story has been retold every 25th April to remind us of the traditions we have inherited, and which we should preserve, to pass on to future generations of Australians. As little as two decades ago, Douglas Stewart's play *One Day of The Year*, was attacked as unpatriotic because it dared to question one aspect of the Anzac myth

— and that, maudlin intemperance, was one of the least defensible aspects.

It is surely time to pay the myth its due. It has endured, but do we need it any longer to make our history seem viable?

Can we any longer afford the Anzac legend itself, with its militaristic overtones? Until recently, Australians have been able to maintain a playful image of war which many nations would find abhorrent. Wars have been distant affairs reported in the censored press. They have devastated not our country, but other people's homelands, which we called the battlefields. Soldiers gave their lives bravely, behaved admirably towards women, never looted, and appeared to embody the ideals of chivalry. When they returned, it was always as victors, to prosperous economies and the welcome fit for heroes. War seemed to be inevitable for every generation, and was similar to many games and sports, at which we excelled.

But many factors have intervened in the last two decades to first modify the Anzac legend, then to render it appropriate. These changes have been important because they have affected our thinking in general, and specifically have altered our images of war. Of particular importance in this regard have been the Vietnam War, the women's movement, the development of multi-culturalism, and the International Year of Peace (IYP) in 1986.

Modern Views

There is not doubt that the experience of the Vietnam War was negative. Australia's participation was of dubious legality, and was opposed by substantial sections of Australian society. Doubts were cast upon the methods used to pursue the war aims, and Australia's achievements were of questionable value. It was an undeclared war that used tactics which contrasted markedly with the honourable image that had emerged to justify earlier conflicts. Soldiers suffered in many invisible ways, and upon return, did not find the customary hero's welcome.

The women's movement of the seventies saw the emergence of a

critical feminism capable of identifying deep-seated psychological bases of bias against women. In the early eighties, feminists examined the activity of warfare and the institution of the military and discovered these to be male-dominated phenomena. Women were victims, prizes of war, admiring fans of soldiers, rehabilitators and outsiders to the barracks community. Disarmament feminism stated unequivocally that women shared none of the glory of war, but suffered disproportionately through death, rape, loss of loved ones, and economic and ideological disadvantage.

During the early eighties, women began to stage alternative Anzac marches. The purpose of these demonstrations was to draw attention to aspects of war which traditional Anzac Day celebrations seemed to ignore. Many Australians have agreed that the day should be one of remembrance rather than of intemperance, and of mortification rather than glorification. Demonstrators have been abused and attacked for daring to suggest that the occasion should be a national day and not confined to those who participated in a military capacity. Increasingly, war affects civilians more drastically than it does military personnel.

As women form over half the Australian population, it's appropriate that their attitudes towards war should be at last considered. In the last twenty years, the population has changed in other significant directions. While early post-war immigration policies assumed that potential "new Australians" should be encouraged to assimilate, the last two decades have seen a shift towards multiculturalism. People from other lands, and those of ethnic origin, have been encouraged to enrich Australian society by integrating. Instead of abandoning the cultures of their origins, recent arrivals have shared them with all Australians.

Other Cultures

Some of the benefits of multiculturalism may seem more important than others, but the comparative richness of contemporary society is beyond doubt. However some changes are more subtle than others. Among the less obvious must be included changes in our traditional attitudes to war.

For two hundred years, Aboriginal Australians have suffered under European modes of dispute settlement, and the Irish community has expressed doubts about the benevolence of British imperialism. Even after the bicentenary, many Australians will ignore the fact that war was waged against the Aboriginal peoples, and that policies of genocide and cultural destruction supplemented the bullets and bayonets with poisoned flour, removal from sacred lands and forced adoptions.

Monoculturalism and the image of England as the "mother country" has not encouraged dissent from the conventional beliefs about international affairs and warfare. Fortunately, white historians are beginning to seek black viewpoints, and more Aboriginal people, like Sally Morgan, author of *My Place*, are telling their own stories.

The nineteen eighties mark a watershed in our attitudes to war. With the dismantling of the White Australia policy, the acceptance of large numbers of refugees, and the lowering of preference for people from Britain, the make-up of the population has become distinctly polygeneric. And, just as it is no simple matter to explain what it means to be Australian, it also cannot be assumed any longer that we share a common idea of warfare. Certainly, the Anzac legend is no longer a myth cherished by all Australians.

If the children of a typical city classroom were consulted, war might be described in various but equally distasteful terms. The stories of their parent's experiences would include civil disturbances, loved ones disappearing forever, surveillance by secret police, executions, torture, re-education camps, deliberate policies of genocide, child conscription, fanaticism, hatred and bitterness that endures through generations.

Very little glory. Very few rules. Possibly few uniforms, no bands or marches, no repatriation policies and no pensions. War did not create their cultures. It is destroying them. How could they be expected to cherish the Anzac myth?

Older Australians are still fortunate by comparison because we have had the opportunity to learn such lessons without personally undergoing the painful experiences. We have been slow to learn these lessons, but the post-

Vietnam generation has shown more promise. With the assistance of the United Nations International Year of Peace (IYP) in 1986, a very modern concept of warfare has at last been confronted by our youth. Even in the rhetoric of the superpowers, conventional war is bound to lead eventually to nuclear war. And the young understand more that older Australians that nuclear war is uncontrollable, has no rules, no winners, and, quite probably, no survivors.

Our traditional Australian concepts of war cannot encompass the potential destruction - not just of lives and property, but of society itself - threatened by nuclear war. The science fiction read by today's youth is characterized by horrific post-war scenarios. All are stark, all bleak, all hostile to human life in a social if not a biological sense.

It is regrettable that the large slice of Australian culture occupied by the Anzac myth invites replacement by such a pessimistic, if not fatalistic, worldview. There is, however, reason to hope that these Australians with the

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longest futures before them are critical of our myths and won't support wars the way previous generations have done.

During the mid-eighties, there emerged signs that older Australians may be beginning to appreciate the perspectives of the young on war and peace. In one unfortunate development, the Director of the War Memorial in Canberra was removed from office. The details of the dismissal are confused, but it has provided a focus for an ideological confrontation that has been brewing for some time. Staff at the Memorial had earlier banned the Returned Servicemen's League (RSL) because they felt they worked in a museum, while some ex-servicemen would prefer that the Memorial be a mausoleum.

Peace in Our Time

When dismissed, the Director complained that the guiding council of the Memorial had been infiltrated by left-wing, pacifist organizations with outrageous concepts of war and peace. Its true that the council was expanded by the Australian Government to contain a more representative sample of society. Clearly, only people who were interested were appointed, and there's every possibility that changes had to result. In the future exhibits could place greater emphasis on aspects of the Australian war experience which have been hitherto neglected: the home front, the political controversy of conscription, and features of military life which have previously been regarded as secret.

On Anzac Day, 1987, the annual marches in the capital cities were led by veterans of the Vietnam War. This was the first occasion on which Vietnam veterans have been publicly honoured. Later in 1987, a specific ceremony of remembrance focussed attention solely on Vietnam veterans. Many factors allowed this to occur. The passing of time has no doubt healed the memories of many, and as older generations of ex-servicemen die, Vietnam veterans assume greater importance. The rather inconclusive Agent Orange Royal Commission helped veterans to assert their rights, and films, books and popular songs have been written about the war.

One tragedy is that a prominent worker on behalf of fellow Vietnam

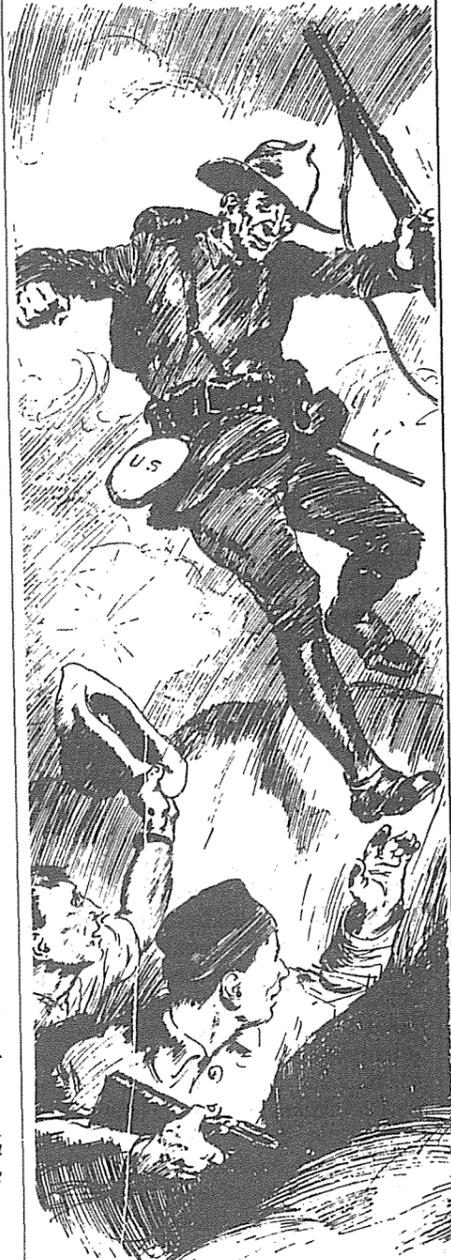
veterans took his own life before the small vindications of 1987. It is a terrible fact that in the United States, which lost 50,000 service personnel, more than 50,000 veterans have since died from one cause or another. Australia lost some five hundred in Vietnam, and the Veterans Affairs Department has acknowledged 115 suicides.

It is unknown how many more must die before our responsibilities towards them are discharged, but their continuing ordeal is an indictment of the vestiges of the more cavalier aspects of the Anzac myth.

It is also noteworthy that on Anzac Day 1987, there were no reports of demonstrations about rape in war. Those who have campaigned for a broader perspective on war may sense that their efforts have achieved some results. Certainly, during IYP in 1986, many Australians thought long and hard about the nature of war. Although IYP was meant to provide an opportunity for thinking about peace, we have for so long viewed peace in a negative fashion — as the mere absence of hostilities — that war seemed to be the norm. The easiest way to begin considerations of peace, therefore, was to examine the nature of war. Since IYP, many of us have begun to think of peace as normal, and war the aberration.

It has always been assumed that the Anzac legend is an in-dispensable feature of our nationality. It has also always been assumed that we all understood the legend in the same way. Around the bi-centenary of English occupation, the meanings of war and peace remain open questions. So too, is the broader question of Australian nationality. By questioning, modifying, or even jettisoning the Anzac legend we may finally be able to adopt, as an essential element of Australianness, a suitably repugnant attitude to war. If so, then Australians may become renowned as lovers of peace, and Australian society may become positively peaceful, not just a lucky accident of history and geography.

Tony Smith prepared this article from a broadcast on 2ARM's Radioactive Show.



Kangaroo '89

From June to September 1989, Australia will host Kangaroo '89 -- a massive US/Australian joint military exercise costing \$96 million and involving 28,000 Australian and US troops in air, navy and land forces. It will take place across the north of Australia from Western Australia to Queensland, and will involve civilian and local bodies. The exercise will simulate the invasion of Australia by Kamaria (played by US troops), a mythical nation said to be situated 500 km north of Australia.

The Kangaroo Exercises are a series of combined military exercises that have occurred every three to five years in Australia since 1973. They are some of the most important exercises for Australia, and have a high spending priority in the Defence Department. Originally, the Kangaroo Exercises used a scenario of invasion by regular military forces. But since 1983 -- the year the Hawke government came to power -- the emphasis has shifted to terrorism and counter-insurgency.

Exercise Kangaroo 1983 was the first to introduce the State of Kamaria as a threat. The country of Kamaria occupies roughly the same parts of the world that parts of Indonesia do, but any resemblance between Kamaria and Indonesia is always denied. In that year, as well as testing an anti-terrorist

operation, constitutional and organisational procedures to be followed before and after a declaration of a defence emergency by the Governor-General was also tested.

In the following exercise, in 1986, the enemy became not an invading force but Kamarian terrorists and local sympathisers. It was staged on the central Queensland coast and was designed to test the resources of the Operational Deployment Force which is based in Townsville. It also assessed the military's ability to work with the police, media and local authorities. In previous exercises, the value of local communities as a source of information on enemy activities had been demonstrated. On this occasion,



guidelines for liaison and control of the media were also being tried out.

This year's event will run from July to September, and will cover an area from the Pilbara in Western Australia to Cape York in Queensland. It is the largest, longest, and most expensive so far, with a projected cost of \$96 million or more. The cast will include 25,000 Australian troops, supported by 1,800 Americans.

The exercise coincides with a massive increase in Australian expenditure on military equipment including submarines, frigates and helicopters, joint military exercises with both Indonesia and New Zealand, and indications from both New Zealand and Australian governments that they are increasingly prepared to intervene militarily in the Asia-Pacific region.

The Federal Government asserts in its defence paper that Australia is without threat of direct invasion. Yet the public agenda of the Kangaroo Exercises has been to stimulate fear of invasion and con the public into accepting massive expenditure on military equipment which is clearly not intended for on-shore self-reliant defence. It also legitimizes the continuing US military presence in Australia, and Australia's developong role as Pacific police for the financially strained US. Kangaroo '89 reflects Australia's evolution into a minor imperialist power in the Asia-Pacific region, willing to militarily defend our considerable and growing economic investments in the region.

This article was based on material produced by the Anti-Bases Campaign, Victoria.

Paper recycling: Pulp fact & fiction

Australia's native forests are in grave danger from unsustainable forestry practices. The battles between conservationists and the forest industry all over Australia demonstrate that the forest industry's attitude to conservation is irresponsible and that they are more concerned with profits than people.

However, it is not enough to condemn the developers. If we advocate the preservation of wilderness and the curtailment of destructive logging activities in native forests, we must also look at the reasons the forest industry exists and suggest positive ways in which the practices we deplore can be rendered unnecessary.

One of the main reasons our forests are being cut down is that we consume large quantities of paper. In fact, most of the companies involved in forestry in Australia are also paper manufacturers. *Fran MacDonald* discusses the issues involved and suggests that we establish paper recycling and secondary fibre use in paper as an alternative to wood.



If we recycle paper, we can make enormous savings on the amount of timber taken from native forests simply because such a lot of it is used in paper production. Nearly all of Australia's native forest timber is hardwood, which, under present forestry practices, is easily turned into pulp.

The following figures demonstrate just how much paper production threatens Australia's forests:

- The Australian Conservation Foundation forecasts that by 1990 over 6 million cubic metres of native forest wood will be available for pulp, although much of this will be exported as wood-chips.
- In 1985-86, combined paper products use in Australia was 2.2 million tonnes, equivalent to about 8.4 million cubic metres of logs. It has risen by 358 per cent since 1950 and is predicted to rise to 4.9 million tonnes by 2020.

There are about 100 trees per hectare in Australian forests. It takes approximately 17 trees to make one tonne of paper, so about 6 tonnes of paper can be produced if one hectare of forest is clearfelled. By contrast, one tonne of recycled paper saves the equivalent of two to three cubic metres of wood. Every one per cent improvement in recycling of paper can save about 65,000 cubic metres of pulp logs every year.

At present, paper recycling efforts in Australia are poor. Industry and government sources estimate that about 30 per cent of domestic paper consumption is recycled, which is favourable compared with overseas rates. However, this figure is misleading. First, little paper waste is recycled after it reaches the consumer. The paper manufacturers who do use secondary fibres rely mainly on easily collectable, high quality material such as printers' offcuts, unsold clean newspapers and journals and cotton

linters (residuals from the ginning of cotton).

Further, almost no quality paper produced in Australia (such as writing and printing paper, newsprint and tissue) has any recycled content, even though it is possible to make all these grades of paper from 100 per cent secondary fibres. Instead, waste paper is used primarily in packaging, industrial grade paper and paperboard which do not require such high quality feedstock.

Japan recycles 50 per cent of its paper including over 90 per cent of its newsprint. Secondary fibre use in Japan grew from 5.20 to 10.20 million tonnes between 1975 and 1985 which is equivalent to an increase of 15 to 20 million cubic metres of pulpwood. If similar increases in recycled paper use, relative to our paper consumption, can be realised in Australia, the savings in pulp would obviously be substantial.

However, when considering the

direct timber savings if waste paper is substituted for virgin pulp, there is a cautionary note to be made. The Organisation for Economic Co-operation and Development (OECD) has pointed out that how far recycling reduces demand for timber depends on whether the rate of afforestation is greater if demand for pulp is not reduced by recycling:

"If, for example, reduced demand for woodpulp merely resulted in an equal reduction in new plantings the effects would not necessarily be environmentally beneficial. That is, trees secure part of their commercial value because of the value of some of the wood for pulp. Trees may not therefore be 'saved' by recycling - they may simply not be planted." (OECD, *Waste Paper Recovery, Economic Aspects and Environmental Impacts*, 1979)

However, as paper production is causing such extensive inroads into our native forests, recycling would be bound to contribute significantly to saving them and 'new' re-afforested areas which have not yet been exploited. Obviously, we also need to establish plantations for pulp and to undertake extensive re-afforestation.

A chip off the old block

By recycling paper, we can also limit one of our most environmentally destructive practices which is an integral part of the paper chain —

woodchipping in native forests.

Woodchipping operations are presented as a means of using waste timber from sawmilling operations. The picture presented to the public is that small branches cut from sawlogs and other so-called debris left over from milling can provide all the material suitable for woodchipping and therefore pulp and paper. In practice, the amount of woodchips committed to pulp far exceeds what could be gathered from sawmill wastes. "In the management plans for Australian forests, wood production is the major objective and growth in pulpwood has become the major concern." (P.A. Rawlinson, 'Woodchipping in Victoria', Submission to the Senate Standing Committee on Science and the Environment: Woodchip Inquiry)

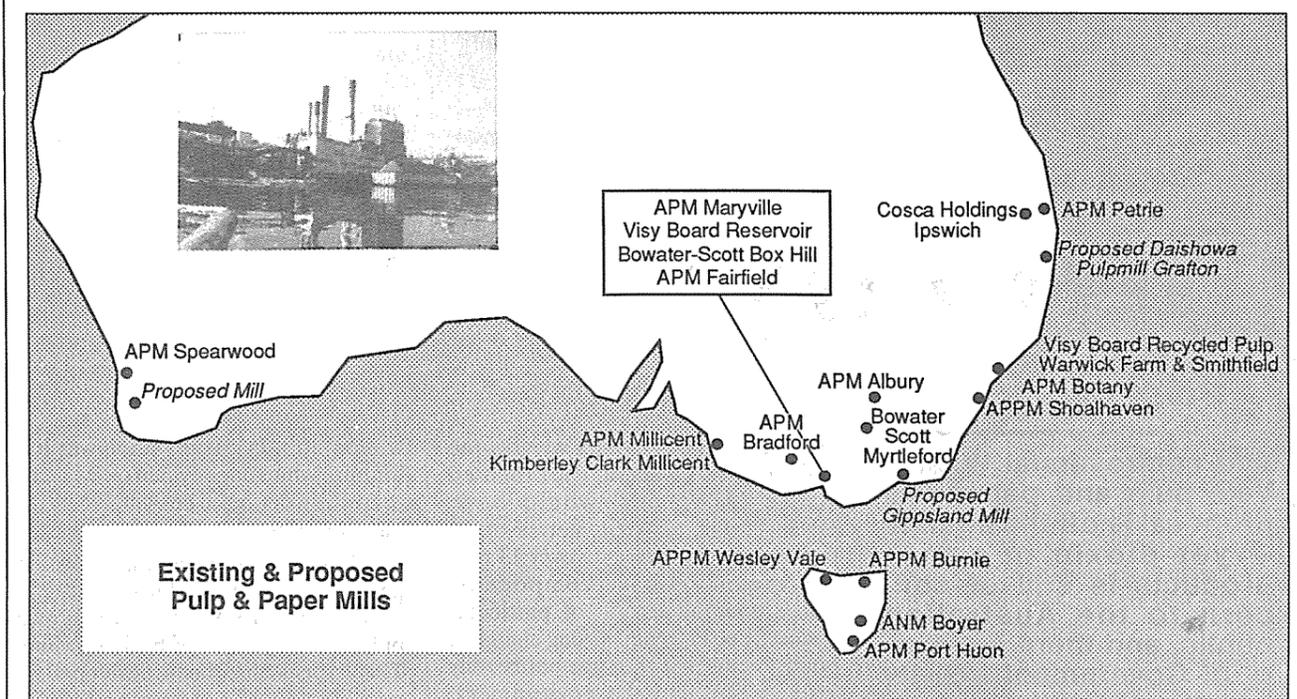
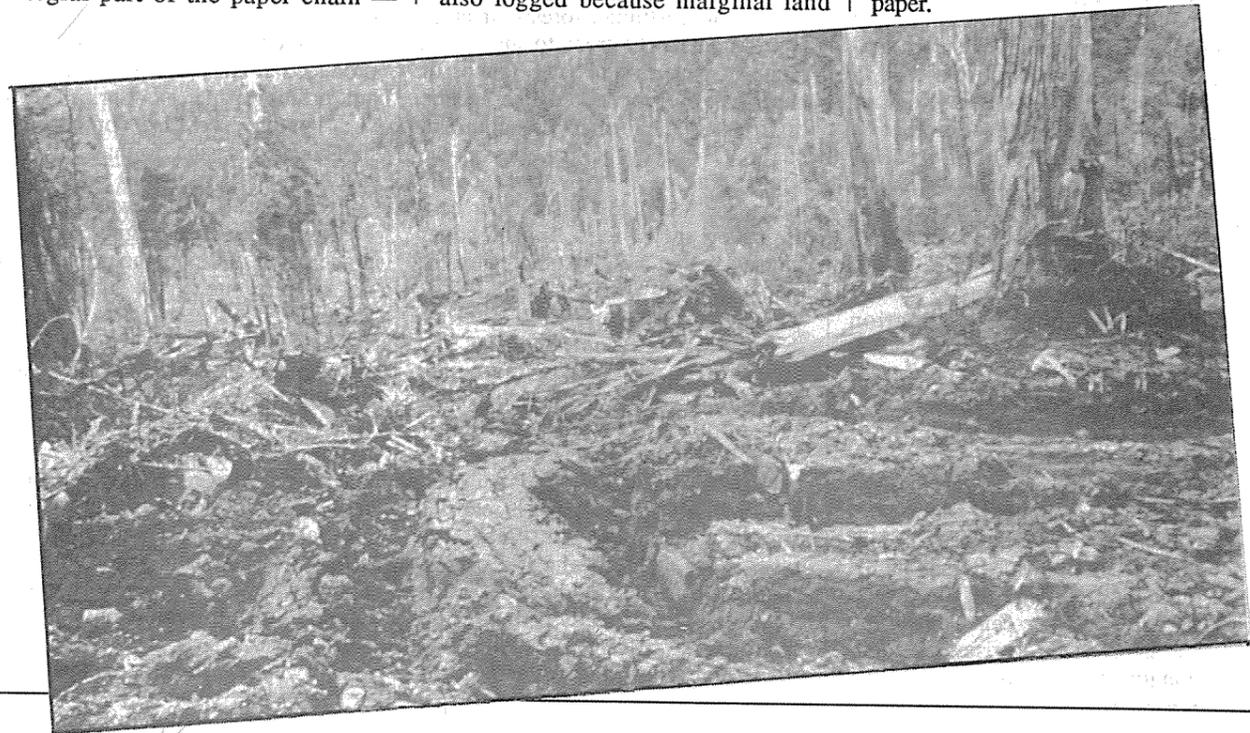
An examination of woodchipping agreements shows that they commit a minimum annual supply of pulpwood to the industry and that the quantity of pulpwood committed is not legally bound to the rate of cutting sawlogs from the concession area. In some cases the agreement actually excludes sawmill wastes from the minimum annual supply.

The woodchipping industry is huge and, in fact, sawmilling can often be seen as an excuse for woodchipping in integrated operations. More forest is also logged because marginal land

which would be uneconomical for sawlog production alone can be used for woodchipping. It is also a very inefficient process in itself because it actually wastes 10 per cent of pulpwood.

One of the greatest environmental disasters is that woodchipping means clearfelling, that is, the complete devastation of an entire area of forest. The death of dependent wildlife, nutrient deficiency in soils, erosion, siltation of creeks and the appearance of lifeless battlefields where there were once beautiful forests are the immediate consequences, not to mention the wider implications such as loss of genetic diversity and the contribution to the greenhouse effect.

On the other hand, paper recycling is relatively benign and has many positive environmental consequences, apart from saving forests from devastation. Paper constitutes over quarter of municipal rubbish and an even higher proportion of industrial waste, so recycling paper can save rapidly declining tip space and other costs of waste disposal such as transport and collection costs which are now shouldered by ratepayers. Further, recycling paper uses less energy than production from virgin pulp, even taking into account energy used in collection, cleaning and processing of recycled paper.



The environmental impacts of recycled paper plants are less than virgin pulp and paper plants. Less water is used and air pollution from transportation, manufacturing and harvesting is reduced by at least 60 per cent. Water-borne wastes created in the production process and contaminants such as adhesives, polymer coatings and printing inks in the waste paper do present problems for paper recyclers, although technological advances have been made in Australia and overseas to deal with these pollutants such as the creation of joint municipal and industrial waste-water treatment plants. The amount of water-borne solid wastes is also greatly reduced if recycled paper is not de-inked.

Wood Working?

One important social factor of woodchipping operations is that they are capital intensive and do not provide many jobs. For instance, in Tasmania 70 per cent of export income comes from woodchips yet woodchipping accounts for only 17 per cent of forest industry jobs.

On the other hand, the process of collecting and sorting waste paper is labour intensive. This is so, whatever system is used. Jon Vogler states: "In the Third World, more people are self-employed collecting waste paper and

board than any other waste material." (Jon Vogler, *Work From Waste*, 1983)

Currently in Australia pulp and paper mills do provide many jobs in the forest industry, but so would paper recycling plants. If a recycling programme were established at the same time as more efficient forestry practices generally, including less wasteful harvesting and milling methods, re-afforestation and plantation farming outside native forests, many more jobs would be created than presently exist in the forest and paper industries.

Furthermore, an Australian paper recycling industry would help reduce our currently massive imports of pulp and paper. Perhaps, we could stop importing paper from the Japanese who are the main supporters of our environmentally and economically unsustainable export woodchip industry!

Barking up the right tree

Making recycled paper is something which the existing paper manufacturers can take up and which can engender a whole new manufacturing industry. For conservationists, it is still a political campaign to try to convince industry and governments to act responsibly towards our forests.

However, the most vital question to be asked is also highly personal. It

relates to our lifestyles and to our responsibility as consumers in this society: Do we really need to use so much paper? The average Australian uses the equivalent of 50 large phone books in paper a year. Weekend newspapers weigh up to two kilograms each. Photocopiers mean that everyone in the office gets a copy of a document whether they read it or not. One of the largest growth sectors in the paper industry is tissue - unrecyclable and usually unnecessary. Junk mail and packaging account for a huge slice of the paper market. We should ask first whether we need these paper products before we demand that they be made from recycled material.

Paper recycling can certainly take pressure from our forests but it will not be an answer unless we also rationalise paper consumption. As conservationists, we should encourage industry and Governments to establish a paper recycling programme and cut down on the woodchip industry and the number of pulp and paper mills they are proposing to establish. As consumers, we should show them that we do not need and will not buy so much paper.

Fran MacDonald is the Friends of the Earth (Fitzroy) Recycling Campaign Co-ordinator.

Dioxin

The controversial Wesley Vale pulp and paper mill proposal is off the agenda -- yet dioxin in paper products is still of concern to the Australian public, and there is a flurry of Government activity into the feasibility of and markets for unbleached paper. Despite this there are currently four other proposals for chlorine based pulp mills, in Australia.

During the development of the proposal to build a pulp mill at Wesley Vale, Tasmania, one of the major factors that arose was the discharge of organochlorine waste to Bass strait -- and as a result media attention also focussed on dioxin in paper products.

Currently in Australia there are eleven pulp manufacturing mills and seven pulp processing plants. However the paper produced here is only what is termed 'low grade paper' and we export woodchips. We currently import \$1.4 million of paper and paper products annually. It is as a result of this large trade imbalance that there is strong pressure for a large high grade pulp mill in Australia.

Pulp is naturally brown and contains three to five per cent lignin, to get a whiter end paper this lignin must be removed. The most common way of bleaching is to use chlorine, however this process requires the use of large amounts of water which cannot be re-

used. It is this waste water which is the major cause of concern. The proposed Wesley Vale mill would have produced 60,500 cubic metres of effluent daily -- containing over 13 tonnes organochlorine compounds. These compounds are of particular concern because their strong chemical bonds mean that they are not readily broken down in the environment. Their resistance to biological degradation leads to a propensity to accumulate in the food chain and now traces of them can be found in almost all living things.

The organochlorine that received the most attention was dioxin. It is during the bleaching process that dioxins are formed as a by-product. Some of these dioxins are washed out of the pulp and remain in the waste water -- some however remains in the pulp and consequently in paper products.

Much of the debate around Wesley Vale focussed on whether the waste would or should contain dioxin -- the first Act to go through Tasmania Parliament, Northern Broken Hill Agreement, stipulated a complete ban on all dioxin emissions. In February, the Tasmanian Government passed the Northern Broken Hill (Doubts Removal) Act which allowed for no 'harmful dioxin emissions'.

Studies done by American and Scandinavian governments clearly demonstrate that all pulp mills using chlorine bleaching processes can be expected to produce dioxin pollution in the liquid waste.

Although the debate has focussed on dioxin -- that still leaves about 13 tonnes of other organochlorines in the

waste water. Is this pollution worth it for pure white paper when off white or even brown would be suitable for a number of uses.

However, there is another way that paper can be bleached using oxygen -- known as CTMP. This turns brown pulp cream instead of brilliant white. This process has been developed in mainly in Sweden. However the difference is that they use softwoods not hardwoods. It is claimed that use of this process on hardwoods pulp would be difficult to bleach, whiteness would fade to yellow, and that the CTM pulp is weaker than kraft pulp. Oxygen processes on kraft pulp brings lignin content down to 2 to 3 per cent. The Wesley Vale proposal had intended to use this process. It is also possible to use hydrogen peroxide as a subsequent stage -- however again it is claimed this doesn't make pulp white enough.

The rationale behind the Wesley Vale proposal is that to be competitive on the export market the paper must be 'bright' white. However, due to concern about dioxin in paper the market could drop here -- already paper manufacturers are finding a market for unbleached paper products.

Do we really need bright white paper?

Recent events indicate that companies, governments and the public can come to terms with using unbleached paper, indeed the desirability of the products and also the realisation of the profits that can

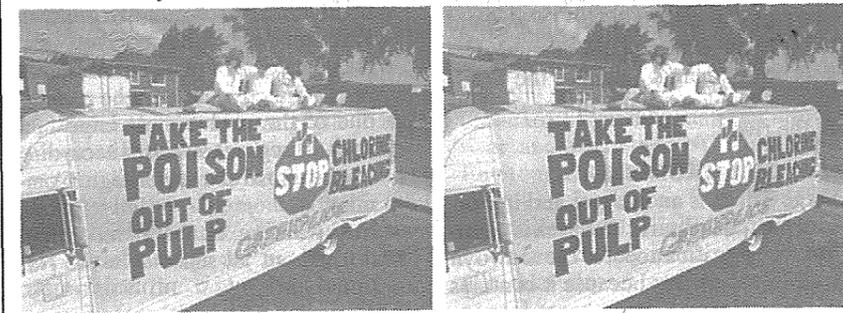
be made from unbleached paper products is already making an impact.

The Victorian Government has asked that the tenderers for the proposed pulp mill in East Gippsland consider options of making paper without using chlorine as a bleaching agent. The Government has also had discussions with a number of end use paper producers to see if they would use such paper. The milk carton manufacturer Tetra Pak and the coffee filter producer Melitta are both prepared to consider. So far there are no takers on the nappy front. Likewise, the Federal Government, with the support of the Tasmanian Government (pre election), has agreed to investigate the potential of an unbleached pulp mill in Tasmania and has stated that it would buy such paper.

However, this still does not solve problems such as trees, rather as Fran MacDonald says the solution could be with a reduction in our often unnecessary paper consumption, and the development of high grade paper recycling mills in Australia.

Dioxin in paper products

Concern about dioxin in paper products is not new -- in 1987 Greenpeace (USA) published *No Margin for Safety* a report on the links between certain types of pulp mills and dioxin wastes. Following the media that this generated, they received leaked documents from the American Paper Institute which uncovered that not only where the dioxins being discharged to the air and water from the pulp mills but that products made from paper produced at these mills were also contaminated with dioxin. Even worse was the revelation that the information for both these reports were based on material and studies into the matter undertaken by the United States EPA.



What else aren't they telling us?

These studies indicated that dioxins were found in a variety of paper consumerables -- such as disposable nappies, paper tissues, coffee filters, tampons. It was also found that dioxins were migrating into food from containers such as milk cartons, coffee filters, teabags.

Studies done in England showed five parts per trillion dioxins in Tetleys tea bags; coffee filters 11 parts per trillion; toilet paper and disposal nappies 90 parts per trillion; and tampons 130 parts per trillion.

Parts per trillion might not sound much but dioxins bioaccumulate and given that exposure could be constant such small quantities may be significant.

While the health effects of dioxin have been monitored to some extent -- this has generally been done in relation to large scale contamination such as Vietnam Veterans exposed to Agent Orange (which was contaminated with dioxins as a by-product from its manufacture). However some studies have investigated long term low level exposure -- such as that done in Sweden. These studies have focussed on cancer victims who were exposed to dioxins as a result of their work such as spraying 245-T.

Dioxin can also lead to birth defects, reproductive failure and immune system disorders. Studies done in The United States and in England have revealed that dioxin is found in most women's breast milk.

In line with procedures adopted or being adopted overseas the National Health and Medical Research Council is investigating 'permissible' levels of dioxin in paper products. However there is no clear consensus on a 'safe' level of dioxin.

It's clear that continuous exposure to dioxins in everyday paper products is an additional and unnecessary health risk.

The Wesley Vale proposal has brought to our attention the problems associated not only with the actual processing of paper but also paper products. It also highlights the lack of knowledge about the environmental and health effects of a wide range of commonly used products. Last year it was aerosols containing CFCs, this month dioxin in paper products, next month the use of hormones in meat, who knows? There is a multitude of substances and products that we have very little information about -- either scientists or consumers. There should be information regarding all products and it should be readily accessible -- not just when it becomes an 'issue'. We have a right to know so that we can make informed choices about things we use and consume. Industry needs to take more responsibility for the societal costs associated with both their products and the processes used to obtain them. Substances should only be used after they have been proven safe rather than being restricted by Governments after it has been shown that they cause unacceptable harm. It is increasingly clear that our ability to handle 'environmental crisis/problems' after the event is extremely limited.

Clare Henderson is a member of the Chain Reaction editorial collective.

Dioxins

Dioxins are a family of 75 closely related compounds, most notorious of which is TCDD. Dioxins have never been manufactured deliberately, having no uses in their own right. However they occur as the inevitable contaminants of some manufacturing processes, such as Agent Orange, 2,4,5-T and Penta (PCP). They are also produced by the burning of chlorinated compounds, such as PVC plastic. TCDD dioxin has been considered the most toxic human made substance.

Dioxins can cause cancer, birth defects, immune system disorders and respiratory problems.

King of the Hill

The Federal Government will make a decision in the next few months on whether the gold mine proposed for Coronation Hill in the 'Conservation Zone' of Kakadu National Park will be allowed to proceed. BHP as part of the Joint Venture has produced an Environmental Impact Statement on its gold, platinum and palladium mine to be situated less than 250 metres away from the South Alligator River directly upstream from Kakadu's World Heritage wetlands. Pat Jessen reports on the issues.

The major uranium deposits in the Northern Territory have been found around Aboriginal Arnhem Land and Stage One of the Kakadu National Park. In fact the restricted area of the existing park, and the boundaries fixed for it, have been determined far more by the location of the uranium deposits than by any consideration about the regional ecology. Since first proposed in 1965, the plan to establish the park has met with stiff opposition from mining companies. Every pressure has been brought to bear on Aborigines to accept mining.

Kakadu is Australia's largest, most diverse and arguably most important national park. Stage One of Kakadu became Australia's first world heritage property in 1980. Stage Two, including eighty percent of Kakadu's

wetlands was added to the world heritage list in 1987. Its sheer size alone makes it important. Throughout the world there is a growing alarm with the realisation that almost all the major national parks are too small to sustain in perpetuity the species they presently contain. Kakadu is one of the few places that meets all the criteria for world heritage listing. Among its feature of world significance, Kakadu protects:

- internationally recognised wetlands,
- one of the finest collections of rock art in the world,
- a living Aboriginal heritage and evidence of Aboriginal occupation dating back over 20,000 years,
- open forests which provide the most important habitat for Kakadu's vast range of fauna. Stages One and Two alone have 1,275 plant species. One third of all Australia's bird species, a quarter of all its fish species, and 50 mammal, 75 reptile and 25 frog species. Many of these are restricted only to Kakadu,
- the spectacular scenery of the sandstone escarpments, waterfalls and floodplains.

Stage Three of Kakadu National Park is important for the protection and control of the South Alligator River System. The well being of the wetland areas of the existing park depends largely on the management of the headwaters, catchment and upper reaches of the river.

Jawoyn interests

Stage Three is an integral and important part of the park. The area is of immense significance to the Jawoyn traditional owners because it contains

their most important religious and cultural sites.

The Jawoyn have rejected the Federal Government's proposed 'conservation' zone boundaries. They want no exploration or mining at all south of the Waterfall Creek Reserve (UDP Falls), which effectively cuts the proposed boundaries of the zone in half. The area includes the 'Sickness Country' -- a large complex of sites associated with the ancestral being Bula. It covers roughly the southern half of the former Gimbat and Goodparla pastoral leases, (as recommended by the Ranger Inquiry) which were compulsorily acquired by the Federal Government for Stage Three of Kakadu National Park.

Parts of the area had been mined in the 1950's and 1960's for uranium and even then the Jawoyn said that Bula had been disturbed and there was associated sickness and death. The Sickness Country includes a number of pre-Land Rights Act mining tenements owned by BHP including the Coronation Hill or Guratba, a highly significant Bula site. The Bula sites and the rest of the former pastoral leases are not yet Aboriginal land although the Jawoyn have lodged a claim on the area. Stage Three also contains:

- eight land systems not found in Kakadu Stages One and Two,
- many species of plants and animals not found elsewhere in the park,
- one of the twelve most important rock art regions on Earth according to the Australian Heritage Commission,
- bushwalking country accessible throughout all seasons in the National Park,

- breeding and feeding habitat which is extremely important for a variety of species including the rare pig-nosed turtle and Hooded Parrot.

Late in 1986 the Federal Government announced its intentions to exclude 35 per cent of Stage Three from any extension to Kakadu National Park and to make this area available to the mining industry. The 'mining zone' now called a 'conservation zone' will cut a huge swathe down the South Alligator River Valley -- the very area that the Ranger Inquiry recommended for maximum protection.

Sixty per cent of the South Alligator River catchment which was to have been included in the park is now open to the mining industry. The 'conservation zone' is an integral part of Stage Three of Kakadu. On an ecological basis, the areas are inseparable and any impact in the conservation zone affects the whole of Stage Three and the whole of Kakadu. There is strong evidence to show that there is insufficient baseline data on which to judge the potential impact of the proposed mine.

BHP digs in

The company with a major interest in the area is BHP. It wants to mine at four or more gold and uranium deposits immediately adjacent to the South Alligator River. Conservationists occupied the BHP lease area at Coronation Hill in February, 1988 protesting about the legality of the leases and the threats posed to the Kakadu. The irregular boundaries of the southern half of the proposed conservation zone encompass all the BHP tenements including Coronation Hill. BHP has made no secret of the fact that it wants to be the sole mining company allowed to work in the zone.

Commenting on the *Potential for the Kakadu National Park Region, Senate Report*, November 1988, conservationists called for the abolition of the conservation zone, supporting the Committee's recommendation that approval should not be given if any proposed mining activity has the potential to cause environmental damage in the catchment of the South Alligator River.

Aerial surveys are mostly used to determine the mineralisation of an area before the exploration stage.



The side of the hill that BHP didn't put on the cover of their EIS - exploration looks a lot like mining.

Companies confident of deposits secure exploration leases in the knowledge that it is almost a formality for a mining lease to be granted. The level of mining exploration ventures now common in Australia almost equals that of full scale mining; exploratory development can become a mine overnight.

On 23 December, 1988, the Federal Government renewed the exploration licence for BHP and allowed mineral exploration at El Sherana in the conservation zone to go ahead. In 1987 a review of the conservation zone boundaries was set up by the Government, although the outcome of the review has never been announced. The decision to allow exploration at El Sherana effectively gives further mining activity the go ahead and has preempted the Government's forthcoming decision on the future of the conservation zone. All proposed mines and transportation routes to and from the sites are dangerously close to the river.

The problems experienced at the BHP mine at Ok Tedi on the Fly River, in Papua New Guinea, where an accidental spill released large amounts of the toxic cyanide material into the river, and where the PNG Minister for Environment said in August, 1988 that mercury pollution would affect Australian waters, indicate that there can never be any certainty about the potential impact of a mine in monsoonal areas.

BHP, as part of the Coronation Hill Joint Venture, has produced an Environmental Impact Statement on its proposed mine, situated less than 250 m away from the South Alligator River, and directly upstream from Kakadu's famous World Heritage wetlands. If the mine goes ahead, the Kakadu conservation zone will become home to:

- a large cyanide-contaminated residue dam,
- an open-cut covering some 10.4 hectares,
- stockpiles more than half the height of Coronation Hill itself,
- an explosives magazine and toxic chemicals store,
- a processing plant which will be able to accept ore from future mines along the river valley.

What you can do

Please write a brief letter to the Minister for Environment, Senator Richardson opposing the proposed Coronation Hill mine in Kakadu. Send to Department Arts, Sport, Environment, Tourism and Territories, GPO Box 787, Canberra ACT 2601.

Contact Angela Hill at the Australian Conservation Foundation, (03) 819 2888, Friends of the Earth (03) 419 8700 or the Wilderness Society (02) 267 7929, for further information.

Pat Jessen is an activist with the Friends of the Earth Fitzroy anti-uranium collective.

Anyone would think that Christianity was trying to make friends with the earth! The sudden interest of its adherents and their representatives in all things environmental or ecological has come as a real surprise. A new mood is abroad in the church, as Andrew Dutney illustrates with a few examples.

In March 1988, the encyclical letter *Sollicitudo Rei Socialis*, (On Social Concerns), was published over the signature of Pope John Paul. It created quite a stir among those who read that sort of thing. The primary cause for excitement was the papal vindication of 'liberation theology' which seemed to be contained in the encyclical. But of equal significance was the unprecedented concern it showed for environmental responsibility. The fourth section was devoted to a discussion of 'Authentic Human Development' in the light of a creation-centred theology.

Not only did the encyclical draw attention to matters of practical concern, such as the limited availability of natural resources and the health risk from the pollution associated with certain forms of development and industrialization. It also brought into focus some basic ethical issues:

"... one cannot use with impunity the different categories of beings, whether living or inanimate - animals, plants, the natural elements - simply as one wishes ... when it comes to the natural world, we are subject not only to biological laws, but also to moral ones, which cannot be violated with impunity. A true concept of development cannot ignore the use of the elements of nature, the renewability of resources and the consequences of haphazard industrialization - three considerations which alert our consciences to the moral dimension of development."

In May 1988, the National Assembly of the Uniting Church in Australia issued a Statement to the Nation. Those who drafted the Statement, and the council

which adopted it, indicated an ecological orientation and concern which would have a bearing on the church's future activity.

In June 1988, people around the world observed the United Nations' World Environment Day. However there was something a little different in the way it was handled this time: it was organised and promoted with the collaboration of the *World Council of Churches*. At the same time the General Secretary of the WCC, Emilio Castro, issued a message to the churches to mark the occasion.

He encouraged Christians throughout the world to "call on the whole human family to strive for the preservation and restoration of the natural environment - especially the world's animals and plants - interrelated with each other and us." He went on to say that "this can only be done by awakening communities and nations to seek justice and peace for all. They must also adopt policies and lifestyles which model our responsibilities under God towards our human neighbours, all our fellow creatures, and the whole creation."

All the indications are that 'the environment' or 'creation' will continue to be a preoccupation for the churches. For example, environmental responsibility will be the focus of both *One World Week* and *Social Justice Sunday* in 1989, the former organized by Australian Catholic Relief and the Australian Council of Churches, the latter by the Uniting Church. A global convocation of churches is planned to take place in March 1990, in Korea, to address the theme 'Justice, Peace and the Integrity of Creation'.

Of course it must be acknowledged that ecological awareness is not new to the modern church. It is often forgotten, for example, that Lynn White produced his famous critique of Christianity, *The Historical Roots of Our Ecological*

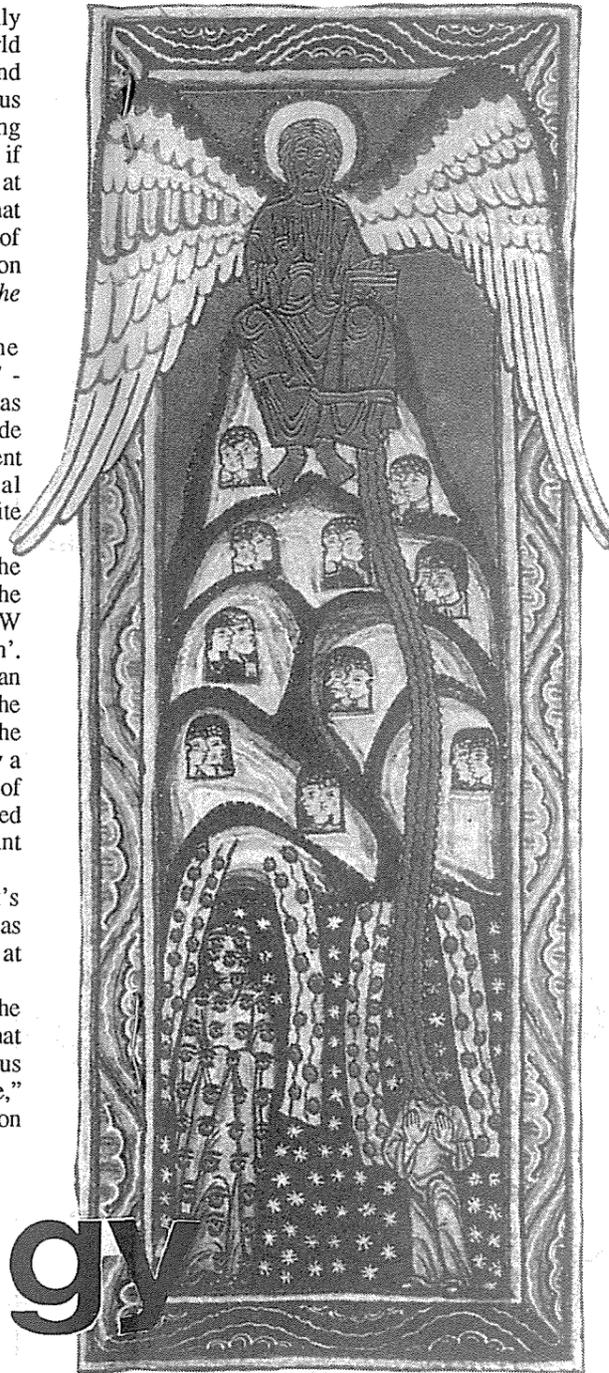
Crisis (1967) from his own position within the Christian tradition. So too it was the contention of Paul Tillich, one of the great theologians of the twentieth century, that "there is no salvation of man (sic) if there is no salvation of nature, for man is nature and nature is man." (*Shaking the Foundations*, 1949). Even earlier in the century E. Griffith-Jones was attacking the "pronouncedly secularistic attitude of the modern world towards the natural order, animate and inanimate." Arguing that the "religious significance of Nature" was something which "we cannot afford to ignore ... if we are to feel ethically and spiritually at home with her (sic)," he warned that there "can be no abuse of the power of man over nature which does not recoil on his own life in some deadly way." (*The Dominion of Man*, 1926)

However, even admitting the strength of this 'ecological tradition' - which could include others such as Alfred North Whitehead and Teilhard de Chardin - there is no doubt that the recent heightening of environmental awareness in the church has been quite startling. So, where does it originate?

It would be foolish to disregard the 'band wagon factor'. For example, the theme of the 1988 Synod of the NSW Uniting church was 'Love All Creation'. However, it was merely a cute slogan and had no immediate relevance to the business of that council. Not even the fact that the Synod was meeting only a few kilometres from a harbour full of nuclear-armed warships was considered to be sufficiently significant to warrant discussion!

Yet one aspect of the week's proceedings did indicate that there has been more than a 'band wagon factor' at work on the Christian consciousness.

In his modatorial address to the Synod, Clyde Dominish proposed that "sensitivity towards creation calls for us to take a look at our reading of the Bible," in particular, to question the assumption



Ecotheology

that the biblical witness is as human-centred as the bulk of theology from the modern period. Accordingly, the series of bible studies presented at the Synod by Chris Mostert, a Sydney theologian, made it very clear that a commitment to environmental responsibility was not simply a response to the dictates of fashion but to the Christian faith itself.

This is the kind of process which lies behind the churches' recent enthusiasm for environmental causes. The emergence of "sensitivity towards creation", or environmental awareness, prompts a re-examination of the sources of Christian faith: scripture, tradition and liturgy. This has resulted in the development of an account of environmental responsibility as a theological imperative. This in turn prompts active participation in the environmental movement - the participation of both Christian individuals and Christian institutions.

So, bearing in mind that the reappraisal of Christian tradition and liturgy is of equal importance, what kind of theological impressions are being gained by the re-examination of the Christian scriptures in response to a new "sensitivity towards creation"?

ECOLOGICAL UNITY

One strong impression is of the ecological unity of creation: that the isolation of the human from all other living species, and of the living from the inanimate, fits very poorly with biblical conceptions of creation. The principal reference is to *Genesis 1.1 - 2.3*, the story of the week of creation.

Habitually, the interpretation of this story had focussed on 1.26-30, the creation of human beings and the "dominion" of this species over all other creatures. The re-reading of these verses immediately contradicts the assumption that human beings have unlimited authority in relation to the rest of creation. Indeed, the divine commission constitutes precisely the imposition of limits on the human exercise of power. Human beings are made answerable to the Creator for their actions towards other creatures. In particular, appointment to a position of "dominion" implies responsibility to promote and

protect the welfare of all "subject" creatures.

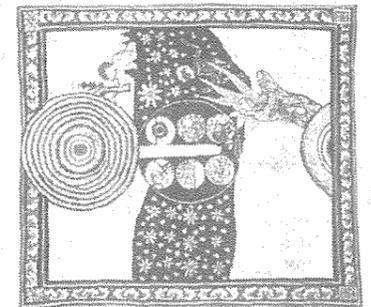
But this is only the beginning. The focus on 1.26-30 is a questionable habit in itself. Why pluck these verses out of the story for special attention? On re-reading, the cohesion of the story as a literary whole suggests that the practice is both misguided and misleading. The literary unity of this creation story can be suggested visually:

- THE BEGINNING OF CREATION (1.1-2)
 1. LIGHT (1.3-5) 4. LIGHTS (1.14-19)
 2. WATER/SKY (1.6-8) 5. FISH/BIRDS (1.20-23)
 3. LAND/PLANTS (1.9-13) 6. ANIMALS/PEOPLE (1.24-31)

THE SABBATH OF CREATION (2.1-3)

The correspondences between the first and fourth, second and fifth, and third and sixth days of creation, and between the prologue and epilogue of the story, suggest at least that the myth is to be interpreted as a literary whole. Many theologians would want to argue that this structure reflects a certain view of creation. As Bernhard Anderson commented, "the emphasis falls not so much on anthropology, that is, the supremacy of humanity, as on ecology, that is, the earthly habitation which human beings share with other forms of 'living things'." (*Creation in the Old Testament*, 1984)

This impression of ecological unity in creation is reinforced by the story of the rainbow covenant (*Genesis 9.8-17*) in which God addresses Noah in the aftermath of the great flood: "When I bring clouds over the earth and the bow is seen in the clouds, I will remember my covenant which is between me and you and every living creature of all flesh; and the waters shall never again become a flood to destroy all flesh." The human creature is not treated in isolation from the community of creation as a whole; creation is an ecological unity.



THE 'FALL' AS AN 'ECOLOGICAL CRISIS'

A second impression is of the 'fall' as an 'ecological crisis'. The assumption that 'sin' is to be understood exclusively as the malady of the human soul is very difficult to sustain after a re-reading of the relevant biblical sources.

The principal reference is to *Genesis 3.1-24*; the sequel to the story of the creation of a garden and its caretakers (2.4-25). The story concentrates on the disruption of the relationship between human beings and God, and between the man and the woman. However, the story teller's inclusion of the animals, plants and the soil itself in this 'fall' from the relationships of grace (3.14, 17-18) is often overlooked. Not just the human soul, but the ecological network of creation as a whole is disrupted by the primordial 'sin'.

This impression is reinforced by the tragic dispensation of *Genesis 9.1-3* where, after the flood, Noah is told by God:

"The fear of you and the dread of you shall be upon every beast of the earth, and upon every bird of the air, upon everything that creeps on the ground and all the fish of the sea ... Every moving thing that lives shall be food for you; and as I gave you the green plants, I give you everything." This is not a prize for having survived the deluge! It is the measure of the disruption of the community of creation that creatures are permitted to devour each other.

Similarly, the ecological dimensions of the 'fall' are reflected in the fact that the legal code includes provisions necessary for the protection of the non-human from the human creatures. The land, the plants, the wild animals and the domestic animals are afforded relief

from human exploitation, just as the poor, the servants and the foreigners are protected from the more powerful members of their own species (e.g. *Exodus 23.10-12*).

The biblical notion of the 'fall' as an 'ecological crisis' is also reflected in the way that expressions of hope for justice and righteousness - for rescue from the effects of 'sin' on society - often include the projection of an Eden-like harmony between all creatures. In *Isaiah 11.1-9* for example:

"The wolf shall dwell with the lamb ... the lion shall eat straw like an ox. The sucking child shall play over the hole of the asp ... They shall not hurt or destroy in all my holy mountain; for the earth shall be full of the knowledge of the Lord as the waters cover the sea."

REDEMPTION

A third impression is of the ecological unity of redemption, as it is presented by the biblical witnesses. A key reference is *Romans 8.19-23*, in which the apostle Paul asserts that "the creation waits with eager longing for the revealing of the children of God." In Paul's view the resurrection of Jesus Christ (8.11) has implications not only for humanity, but for all creatures which have been subject to mortality. The resurrection implied that "the creation itself will be set free from its bondage to decay and obtain to the glorious liberty of the children of God."

In later New Testament writing this notion is developed through the identification of the Christ with the creative activity of God. In *John 1.1-3*, for example, the Christ is introduced as the "Logos", the personification of the

creative word of God, who was "in the beginning with God" and through whom "all things were made". Similarly, in *Colossians 1.15-20*, Jesus Christ is described as "the image of the invisible God, the first-born of all creation", in whom "all things were created, in heaven and on earth." With this concept of the person of Christ, it is hardly surprising that these first Christians were proclaiming the reconciliation not just of the human species but of "all things, whether on earth or in heaven, making peace by the blood of his cross."

By the end of the New Testament period the Christian faith was being presented as God's "plan for the fullness of time, to unite all things in Christ, things in heaven and things on earth."

In the light of such a reappraisal of the scriptures, the narrowing of the doctrine of redemption to a scheme for the metaphysical evacuation of a select band of pious human beings from a doomed creation is exposed as a mean and impoverished faith. The impression gained by re-reading the biblical references is that the redemption embraces all creation as an ecological unity.

The Christian tradition and liturgy is being reappraised with similar results, so that theologies reflecting an ecological perspective are developing within the churches and in dialogue with the wider community. Conservation, ecology, environmentalism and green politics are contributing to the recovery and restatement of Christian faith in the light of the crisis which is upon creation.

With this new mood abroad in the church, the earth may well have found a new friend in Christianity! Gordon Kaufman has expressed it well: "Devotion to God today means ... that we resolve to make ourselves fully accountable for the continuance of life on earth." (*Theology for a Nuclear Age*, 1985).

Although, of course, it is expressed even better by Christians who pay their \$20 subscription and get involved in FOE!

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Green Consumerism

An unprecedented appeal for global rejection of First World consumerism was made in Washington in October 1987 by Dr Phillip Kelly, a climatologist from England, at an international meeting attended by participants from 35 countries to launch the Global Greenhouse Network Alliance. Earth's overheating via the greenhouse effect, and called for global changes in socio-economic relationships and fundamental changes in lifestyle and consumption patterns. Ian Grayson looks at the carbon dioxide trap and the problems it poses for consumerism and economic growth.

There is at the heart of green politics a dilemma central to all environmental problems yet many people prefer not to consider it.

The dilemma is that of consumption, the question being: can we continue to consume goods at the present rate, even if we move to more environmentally acceptable products, and expect to stave off the impending environmental crisis? For it is runaway industrial growth that is poisoning the planet and consumption is its driving force.

Anyone trying to grapple with this question comes up against seemingly intractable problems, as consumption has been hammered into our heads

since birth through advertising imagery. Even with the best will in the world we all consume more than is necessary. Many people in other parts of the world have no choice in the matter -- they have to make do with considerably less.

A growing number of aware consumers are now trying to improve the situation by using their purchasing power in a more discriminating manner.

Some consider they are doing their bit by being vegetarians. Others seek out environmentally sound products. Others boycott multinational products in favour of locally made or co-operatively produced products. Others boycott cash crops as much as possible. Others switch their savings to ethical investment trusts.

All this awareness can only be a good thing -- yet does it tackle the problem of economic growth?

Economic growth, even 'green growth', can not be sustained for much longer without causing irreversible damage to the environment. Recent studies show that the atmosphere in particular is now extremely vulnerable to our escalating industrial activities. The greenhouse effect, whereby industrial gases heat up the atmosphere and bring on climatic change, is rapidly being identified as the issue of issues and it is linked inescapably to economic growth and high consumption rates.

'Green growth', whereby environmentally concerned consumers switch to less harmful products, such as smaller cars, lead-free petrol, bio-





degradable washing up liquid and so on does very little to solve the problem. Our ancestors did not need these goods and they consumed only a fraction of what must now be extracted from the earth to supply 'needs'. No matter how natural, additive-free, environmentally safe and healthy a product is, it is still consumption.

Minimum use

Is it not better to look very carefully at our needs and cut our consumption of everything quite drastically, until in the interests of environmental sustainability we can ensure a future for the planet and its future generations?

Such a course implies voluntary simplicity and the adoption of low consumption lifestyles built on a 'minimum use' philosophy.

But how much should we consume? At what level does the individual stockpiling of goods exceed what is environmentally acceptable?

Before attempting to address these difficult problems it is worth looking at our basic human needs, the fulfillment of which I believe is the birthright of every person on the planet.

Basic material needs can roughly be described as food, clothing, shelter, access to transport, health care and education. Even with the world's present population everyone's basic material needs could still be catered for by the world's existing resources, provided they were more fairly distributed and sustainable agricultural systems were implemented.

A level of personal consumption which exceeds these basic human needs could never be achieved by all the world's population without total

environmental destruction, and should therefore be rejected by anyone with environmental consciousness. For it is not the Third World that consumes the bulk of the world's resources but the affluent west.

Imagine what would happen if personal consumption rates reached Australian levels all over the Third World. Resource depletion would be so intense that the world would be stripped bare in a very short time and the accompanying increase in greenhouse gases would change the atmospheric balance beyond recognition.

It is plain that our personal consumption levels are therefore a very privileged affair as they could never be extended to the bulk of the world's population.

Enforced consumption?

Yet even with all this acknowledged, being environmentally conscious and not being a consumer is still a problem. Much consumption is forced upon us whether we like it or not. We seem to have little choice in the matter. One-way containers and unnecessary packaging are particularly hard to avoid, and we are surrounded by a network of government rules and regulations designed to keep consumption rising.

Housing is designed for nuclear families -- the smallest possible social unit yielding the largest overall consumption. Council building regulations often restrict people from building with recycled timber and cheaper materials. The transport system is built increasingly for private cars at the expense of public transport. The list of measures designed by policy makers to force feed consumption

upon the population is exhaustive, and needs to be challenged.

Voluntary simplicity

In many cases a degree of choice exists and we should attempt to use it.

An important and neglected area of choice concerns car dependency. Cars are the largest single resource consumer and atmospheric polluter in our lives being a major contributor to the greenhouse effect, yet the issue receives little priority from the environmental movement as elsewhere.

This distortion of priorities which places the major environmental offender in our lives, the private motor car, at the bottom of the environmental agenda is a disturbing aspect of green consumerism. Green consumerism extends far beyond the reluctant, and admittedly sometimes unavoidable acceptance of private cars however.

Many environmentalists are quite heavy personal consumers and pay no attention to the obvious link between consumption and environmental decay. Their conspicuous consumption sits uneasily with their professed beliefs as it is in conflict with the ideal of minimum use and voluntary simplicity. Where exactly we choose to draw the line on personal consumption is usually regarded as a private matter. However, I personally cannot take seriously those who adopt high profiles on environmental issues yet lead high consumption lifestyles, which are environmentally unsustainable.

None of the major Australian political parties, not even those who claim to speak on behalf of the environment, oppose economic growth



and there are a growing number of people (dubbed guppies - green yuppies) who believe green growth is desirable. Do they really believe we can have our environmental cake and eat it? Can we have it both ways or not?

Exponential Growth

The supporters of continuing economic growth pin all their hopes on the global implementation of a technical fix. By cleaning up our industrial act and switching to cleaner fuels, together with increased energy conservation measures, they claim that business can carry on as usual.

It is beyond dispute that such measures are absolutely necessary, but whether they can be implemented in time to stave off the greenhouse effect is another matter altogether.

Just to halve current global emissions of the main greenhouse gas, carbon dioxide, the world would have to construct the alternative equivalent of two large new power stations every day for the next 25 years!¹

Global use of fossil fuels is currently increasing at the rate of 4 per cent a year implying a doubling of the amount of fuel burnt each year after 16 years have passed, and this is the hub of the problem.² The exponential nature of economic growth is unsustainable and will always wipe out any energy conservation measures over time.

Events over the past decade clearly demonstrate this. In the major industrial countries energy consumption as a percentage of gross national product has actually declined substantially since the oil price rise of 1974 inadvertently forced energy efficiencies upon them, together with reduced



growth rates. The energy hungry United States actually achieved the most spectacular gains -- a 30 per cent drop in energy consumption per unit of output over the past 15 years.³ The resulting reduction in atmospheric emissions of carbon dioxide caused the greenhouse threat to recede for a while, but the world is now back to square one as the exponential nature of economic growth has wiped out all of our efficiency gains and greenhouse gases are now approaching a more menacing level.

Whatever we do we cannot avoid the carbon dioxide trap if we continue with economic growth.

No-growth economy

It appears then that there are two main strands of environmentalism in Australia: those who consider continued economic growth and rising personal consumption rates are possible and those who believe that the limits to the economic growth are upon us and advocate a no-growth economy.

The introduction of a no-growth economy in the interests of environmental preservation and human survival is a major policy objective of all the European green parties, but it is viewed by many with great caution because, like it or not, almost everyone has some sort of financial stake in continued economic growth. It is viewed with particular alarm by workers and management as it seems to threaten jobs and profits. But does it?

Decades of industrial growth in the industrialised west have ushered in a period of unprecedented affluence and, without doubt, a no-growth economy would cause a massive drop

in this (unsustainable) affluence, but only for the masses. The real wealth in the capitalist nations -- land, means of production, resources, has remained as concentrated as ever throughout the whole of the industrial era in the hands of a privileged few. In fact in some countries the concentration of wealth has been increasing.

Deprived of growth generated jobs it is most likely that the masses would demand a more equitable distribution of this concentrated wealth.

A significant shake up of the social order would therefore appear to be on the horizon if, and when, we choose to abandon economic growth. This potential challenge posed by no-growth economics to the current *status quo* has radical political implications which have not yet been explored.

However, such speculations are beyond the scope of this article, the main point being that the world's current resources, properly used, can still amply provide for society's basic needs, if they are more fairly distributed and everyone has equal access to the means of production.

Green growth or no-growth? As the global environmental crisis deepens, particularly the crisis of atmospheric warming and climatic change, this dilemma is set to become the issue of our time.

References

1. FOE (UK) quoted in *The Daily Telegraph*, 31 October, 1988.
2. John Gribben, *The Hole In The Sky*, 1988 p 81.
3. Worldwatch, *State of the World Report*, 1987, p 187.

Ian Grayson is a Chain Reaction subscriber and regular contributor.

Cooling the Greenhouse

Politicians, scientists and the nuclear industry are telling us that the solution to the greenhouse effect is the replacement of our coal fired power stations, with nuclear reactors. Bill Keepin shows nuclear power isn't the answer and argues the answer lies in a more sensible use of energy and in diverting money, resources and people towards researching and developing renewable energy.

Among the numerous remedies proposed to 'solve' the greenhouse problem, are two favourites: revitalising nuclear power, and improving energy efficiency. However according to the analysis summarised below, only the latter would succeed.

It is clear from the energy futures literature that without considerable improvement in energy efficiency, future energy growth will be substantial. In this context, we begin our analysis by selecting state of the art scenarios that span a range from moderate to high energy growth (published by the National Academy of Sciences and the Department of Energy). Next we assume conditions highly favourable to a

nuclear solution to the greenhouse problem:

- large nuclear power plants could be built in just six years rather than the usual ten or twelve,
- nuclear power would be relatively inexpensive (we adopt the most optimistic cost projections available from nuclear proponents),
- all the problems associated with nuclear power would be readily solved or simply disappear in the future.

Thus in the utmost optimism, we specifically exclude any consideration of nuclear waste treatment and storage, all health and safety concerns, decommissioning of retired plants, and the possible impact of the proliferation of nuclear weapons. Finally, since coal is the most carbon-intensive fossil fuel, and given that an early carbon reduction means a greater amelioration of global warming -- we assume that nuclear power would displace all coal use worldwide by the year 2025.

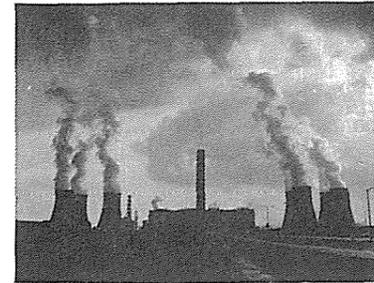
These hypothetical assumptions are extreme indeed, but taken together, they embrace the nuclear dream and its best hope for solving the greenhouse problem. What are the implications? It turns out that we must build a new large nuclear power plant every one to three days for the next 37 years, costing an average US\$500 to US\$800 billion per year. Nuclear programs on such a scale are clearly

unfeasible, especially in developing countries that would have to double their current debt burden just to build the required plants. But, for the sake of argument, suppose that such a program could be implemented. What would happen to future CO₂ emissions? Answer: global carbon dioxide emissions from fossil fuel combustion would continue to grow, remaining at or above today's levels for many decades hence. This is due to the expansion of oil and natural gas in these scenarios. Hence, in the absence of substantial energy efficiency improvement, even massive expansion of nuclear power on a global scale to absurd proportions would not prevent future CO₂ emissions from growing, and climatic warming would continue nevertheless.

These startling results follow from two simple factors. First, nuclear power today only provides a few per cent of the world's energy supply, and so it would have to expand dramatically to increase its share substantially. Second, nuclear power is practical only for electricity generation, which is responsible for just, one-third of fossil fuel consumption. Thus nuclear power's scope for reducing fossil fuel dependence is fundamentally limited.

The efficient alternative

In contrast, improvements in energy efficiency are available for the full range of fossil fuel uses. A quiet revolution has been steadily developing since the first oil crisis in 1973, substituting ingenuity for energy. The results are dramatic: a compact fluorescent light bulb consumes only 18 watts but produces as much light as a standard 75 watt incandescent bulb. Thus over its ten year lifetime, a single bulb prevents the burning of 400 pounds of coal, and eliminates the release into the atmosphere of 10 - 12 pounds of sulphur dioxide which is



Mammoth coal based power stations emit carbon dioxide - the major greenhouse gas.

linked to acid rain. Auto manufacturers have developed prototype four passenger automobiles with composite urban-highway fuel efficiencies between 73 and 124 miles per gallon. Volvo has a 71 mile per gallon prototype that withstands impacts more severe than many production models, has better acceleration than the average new American car, and could be mass produced for about the same cost as today's subcompacts. In the United States, it costs no more to build an energy efficient office building than an inefficient one, and yet if these commercial improvements were adopted now, then over the next fifty years, the construction of 85 new power plants and the equivalent of two Alaskan pipelines could be avoided. Detailed studies from mainstream research institutions show that by investing in energy efficiency, the United States could cut its energy consumption in half -- reducing CO₂ emissions and acid rain accordingly -- with annual savings of \$220 billion and no compromise in lifestyle.

The United States is the largest source of CO₂ emissions in the world. Therefore it is of particular interest to compare efficiency and nuclear investments for abatement of carbon emissions in the United States. Given today's average costs for new nuclear power (13.5 cents per kilowatt-hour) and electric end use efficiency (2 cents per kilowatt-hour), a dollar invested in energy efficiency displaces nearly seven times more CO₂ than a dollar invested in nuclear power. Proponents of nuclear power argue that building standardised plants in a stable regulatory environment would greatly reduce the cost of nuclear electricity, while others argue that electric ef-

iciency would also cost much less. In any case, even under the most optimistic cost projections for nuclear power, electric efficiency still displaces 2.5 to 10 times more CO₂ per dollar invested.

No nuclear solution

Many people have assumed that, like it or not, nuclear power will ultimately be the only practical response to the greenhouse problem. However, analysis shows that without substantial improvement in energy efficiency, even colossal worldwide expansion of nuclear power cannot prevent future CO₂ emissions from growing. Moreover, each dollar invested in improved energy efficiency displaces nearly seven times as much carbon as a dollar invested in a new nuclear power. In short, not only would a nuclear response to the greenhouse problem not succeed, but its pursuit would likely exacerbate global warming by diverting funds and attention away from the most promising abatement strategies.

In the greenhouse debate, as with so many other crises facing modern technological culture, a narrow problem definition has created perceptual blindspots. The dilemma has been portrayed as merely a question of where to get tomorrow's pollution free energy. If we broaden this scope to ask what the energy is to be used for, and how we can best provide these same services in a pollution free manner, a whole new solution becomes visible -- one in which the greenhouse problem is greatly diminished and billions of dollars are saved. Just five compact fluorescent light bulbs in a single household provide the same rich and cozy light as their incandescent ancestors, and yet they leave two thousand pounds of coal sitting in the ground. The key to reducing future carbon dioxide emissions from the combustion of fossil fuels is to improve the energy efficiency of the global economy.

Bill Keepin is an environmental consultant, living in the United States. This article is based on a detailed analysis - Greenhouse Warming: Comparative Analysis of Nuclear and Efficiency Abatement Strategies -- it is available from Friends of the Earth, 222 Brunswick St, Fitzroy 3065, Australia.

Bill Keepin in Australia

Global warming, or the 'greenhouse effect', is threatening to cause unprecedented changes to human society and the environment. Present energy sources and consumption levels will have to change, if we are to cut down our emission of the most important greenhouse gas, carbon dioxide (CO₂).

As part of our commitment to promoting safe solutions to the greenhouse effect, Friends of the Earth, Movement Against Uranium Mining and the Australian Conservation Foundation are sponsoring a visit to Australia by energy researcher, Dr Bill Keepin.

Dr Keepin's professional achievements include having been the co-ordinator of the UNEP/WMO/ICSU international carbon dioxide project. He testified at the *Joint Hearing on Technologies for Remediating Global Warming* before the United States House of Representatives, and presented his results on national television and several radio programs. Dr Keepin currently works as a consultant, lecturing, testifying and performing research on major environmental issues including global warming, acid rain, ozone depletion and hazardous waste.

The organisers of the Keepin tour believe that it is important to raise the level of debate amongst the public, policy-makers and within industry, about responses to global warming threat.

Dr Keepin will be speaking at a series of public meetings and seminars in Melbourne, Sydney, and Perth 12 - 21 July, 1989.

For further information of the tour contact:

Friends of the Earth
Cecci Cairns: (03) 419 8700
Australian Conservation Foundation
Sian Prior: (03) 819 2888

Worse than Marcos

The Philippines under Aquino

In January 1989, 88 delegates from Australia attended the Asia Pacific Peoples Conference on Peace and Development in the Philippines. The Conference was part of an international peace brigade. The visit was organised by 17 legal Philippines organisations representing social justice, peace, trade union, women, church and student groups. Jo Vallentine one of the delegates, prepared this report on her return.

A journey to the Philippines, just three years after the magic of the 'people's power' revolution swept Cory Aquino into office, was dramatic in its impact.

Negative and positive, simultaneously. The poverty, homelessness, pollution, stench, rubbish, and the militarisation elicit a gut response — literally in many cases. But the amazing other story of the Philippines is the tremendous courage of the people, committed to improving their situation. Their energy, their resilience in the face of oppression, their liveliness of spirit, and their humour, despite appalling conditions, are truly inspiring. As they keep on saying, "the people united will never be defeated."

Yet the Aquino Government is desperately trying to divide its opposition and to systematically destroy it.



"If she'd kept her election promises there would be little need for insurgency". Cory Aquino isn't seen as the symbol of people power anymore.

The Government does this with the help of the military, or perhaps at the insistence of the military, by 'salvaging' (killing), by 'disappearances' of workers who are trying to bring justice to the people, by constant interrogations, detainment and harassment.

In ten days of intensive meetings with all kinds of people and groups both in Manila and the countryside, I met hardly anyone who did not volunteer that things are worse than under Marcos. Over and over again I was told, "with Marcos we were afraid of being detained, with Aquino we're afraid of being killed." The only exceptions were people who actually work for the Government, and members of the Australian Embassy staff who weren't sure.

So what's happened to all the enthusiasm for Aquino as saviour of the people from the Marcos dictatorship?

For the first year I'm told the enthusiasm was sustained, despite the fact that the promise of land reform evaporated. The turning point was February 1987 when the ceasefire between the Government and the communist New People's Army was canned and Aquino declared her policy of total war against the insurgents.

She has stuck to that, and has intensified military operations each time there's been an unsuccessful military coup. There have been five of them each one pushing Aquino further to the right. She is President only with the permission of the military and the blessing of the United States

Government. It suits both the military and the US Government for the Philippines to be regarded by the international community as a democracy, so Cory stays — but democracy in the Philippines is a dead duck.

What is alive and well is corruption, the worst offenders probably being wealthy Filipinos who unashamedly exploit their own people and their own land to satisfy their insatiable greed. The Government does not dare call their bluff over land reform, working conditions, pollution control, town planning — or anything else.

For example, there is a legislated basic wage of 65 pesos per day (about \$4.00). Hardly anyone pays it. Foreign companies usually do, just to be seen to be complying with the law — their investments are still hugely profitable so it is no skin off their noses. But the Government turns a blind eye to the blatant disregard for the law by most local factory owners and business houses. Yet, by the Government's own estimation, an average family need 122 pesos daily just to feed itself.

I met women workers on strike from a textile factory who were only paid 23 pesos a day, and supplemented that daily rate by working till 10pm at a better rate, lifting their earnings to around 40 pesos. The sad thing was that their strike would probably result in the factory closing down, only to re-open in another area were there was no union organisation.

This exploitation of workers is most painfully obvious when the interests of greedy entrepreneurs and

the US military coincide, at Angeles and Olongapo, the townships outside the gates of Clark Air Force Base and the US naval base at Subic Bay.

Women and children who work to service the 'needs' of the US military personnel at Angeles and Olongapo are despised by the Church, by society at large, by their bosses and often by their clients. In a Catholic country where pre-marital sex is officially frowned upon and where no teaching of birth control is allowed, it is a huge hypocrisy and crime to encourage the sex trade. The women are driven to the 'hospitality industry' by economic deprivation, and the street kids are usually the cast-off products of sex-business liaisons. Abortion is the chief means of birth control — available for about 1000 pesos from backyard quacks, often with disastrous consequences, including death.

Many of these bar workers don't get a wage, but a commission if a client hires them for the night — 200 to 500 pesos, depending on whether it's a quickie or an overnighter, of which the women are lucky to get half.

On the other hand there are the women who have suffered because they've been identified with cause-oriented groups which are readily labelled as communist fronts. There are currently 70 women political prisoners in the Philippines, some of whom have been sexually abused and tortured. One brave spirited woman I met said that her torturer boasted that he'd been trained in torture techniques in Australia. Whether his claims were idle brags or not, our Defence Support

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It is disgraceful that the Australian Foreign Minister can go to the Philippines and make statements supportive of the regime when he sees only what the Government wants him to see. And he does the US bidding also, by calling for retention of the US bases there.

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Programme, under which 95 Philippine military personnel receive training in Australia each year, should be scrapped.

These cause-oriented groups include such women's groups as Gabriela, perhaps undertaking nutrition programmes with the urban poor, or church groups providing emergency assistance to families who've suddenly had to leave home because of military harassment, or community or peasant groups trying to improve the lot of their own people. One is frequently reminded of the words of the Brazilian Bishop, Dom Helder Camara, who said, "When I feed the hungry, they call me a saint; when I ask why are they hungry, they call me a communist."

But this is where the empowerment comes from — the irrepressible spirit of the people — the most moving example of which was the commemoration of the Mendiola Massacre (22 January 1987). Thirteen peasants were shot, over a hundred people wounded, as they marched towards Malacanang Palace seeking the promised land reforms. This was the most blatant violation of human rights since Cory Aquino became President. If she'd kept her election promises there would be little need for insurgency.

Two years since that day, and on the very spot where peasants' blood was spilled, a huge crowd gathered to denounce Aquino's domination by the military, and the military's subservience to outside interests. Time and again, it was said, "The Philippine military should be serving the Philippine people, not shooting them".

The outside interests are largely those of the US military seeking to hang onto the very important bases it has in the Philippines, and knowing full well that an informed public would probably reject a continued US presence. The renewal question must be settled in 1991. Any extension agreement must be passed by the Senate, which is unlikely with its present composition. So there is talk of disbanding the Senate, or at least of changing its composition. That could easily be organised by the military.

Tangible evidence of the Philippine military working against its

own people and for the United States was the protection given to US bases and the harassment dealt out to the peace caravan which recently tried to demonstrate at the gates of the two largest US bases — Clark and Subic.

Eight times in two days the peace caravan was subjected to military road blocks, totally ineffective in searching for anything specific, but quite effective as a delaying tactic. Undeterred the caravan, 7000 people in 200 vehicles, got to Clark and held a very successful peace concert there. Our second rally was held at Layac, 26 km short of Olongapo, at the eighth military checkpoint which meant that we were too late to use our permit at Olongapo. We heard that a crowd there, spurred on by pro-base Mayor Richard Gordon ("it's good for business"), had piles of stones ready to throw at us. We were looking for neither confrontation nor martyrdom.

But that level of harassment is minor compared with what thousands of Filipinos suffer regularly. Amnesty International's 1988 report is very critical of the Philippines' human rights abuses. I endorse their findings, having seen conditions there and having heard directly from many victims of painful violations.

On the question of the US bases, the sovereignty aspect is important in a country which has been under foreign control for so long. For 400 years it has been a succession of Spaniards, Americans, Japanese and Americans again. After the war, the ravaged Philippines was denied reconstruction aid by the United States unless it signed the Military Bases Agreement (MBA). Now many Filipinos are questioning the cycle of dependence which the MBA perpetuates, compounded by the gross Marcos corruptions which left the Philippines a struggling third world country. Taking stock of its natural resources, this third world status should not have been its lot.

The US bases are part of the United States grand plan to 'cover' the western and southern Pacific regions. Post World War II treaties with Japan, Australia and New Zealand, as well as the Philippines, ensured US control of the region — of vital strategic significance then and



now. Already the US bases in the Philippines have been used as launching pads for US intervention in the bloody confrontations in Korea and Vietnam — wars for which Asia is still suffering.

Many Filipinos have decided that they don't want their land used by the US military any more. Local farmers and fishers are denied huge tracts of land and half of Subic Bay, and they are increasingly angry about it.

What are the implications for Australia of this simultaneous despair and empowerment on our doorstep?

We must take stock of government-to-government aid, non-government organisation aid, trade opportunities, the Defence Support Programme, and increasingly the peoples' solidarity movements. As long as violations of human rights continue in the Philippines, our Government should not be supporting the Aquino regime. There can be no democracy at the point of a gun. It is shameful deceit for the Philippines to parade as a democracy. Only if international support is withdrawn will the Philippines Government be pressured to stop its policy of total war, and to enforce legislation regarding labour conditions and land reform.

We should question very closely the trade opportunities available in the Philippines to ensure that they are non-exploiting. For example, to our national shame, there are many sleazy sex joints run and owned by Australians in Manila, Olongapo, Angeles and other places, where the

trade is not only in women's bodies, but children's too.

We should give no assistance whatsoever to the Philippine military because whatever 'help' is given by Australia will probably be used against their own people.

It is disgraceful that the Australian Foreign Minister can go to the Philippines and make statements supportive of the regime when he sees only what the Government wants him to see. And he does the US bidding also, by calling for retention of the US bases there.

My guess is that about half the Australian population disagrees with him. He needs to know that and to be lobbied by community groups who want to see our aid to the Philippines constructively re-directed.

Our responsibility as global citizens requires firstly education about the current situation. Secondly, it requires responses both personal and governmental to ensure that Australia's actions become part of the Filipinos' struggle for independence, justice and freedom, rather than Australia continuing to be part of the problem.

Ultimately, consideration of the lack of justice in the Philippines (or Kampuchea, South Africa, Nicaragua and Eritrea, to name a few examples) clearly indicates shared problems which can only be remedied by shared solutions. We have a role to play.

Jo Vallentine is an Independent Senator for Nuclear Disarmament.

Countdown to Cape York

Most of the many crazy projects put forward by Joh, such as the world's tallest building, the car that runs on water, or Milan Brich's cancer clinic, have all rightly been relegated to the wastepaper basket. However, his Cape York Spaceport proposal seems to have been an exception. It may have escaped scrutiny simply because of its remoteness; it is thus out of sight, and out of mind to most Australians. Peter Springell examines some of the arguments for and against this project, and concludes that we would be better off without it.

The proponents of the Cape York Spaceport have so far come up with a lot of hype but precious little clear-headed analysis. It is of course not at all unusual for the proponents of grandiose proposals to exaggerate the possible advantages out of all proportions, and to minimise or totally ignore any awkward objections.

It is indisputable that the closer a spaceport is to the equator, the less fuel is needed to launch spacecraft. In effect this means that the all-important payload of the space vehicle can be enhanced, with savings in overall

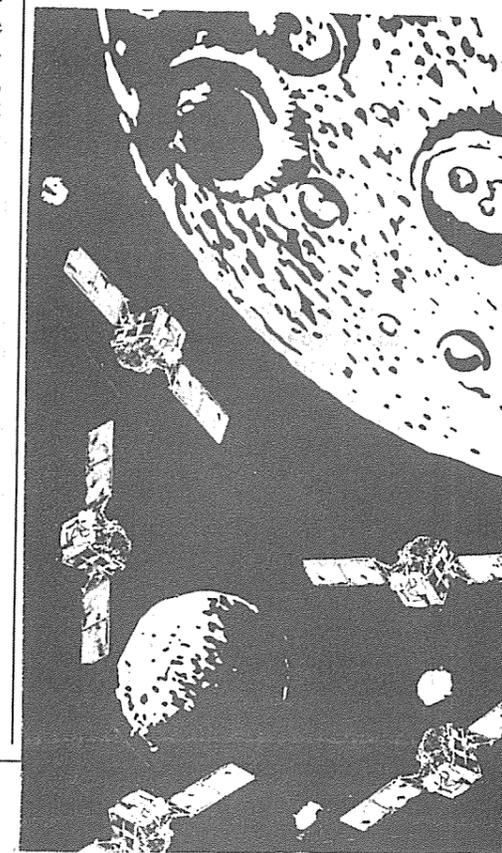
costs. Thus, much is made of the point that a Cape York site is closer to the equator than Cape Canaveral in Florida. On the other hand, the fact that the facility in French Guyana is even nearer to the equator than Cape York is conveniently glossed over. Also not mentioned is the proximity of both Cape Canaveral and French Guyana to the major centres of the aerospace industry in Europe and America.

The already established bases have well documented and predictable weather patterns, and so must be expected to have a distinct advantage over a site on the drawing board, located on the other side of the world, far removed from where spacecraft are made, and where the meteorological information is scarce or non-existent. What little is known of the climate at Cape York is none too promising. The area is within the monsoon belt and subject to torrential cyclonic summer rains. This can make land transport difficult, or indeed impossible for three or more months of the year.

The building of a spaceport in such a remote locality at the mercy of unfavourable weather conditions would certainly add to the enormous cost of such an undertaking. The infrastructure needed includes the building of long stretches of sealed road, an airport, a harbour, large fuel storage depots -- not to mention the provision of adequate living conditions for the workforce, including housing, schools, medical and recreational facilities.

All these works would require a large fossil fuel input. Such major projects as this are hardly appropriate, coming at a time when concern has been expressed about the greenhouse effect and the need to minimise carbon dioxide emissions. Inevitably it would also mean borrowing a lot of money at high interest rates from overseas, thus contributing further to Australia's overseas debt.

And what of the likely returns of such a base? Attention has already been drawn to the stiff competition



from existing US and French facilities. It must also be borne in mind that strictly civilian uses are at best very limited. The need to service a large debt, coupled with the probable desire for the facility to pay its own way, would inevitably force the Cape York base to take on the more abundant and lucrative military work.

We have already seen how economic arguments have been used in Australia to justify mining and exporting uranium. Are we now to become involved in spy satellites and Star Wars because the economics of running a Cape York Spaceport may demand it?

The significance of using the Spaceport for military purposes would not escape notice by our neighbours. They might have good reason to have fears for their own security as a consequence. There is a distinct possibility of Australia unwittingly initiating an arms race in our region.

The intended location of the base is not known with certainty. It is strongly rumoured that the favoured site is in the vicinity of Weipa, on the western -- or Gulf of Carpentaria -- side of Cape York Peninsula. This is some 600 kilometres by air northwest of Cairns, but still 200 kilometres south of the northernmost tip of Cape York. It is too early to say if the proposed site is in an environmentally sensitive area, or of importance to Aborigines. But if the past record of the Queensland Government is anything to go by, these considerations will rate much lower than economic and other factors.

The location is also important because missions may have to be aborted at any time after launching. Even after a successful takeoff booster rocket casings are jettisoned. One therefore has to contend with junk falling from the sky down-range, presumably in a generally northeasterly direction. Cape York is very sparsely populated, so the chances of causing injury to people or damage to property there must be rated as minimal. However, there are more populated areas further down-range, including parts of Papua New Guinea and the Solomon Islands, which could face having bits and pieces of space junk dumped on them.

It is also possible that fires could be started down-range in the dry season if a spacecraft were to explode soon after lift-off, and parts of the Great Barrier Reef would be likely to be littered with debris over time. It is important to note that both Cape Canaveral and French Guyana space bases have another advantage here -- neither have any nearby land down-range.

A final argument that has been advanced in favour of the Cape York project is that Australia has to get into the aerospace act in order to keep up with other developed countries in the

hi-tech stakes, and avoid becoming a banana republic. In other words we are told that we must continue to strive for more and more economic growth in order to survive. But as all environmentalists know, continued economic growth is simply impossible on a planet endowed with finite resources. Our ultimate salvation lies in curbing economic growth. On that criterion alone the whole concept of the Cape York Spaceport should be dismissed as being against our best interest.

Peter Springell, is a retired scientist living near Cairns



Narmada: River of Life

The Narmada Valley Project, the largest single river scheme ever planned in India, is threatening millions of peoples' lives and will destroy huge tracts of land. In the name of 'progress', untold social and environmental damage will be unleashed. Carol Sherman filed the report below after travelling through some of the villages of the Narmada Valley.

There's a tribal revolution quietly gathering momentum in certain parts of India. Along the banks of the Narmada River in Madhya Pradesh, Gujarat, and Maharashtra, the adivasis are vocalising their mistrust and grievances against their governments. Sick and tired of being denied information, basic rights and given only empty promises of future benefits and resettlement the people are uniting to stop the Sardar Sarovar dam in Gujarat. This project, partially funded by the World Bank, is already in the early stages of construction.

Sardar Sarovar is part of the Narmada Valley Project which proposes to construct 3,200 dams along the Narmada River over a 100 year period. The whole scheme, if implemented, would be responsible for uprooting over a million people, drowning 350,000 hectares of forest and 200,000 hectares of cropland, causing irreversible environmental chaos.

The two most controversial dams, the Sardar Sarovar and the Narmada Sagar in Madhya Pradesh, would

alone result in the submergence of 39,000 and 91,000 hectares of land respectively.

Not only are the human and environmental costs high. In 1982 it was anticipated that the cost of the Sardar Sarovar project would be 48,870 million rupees (15 rupees = US\$1.00). Now, in 1989, the estimated final cost for the project stands at 135,000 million rupees. In addition, the electricity output of the project is considered to be much less than the stated installed capacity of 1,450 MW. The former Irrigation Secretary of Madhya Pradesh, said that 'the amount of electricity generated would only be one tenth of the given figures'. Other factors that appear to have been paid little attention are siltation, water-logging and salination of croplands, and loss of fertile soil due to inundation. This is not to mention the loss of forests and flora and fauna.

Whilst dam construction in the United States and Europe has all but ceased, and most bureaucrats are at least aware of the idea that large dams cause monumental environmental and social chaos, India's development 'experts' and power-mongers appear to remain completely ignorant. Large scale irrigation schemes have already resulted in the water logging of 10 million hectares of Indian land, and another 25 million hectares are under threat from irrigation induced salinization. Despite the fact that India already has 1,578 major dams, construction work for the Narmada Valley project had already begun.

And as elections loom, heavy pressure is being applied by business circles for the continuation of the Narmada Valley Project. Big industry which stands to make a fortune from the construction of the Sardar Sarovar project, is also the group which is

providing the money to keep the current crop of local and national politicians in office.

But opposition is gathering from all quarters as the government vows to continue with the Narmada Valley Project. A memorandum was recently submitted to the Prime Minister from prominent citizens such as award-winning social activist Baba Amte, environmental economist Vijay

Dams cancelled as resistance grows

Following the June 1988 cancellation of plans for the dam at Bodhghat in the state of Madhya Pradesh, a number of other projects which would have made up part of the Narmada project appear to have been put on ice.

Two projects have definitely been cancelled and the future of a number of others is uncertain. In January 1989, the Government of Bihar State abandoned plans for the Koel-Karo dam which would have displaced some 60,000 tribal people. Later came the news that the World Bank had withdrawn its funding for the controversial Subarnekhda dam in Eastern Bihar. The Bank also appears to be in the process of reviewing its support for the Sardar Sarovar dam, making its continuation conditional on substantial improvements to the resettlement plan. In addition, February saw the Bank delaying its decision to grant a US\$350 million loan for the Narmada Sagar dam until early 1990.

Source: Survival International, World Rivers Review, Third World Network Features



Paranjpye, internationally known agricultural scientist M.S. Swaminathan, and world renowned molecular biologist Offaid Siddiqui.

I recently joined the Narmada Ghati Samrad Yatra 'dialogue march' to share information and to talk to villagers in some of the 234 villages already or soon to be affected by the Sardar Sarovar project. I joined 60 other walkers at a village just 5 kilometres from the dam site. It was here, in Kevadia, in a simple earthen house that we held our first meeting. Spilling

out into the yard, villagers came to share their story. These people, already homeless on their own land, are committed to warning other villages of their fate if they do not act now.

The next morning, we left, escorted by police buses. At each village another few people joined us for the walk to spread the word to other communities. Stories of sheer criminality were to be heard in each village. People were angry. In some cases, the government had not even told people that their village would be submerged.

The resettlement plan was generally seen as a complete farce, given the obvious fact that there is simply not enough uninhabited cultivable land to be moved on to. In fact, in one area, it turned out that 35 villages had all been promised the same village. We continued marching until we reached the town of Barwani in Madhya Pradesh. By now there were over 2000 of us marching. An all day sit-in in Birwani culminated in a march through the town centre.

The tribal people of the Narmada Valley are rejecting what the government has to say. Through the crowded meetings held in their fields and simple community houses, the villagers are repeatedly proclaiming that they would rather drown than lose their way of life.

Whether it be the tribes of Sarawak who are displaced by frantic logging operations, the Koories who had their lands stolen, or the American Indians at the fringes of mainstream society, the story has the same common link: the destruction of the land. As the quest for gigantic development steam-rolls ahead, our land and all that depends on it is dying. It has no relevance where these social and environmental crimes are being perpetrated. We all live on the same planet. Only together can we ensure sustainability for every species.

What you can do

The Narmada Valley Project could be stopped. Letters need to be sent. Join the campaign of opposition to the project now. Write now to:

- Rajiv Gandhi, PM Secretariat, South Block, New Delhi, INDIA 1100011
- Mr Qureshi, Senior Vice President, The World Bank, 1818 H St., NW, Washington DC, USA 20443
- Chairman, Narmada Control Authority, South Block, New Delhi, INDIA 11000111

For more information, contact, Narmada Valley Project, Rainforest Information Centre, PO Box 368, Lismore, NSW, 2480.

Carol Sherman is an environmental activist living in northern New South Wales.

Nuke Waste

When US Government scientists found serious uranium contamination of the groundwater at Fernald, they kept quiet about it. So many of the deceptions of the nuclear industry have been by not letting people know about the radioactivity that is released. Information about the uranium contamination of Fernald's drinking water had to be forced out into the open. The ABC's 7.30 Report talked to citizens affected.

"When Chernobyl happened it was just awful and the US got upset with them because they didn't tell anyone for three whole days. But you know they didn't tell us for 40 years," says Lisa Crawford, a resident of Fernald.

Lisa is a former worker at the local nuclear plant where uranium is converted into metal form for use as a fuel in military nuclear reactors. Hundreds of thousands of kilograms have been released into the waterways and into the air. The Fernald town water supply is contaminated by uranium thousands of times above drinking water standards.

Fernald, a town in northwest Cincinnati, is just part of a global pattern of insidious radioactive poisoning that has been brought into people's lives by the nuclear industry, in this case the US nuclear weapons industry. The name of Fernald is now added to a growing list of communities that are acknowledged victims of nuclear activities. Others on the list are Sellafield and Dounreay in

the United Kingdom, Keys Lake in Canada, Kyshtym and Chernobyl in the Soviet Union and Three Mile Island in the United States. The unacknowledged victims of nuclear contamination must be many.

For 40 years the US military have knowingly polluted the air, water and land, excusing themselves that it was in the national interest. "We're the only society I know of who has spent billions and billions and billions of dollars making armaments that would destroy the world and the only people that have been harmed so far are our own people", says Stan Chesley, a lawyer acting on behalf of Fernald citizens. But could not the same be said by the citizens of any of the nuclear weapons powers?

Herb Kelly worked for about thirty years at the Fernald plant. He had to stop work when diagnosed as suffering from lung cancer, emphysema and fibrosis caused, according to medical opinion, by the conditions in the plant. "They don't care how much dust there was or how much fume there was, they wanted production out", says Herb Kelly.

"I've seen the dust so you couldn't see the lights. I've seen fumes so bad that the birds would die when they flew from one plant to the other. When they flew through it they would fall dead on to the paths.

"I feel like we are sitting on a time bomb"

They kept telling the workers that the dust would not hurt them but, says Herb Kelly, "I can go over the grave yards and show you grave after grave after grave of those I worked with ... there are the tombstones. They were the guinea pigs .. they told them that it wouldn't hurt them but it did."

If we believe the US Department of Energy all this belongs to the past. Says the manager of the Fernald plant: "We are smarter today." But haven't managers and scientists of nuclear plants been saying, since the first reactor went critical nearly half a century ago, that they will soon have radioactive

releases under control. It is hard for the people of Fernald - in fact people the world over - not to be sceptical.

"I feel like we are sitting on a time bomb", says Lisa Crawford. "We have silos that hold just deadly materials in them and they are leaching out into the area. We have pits up there with no liners in them. They have barrel after barrel of waste and junk. People in this community are sitting on a time bomb."

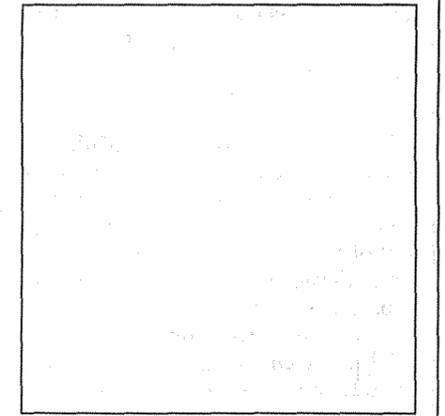
The Fernald community suffers a high incidence of cancer and feels betrayed by the officials whom they once trusted. "It is hard for me," says Lisa, "to talk to any person in the community who has cancer or who has a friend or a family member who has died of cancer. It hurts."

The Clausen's farm borders on the plant. Almost all the women who have lived around since the plant commenced, says Mrs Clausen, have died of cancer.

Lawyer Stan Chesley, one of the most respected civil action attorneys in the US, believes that the conduct of plant management goes beyond incompetence and constitutes wilful misconduct. The radioactive emissions were deliberate and done with disregard for people's health. "We have," he says, "four decades of what I consider an atrocity to the people that live out here."

The harm done to the people of Fernald, says farmer Martin Clausen, is the crime of the century. Perhaps that could be said about the whole nuclear undertaking.

Les Dalton is a retired scientist. This article was transcribed for the Victorian Movement Against Uranium Mining newsletter and was based on the ABC's 7.30 Report, 23 January 1989.



Raising CANE

The former organisation for anti-nuclear activity in South Australia -- the Campaign Against Nuclear Energy (CANE) -- officially closed in April 1987, yet it is still the cause of significant debate. Roman Orzanski takes up the debate with two articles published in *Chain Reaction* 53 and suggests the question of CANE's death still affects anti-nuclear activity in the region which may soon be one of the world's largest producers of the raw material of the nuclear fuel cycle.

The article by Ralfs and Miller in *Chain Reaction* 53 is more a eulogy for CANE rather than an examination of what went wrong. Indeed, the two go out of their way to avoid any analysis or criticism of CANE, except in the most general of terms.

The other article on CANE, *Non-Violence Can be Lethal*, by Fricker (and Lamb) seeks to lay the blame on

consensus and non-violence, two pet hates of the authors. The article is scarcely more informative than that by Miller and Ralfs.

The question of CANE is more than academic: if we are to form an effective opposition to the nuclear industry, we need to learn by our mistakes, particularly in South Australia -- the Nuclear State.

I'd like to suggest there were two main causes for CANE's demise: exhaustion and cliquiness. Precisely the same problems arise in other organisations (witness the death of FOE Adelaide), whether or not they are committed to non-violence or force, or operate by voting or consensus.

Indeed, if we accept Theodore Roszak's analysis of mass movements in *Person/Planet*, it is amazing that CANE lasted so long. Roszak suggests that people now are interested in political issues only so long as they mirror their personal philosophical or spiritual development. Once an issue or movement ceases to parallel their personal development, it is dropped or forgotten. Modern mass movements must continue to capture the interest and imagination of their followers. People seek personal empowerment and enrichment in all aspects of their lives.

Problems of the Past

First, let's consider the problems identified by the authors of the articles in *Chain Reaction* 53.

Ralfs and Miller suggest that the immediate cause of death was a debt crisis. They say CANE lost momentum because CANE was too centralised, and was killed lest it turn into a bureaucracy.

CANE did try to form local branches in various suburbs, and at the

universities. Some of these worked quite well, and evolved into general environment and peace groups post-CANE. These smaller groups all looked to CANE central to supply them with information and guidance -- perfectly natural as CANE had offices, a bookshop, and contacts. Was providing these services too 'bureaucratic'?

Ralfs and Miller claim that the expectation that CANE generate political energy became a suffocating burden. Given that CANE was originally formed as a coalition of interested group precisely to plan and coordinate the political response to the nuclear issue, this does not seem as an undue expectation.

With the central role of CANE in the blockades, it was perfectly natural for people to look to CANE for advice and guidance. Perhaps the problem was the collective members were already flat out, and unable to handle the growth in demands? Many small businesses fail when they encounter too rapid growth, simply because the management can't keep up with that growth.

The CANE collective acted as a central coordinating body. Under the pressure of the blockades and the development of Roxby, it formed an identifiable clique. The need was to find a way to incorporate and train new-comers; to channel their interest and enthusiasm so as to allow for the expansion of CANE. Unfortunately, the enthusiasm and commitment of the blockaders wasn't channelled into general activity once the blockades were over.

Quite rightly, Ralf and Miller note that size and centralization were problems with CANE. The suggestion, however, that single issue cam-

paigns are a problem isn't borne out by the experience of groups such as The Wilderness Society and the Rainforest Information Centre. People are attracted by the clear focus of these groups. The groups themselves broaden their interests as they grow, but still centre on the single-issue.

What is important, however, is to have an on-going focus of activity. After the second blockade, there was lots of interest, but no clear outlet for action. The experienced campaigners were exhausted, and there were no successors in the wings, nor any 'post-blockade' strategy.

What of the other paper? Fricker suggests that CANE's main failings were that it was incapable of showing leadership or direction and she identified consensus decision-making, adoption of a non-violent philosophy and separatist feminism as culprits.

It is clear that at the time of the blockades, CANE clearly *did* show leadership and direction: the office was a hive of activity, requests for speakers and information flooded in, and there was a lot of interest in the blockades.

Consensus

Of the three culprits, consensus looms as the main factor for Fricker. However, many of the problems cited are not unique to consensus: many traditional meetings suffer from stifled debate (standing order no. 234b), long meetings and inability to make decisions (how often are matters deferred to sub-committees, or delayed because of technicalities of meeting procedure?). Traditional meetings suffer from 'pushy' speakers, who 'win' by attrition and erosion of interest.

Fricker, presumably, would like everyone to have the chance to make ten minute speeches. When voting-style meetings reach decisions that are disagreed with, it has been known for participants to ignore the decision and blunder on regardless.

The efficiency or length of a meeting isn't a function of the decision making style, but of meeting procedure. If people are going to waffle and obfuscate, they'll do it regardless. At a recent national meeting of the Wilderness Society, the fifty-plus participants

managed to reach consensus on an important, and detailed Land Rights Policy -- within half an hour. That was the result of careful planning, consultation and preparation. Let's not try to blame poor meeting style on consensus.

Non-violence

The commitment to non-violence was a practical decision: large numbers of people weren't ready to escalate the struggle to bombs and rifles. Australia is not the Gaza strip, Nicaragua or South Africa. Fricker might be ready to take up arms, but I doubt she'll get a large following.

Finally, whereas there were lesbians involved in CANE, no 'separatist feminist' would tolerate the presence of any of the large number of men involved. Yes, there were feminists involved -- but that's surely one of the "crucial issues within the wider movement" that Fricker feels needed to be addressed?

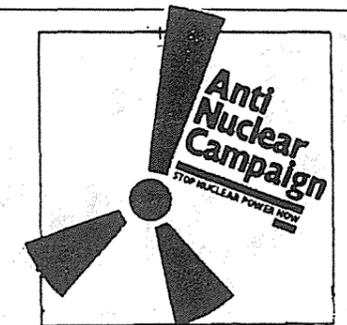
Fricker is quite right in suggesting that some members of the collective stressed their feminist philosophy over and above the anti-nuclear issue. But as I will suggest, this is a natural consequence of the personal growth of CANE Collective members. Issues such as gender, race and class need to be addressed if we intend to change society.

There is much irony in the criticisms Fricker (and Lamb) levels at CANE: over the same period, they were heavily involved with FOE Adelaide, which operated by voting. How do they explain the death of FOE Adelaide without recourse to consensus as a whipping horse?

Cliques

What, then, happened to CANE? Ralfs and Miller place CANE's heyday in 1983 -- the time of the first Roxby blockade, when CANE had a bookshop, a cafe, and an office to go with a large and enthusiastic membership. At about this time CANE was exploring non-violence and consensus decision-making. There was a strong, able and tightly-knit group coordinating CANE.

Ultimately, by the end of the second blockade, most of the key workers were exhausted, and CANE finances were stretched to the limit.



The decision to create an open-ended blockade meant that CANE was over-extended; it got little support, physically or financially, from other members of the Coalition for a Nuclear Free Australia (CNFA).

The problem was not that people left CANE, exhausted. The problem was that during the two blockades, the CANE collective became such a cohesive unit that there was no room (or time) to train newcomers.

Many members of the collective ate, drank, worked, schemed and played together. They mutually explored their political and personal development. In short, they formed a clique whose beliefs and customs were sufficiently different from the norm that they posed a hurdle to entry to newcomers. It was difficult to train, recruit and retain newcomers who didn't fit the clique mold.

Since there wasn't a continual influx of new blood, when the clique turned (as it eventually would) elsewhere for a continuation of personal development, there was left a vacuum in the CANE structure.

Coupled with the lack of a continuing campaign, the loss of the offices and cafe, there didn't seem to be a solid future. People who weren't already involved went elsewhere, The Wilderness Society, City Farm, PND and other community groups.

Where Now?

The time is ripe for another anti-nuclear group. There are stirrings at the Conservation Centre, and their Nuclear Issues Network may evolve into something stronger. They would do well, however, to learn from CANE's mistakes.

Roman Orzanski is a former member of CANE who went elsewhere.

Sustainable Agriculture

In September of last year the Southeast Asian Regional Conference on Sustainable Agriculture was held at the International Institute for Rural Reconstruction (IIRR) outside Manila in the Philippines. *Stuart White* reports

This was a five day live-in conference where forty active practitioners of sustainable, or regenerative agriculture from NGO programmes and elsewhere focussed on the "how-to-do-it". The 'why-it-needs-to-be-done' has become increasingly apparent in recent times. A report on the conference from Charlie Pahlman, an Australian working at Nan in Thailand, reveals the need for a reassessment, not just of the 'what' of agricultural development programmes (technology, high yielding varieties, reliance on biocides) but also of the 'how'; the social and cultural aspects, the neglect of 'farmer-centred development'.

Fifteen years on, where has the green revolution left the farming people of Southeast Asia? A few figures from a 1982 study in central Luzon in the Phillipines shows that, while rice yields did increase in the period 1970 to 1981 with the use of high yielding varieties (HYVs), the combination of declining terms of trade (rice prices nearly halved) and the increase in paid-out costs (up 51%) mean that net revenues are down by 52% in the same period. Much ado about worse than nothing! What are the farmers left with? Many are forced into the poverty, debt and urban migration spiral and the increased use of fertiliser has caused the loss of fish populations in streams and paddy fields. Human poisoning from pesticides has also been widespread.

Groups such as the *Alternative Technology Association (ATA)* in Thailand, *Action Research on Alternatives to Chemical Residues* in Indonesia and the *Integrated Pest Management Extension and Women Project* in the Phillipines reported at the conference on a wide range of activities that in every case emphasise the role of people in their projects. An ATA freshwater fishery project in Thailand's north-east focuses on an integrated farming approach "combining many activities to create farming systems that are less dependent on outside inputs and are self sufficient throughout the year". One of the most important features of these projects is that local farmers with successful experience with integrated agriculture are used as models for other farmers to study and learn from. As Charlie Pahlman notes, "this form of technology transfer is far more effective than technology coming from the outside".

The Alternative Crop Protection Project in Thailand has been surveying the local availability of species with insecticidal properties and also researching indigenous farmer practices and current plant protection needs. Here the emphasis is on how to generate 'know-how' from the local knowledge base (wisdom), as much as on the 'know-how' itself.

The conference dealt with a seemingly infinite range of topics. Alley-cropping, soil conservation, agro-forestry, farmer-based extension systems, the role of women, project evaluation. An overall theme is the need for a systems approach to the exercise, that is, one which entails learning about the 'environmental, social, economic and agricultural aspects of a specific situation or problem'. A whole day was devoted to networking, and the network is impressive: newsletters, regional conferences and informal exchanges

between farmers, NGO's, university researchers, government.

Rodale International USA are implementing an interactive international network with regional centres which appears to rely fairly heavily on fast information transfer and the use of computers, a feature which could limit accessibility.

Conferences such as this one inspire hope for the future. It is always tempting to despair at the under resourcing of the groups represented at such a gathering and the way the initiatives are funded on a shoestring, as is the case with any grassroots effort. But this is to forget that it is the seedlings sown under adverse conditions that are the hardest and often the survivors: it is precisely the will and dedication of those people 'on the ground' that ensure this.

"The effects of high yielding variety technology in Thailand has been similar to that in the Phillipines. Small farmers in the north-east of Thailand can no longer survive by growing rice alone. Costs have increased, rice-prices dropped, there is little or no fish in the streams and rice paddys, and there is hardly any forest in which to collect food supplements. The climate is changing too - as the forest cover disappears, the harshness of the dry season becomes more severe. And as soil condition deteriorates, the dependence on expensive chemical fertilizers increases. Poverty and child malnutrition are widespread in the north-east. Many families have been forced to move to Bangkok or other cities to find work - or children end up working in sweat shops in the cities or girls in the go-go bars"

Charlie Pahlman, October 1988.

Stuart White is a member of FOE (Sydney) and has been reading a conference report from Charlie Pahlman, CUSO agricultural cooperant, PO Box 31, NAN, 55 000, Thailand.

Books

Count Zero by William Gibson, Grafton Books, London 1987. 335 pp. \$8.95.

Reviewed by Chris Sanderson.

William Gibson is a punky sci-fi writer who knows a lot about how computers are now. And he's probably thinking along parallel lines with the people who are making computers for tomorrow. He deftly points out the lines of force which influence the technology and its development, and takes a little quantum leap to an unspecified time in the future to give us a foretaste. And it's interesting, very interesting.

In Gibson's future it seems that wars, whether of the cold or hot variety, are finished between nation states. In fact, there's very little evidence of nation states at all. Wars are between corporations and they're over the technological prizes.

On the edges are lots of little players, outlaws raiding the databases for whatever titbits might be saleable. The goodies are well guarded, and often boobytrapped, but the risks are worth it. One character realises that you get as rich raiding lots of the little databases as you do by getting into a few of the big ones. His little scam bankrupts a number of African countries, whose protective technology is not as sophisticated as that of the big corporations. Economic collapse, famine and a plague of copycat ripoffs follows.

Corporations also boobytrap their

REVIEWS

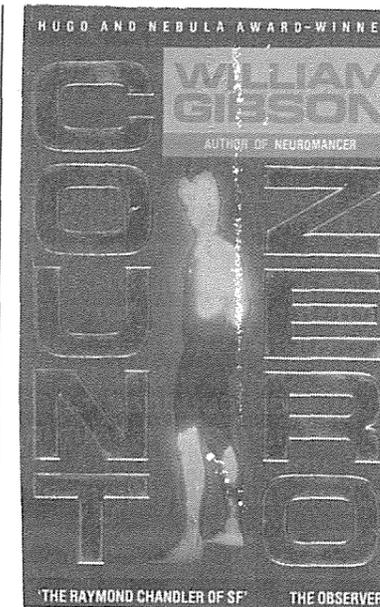
most important researchers in case they defect or get hijacked. Gibson has a nicely nasty perspective on the possible future uses of our whizz kid medicine magic, with all the fully disposable interchangeable organs and luxury options for those who can afford. In addition to loading the researchers full of lethal biohazards, medicine is adept at manufacturing movie stars.

In a lovely touch, a female movie star makes an appearance, and we learn that on her perfect eyes, barely visible, is the logo of the company that installed them. When she comes to an unpleasant end, those eyes are reclaimed by the company whose property they remained.

Medical ingenuity also makes the extremely rich virtually immortal, even if the conditions of that immortality are not very pleasant. The book is about the struggle of one gentleman, confined to a holding tank but still ably in charge of his empire, to get hold of the technology which will liberate him.

This is not a visionary book, but it's a book that's bursting with ideas about our technofuture. Some of them are outrageous, but plenty aren't. Some are quite lovely -- like the machine which manufactures exquisite works of art, each one unique; some are surprising in this streetwise context -- like the new voodoo religion springing up amongst users of the matrix; and some take their place amongst the timehonoured themes of science fiction, like that of a technology become self-aware, and a human race on the verge of taking a step which may transform it.

It's a really nice piece of SF. It's full of ironically familiar words and phrases which contort into an awful



sense of déjà vu about the future - that it can only possibly be more, more of the same, grown as it is from our garbage heaps, nourished in the gee whizz obsessions of our consumerism, and created by the flourishing and mutating Darwinism of the multinationals which, as they sprawl across the planet, dominate by sheer weight of productivity every aspect of our life.

And if you hate television, you will particularly appreciate his suggestions about the future development of that medium, which fortunately are not possible quite yet. It's got a Hollywood ending. I was disappointed, but then I decided that he must be planning to turn it into a movie. It might be a pretty good one, too.

Chris Sanderson is a subscriber and regular contributor to Chain Reaction.

REVIEWS

GENETHICS THE ETHICS OF ENGINEERING LIFE



DAVID SUZUKI
PETER KNUDTSON

Genethics: The ethics of engineering life by David Suzuki and Peter Knudtson. Stoddart Publishing Co. Ltd. 1988. \$29.95

Reviewed by Peter Springell.

As the human population mushrooms, and supposedly 'progresses', so environmental degradation and pollution is increasingly out of control, like an ever-spreading cancer. We have already adversely affected everything from outerspace to the local environment. And it seems the threat extends down to the molecular level as well.

As genetic engineering inexorably moves from the drawing board to a myriad of practical applications, the environment movement is extremely ill-prepared to critically assess its impact, let alone to try and stop some of the more outlandishly risky propositions being touted. We urgently need a new brand of well-informed activist, capable of understanding the intricacies of a very complex, and explosively fast developing scientific endeavour. Fortunately this book is just what is needed -- a crash course in genetic engineering for would-be activists.

Anyone who has had contact with any of David Suzuki's work will find that he is every bit as lucid and captivating in *Genethics* as one has come to expect from past experience. And appropriately, even the title of the book is a hybrid of genetics and ethics.

The first third of the book is a short

course in genetics for those who might need a gentle introduction to the world of recombinant DNA. The authors avoid all maths and resort to a minimum of scientific jargon. But where there is no alternative terms are carefully defined, and are also brought together in a glossary with very good diagrams, and an excellent index.

However the main interest lies in the second section of *Genethics* -- the ethical bits. The book puts forward ten Genetic Principles, each of which is examined in detail in one or more chapters. It is modestly admitted that this list of principles is by no means exhaustive.

The work should not be viewed as an outright condemnation of genetic engineering. Indeed, the authors point out that there are many real benefits to be derived by the proper application of this technology.

One is of course bound to draw comparisons here with other recent spectacular scientific advances in such diverse fields as nuclear energy, pesticides, and antibiotics. All of these have been through the same kind of 'gee-whizz' episodes currently enjoyed by genetic engineering. Most disconcertingly, there is the danger that history will repeat itself. The overzealous pushers of this new technology, driven by the relentless profit motive, cut corners in their pursuit of the technological quick fix, brushing aside suggestions of any potential for adverse effects.

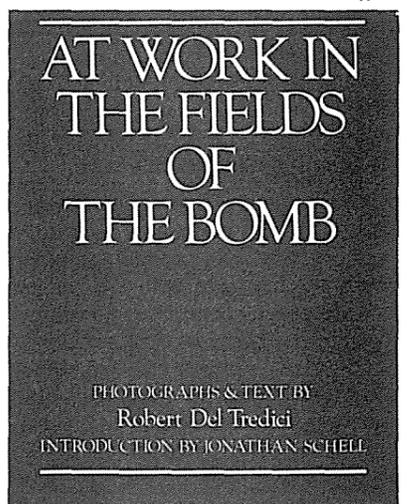
A very obvious hazard involves tinkering with the genetic code before we have any real understanding of what irreversible damage we may unwittingly be doing -- not just to ourselves and to the contemporary biota, but also to future generations.

Examples are also given of how genetic information can, and has been, used to discriminate against certain groups of individuals. Extrapolating into the future, genetic manipulation gives the technique for a latter-day Hitler to use in the pursuit of a super-race.

A further serious concern is the possibility of military applications for genetic engineering. This is analogous to the way in which other branches of science have been prostituted to create chemical, biological, and nuclear weapons.

Suzuki offers no easy solutions to the problems he uncovers. Perhaps because of his own mixed-race Eurasian origins he is in a special position to appreciate the value of a cross-cultural approach. He senses that our difficulties may be linked to the tenets of our Western culture, which has been regarded by so many Westerners as superior to all others. This sentiment is encapsulated in his final genetic principle. In it he makes a plea for much wider philosophical horizons than those imposed by the rigid boundaries of Western science and thought.

Peter Springell, who lives near Cairns, is a retired biochemist with a deep concern about where science is heading



At Work in the Fields of the Bomb by Robert Del Tredici. Harrap, London 1987.

Reviewed by Pat Jessen.

At Work in the Fields of the Bomb is a rare combination. It is an unusual coffee table book tracing photographic images of the nuclear weapons industry. Robert Del Tredici worked on the book for six years "...putting together a body of basic imagery to render visible the Bomb and all its works ... I finished the project while it was still possible -- through the eyes of living witnesses -- to see back to day one of the nuclear age. More than once in my encounters with atomic pioneers and on expeditions to America's ageing bomb factories I felt I was coming from some future time-

machine back to that legendary era when nuclear weapons ruled the earth."

I first discovered *At Work in the Fields of the Bomb* through Peter Watkins' film *The Journey*. A mild mannered Del Tredici is filmed pointing out and explaining various photographs in the book. This technique itself was quite different and made me curious about the way in which he would handle his subjects. Del Tredici talked to the people heading the industry and exposed how these men see themselves as psychologically quite separate from the nuclear weapons industry.

His portraits of people are very moving as are the interviews that accompany the photographs. The result is a powerful work of art.

One of the aims of the book is "... to give the collective imagination something accurate and graphic to hang onto as it strives to come to terms with the Bomb's reality." It succeeds in capturing a total picture of the nuclear industry, and that is what makes this book so radical. Reducing this awesome industry into its various compartments reveals its vulnerability. We are exposed to the stories of those who question and resist, and others who have survived the Bomb. Their inspiration permeates the book.

At Work in the Fields of the Bomb is a rare and rich book that will enhance people's understanding of this crucial time in the history of our planet and offer an insight into humanity.

Pat Jessen is an activist with Friends of the Earth Fitzroy anti-uranium collective.

All the books reviewed in Chain Reaction are available through the FOE bookshop. You can order a copy by sending a cheque for the listed price plus \$2.00 for the first book and 50c for each additional book to cover postage and packaging to:

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Battle for the Earth edited by Edward Goldsmith and Nicholas Hildyard. Childs and Associates, Sydney 1988. 234 pp., 90 photos and illustrations.

Reviewed by James Prest

I discovered this book accidentally. It didn't deserve simply to be stumbled across. It really should be sought after.

Perhaps this book should have been called an encyclopaedia of environmental hazards -- as that's essentially what it is. It contains 400 alphabetically arranged entries on a wide range of subjects from the toxicity of dioxin to the Price Anderson Act.

Because of its unparalleled comprehensiveness, this book could to become the standard reference work for environmentalists. No other readily available book has so much essential information all in the one place.

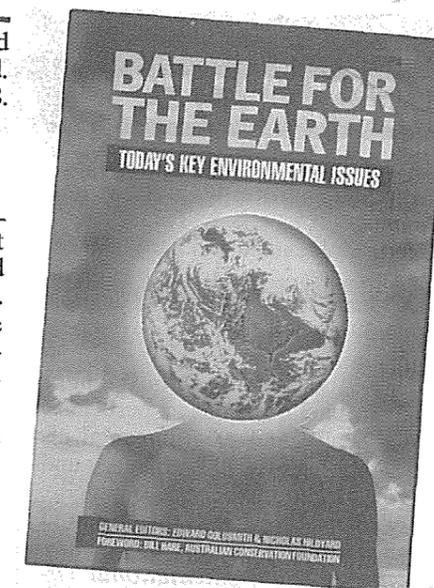
Battle for the Earth has been expertly laid out and designed, filled with clear illustrations and charts, and is backed up with an excellent index.

Inevitably, on some issues, the coverage is better than others. For example, the coverage of hazardous industrial chemicals and food additives is excellent.

But a serious shortcoming is that certain issues crucial to our survival were not given space in proportion to their importance. The depletion of the ozone layer is given only cursory treatment despite the fact that it holds the potential to result in the destruction of virtually all marine and plant life. Likewise, there is no discussion whatsoever of the dis-economics of nuclear power. This is crucial information, given the recent spate of greenhouse induced nuclear advocacy and I believe it is also the only information our critics will actually listen to.

Also serious is the complete lack of coverage of any developments in the current arguments over economists' calls for continued economic growth.

At a more basic level, I feel that there are major problems with the overall orientation of the book. *Battle for the Earth* gives little coverage of the arguments of either contemporary or historical ecologists, and has, I feel, an excessive bias towards an almost obsessively empiricist discussion of the



toxic properties of one hazardous chemical after another. One could come away from a reading of *Battle for the Earth* knowing all about the toxicity of poly-chlorinated di-benzo furans, and yet remaining completely ignorant of the most fundamental theoretical and ideological debates associated with ecology and environmentalism.

However, such problems of exclusion will always plague any book of this type, and much good synthesis of thought has occurred. The authors have made the link between environmental preservation and real development in the poorer nations of the world, and devote much attention to the role of international multilateral lending institutions (such as the IMF and the World Bank) in the destruction of the global environment. Clearly this reflects their work with *The Ecologist*.

The encyclopaedia style references in *Battle for the Earth* are preceded by six essay length articles. The topics chosen for the essays seem to be almost totally *ad hoc*, with no reason or explanation being given for their selection. For example, although a case could be argued otherwise, I feel that an essay on 'The Politics of Food Aid' is only tangentially related to the global environmental crisis, and that it does not belong in this book.

James Prest works on Chain Reaction and is a member of FOE Adelaide University.

RESOURCES

Pesticides and You: 44 Questions and Answers

Gretta Goldenman and Sarojini Ren-gam

IOCU and Pesticide Action Network 1989, 39 pages US\$4.00

This book gives an overview of the issues and answers to 44 of the most widely asked questions on pesticides, their health and environmental effects, alternatives, biotechnology and the pesticides industry. It is concise, easy to read, and in a question and answer format.

Available from: *International Organisation of Consumers Unions, PO Box 1045, Penang 10830, Malaysia.*

Relocating Risk -- from Sydney to Jarvis Bay

Richard Bolt

Australian Democrats

61 pages, February 1989 free

This report has been prepared for Norm Sanders of the Australian Democrats. It exposes the planned shift of naval facilities from Sydney to Jarvis Bay as a blatant land grab by the New South Wales and Commonwealth Governments, which cannot be justified on any grounds, whether economic, environmental, social or strategic.

Available from: *Senator Norm Saunders, 18 Gregory St, Sandy Bay, Tasmania, 7005.*

Smokescreen Over Bhopal: Denial of Justice to the Victims

International Coalition for Justice in Bhopal

23 pages, 1988, US\$5.00

This publication was released to mark the 4th anniversary of the Bhopal gas leak tragedy, 'the worlds worst industrial disaster'. It traces the legal war of attrition that Union Carbide has been waging to evade its legal liability and moral responsibility to the Bhopal victims, and discredits claims by Union Carbide that the accident was the result of an act of 'sabotage by a disgruntled employee'.

Available from: *IOCU, Box 1045, Penang 10830, Malaysia.*

All at Sea

Anna Muir

Movement Against Uranium Mining 1988, \$3.40 including postage

A booklet giving an up to date account of visits by nuclear warships to Australian ports, the potential for catastrophe and an examination of government plans, or lack of them, to cope with a serious accident.

Available from: *Movement Against Uranium Mining, 245 Flinders Lane, Melbourne 3000.*

The Green Pages

Australian Conservation Foundation to be reprinted in 1989.

The Australian Conservation Foundation is updating the 1986 Green Pages. The Green pages is a who's who of non-government environmental organisations in Australia. It lists organisations concerned with a wide variety of interests in the conservation area.

Please notify the ACF if you'd like your organisation to be listed and notify any new groups that you know. Contact: *Penny Morris, Australian Conservation Foundation, Level 3, 18 Argyle St, Sydney NSW, 2000.*

Food Irradiation in Australia

Tony Webb and Beverley Sutherland Smith

National Coalition to Stop Food Irradiation

booklet, 1988, \$3.90 including postage.

This booklet has been produced to add to public debate on the issue of food irradiation. It is based on a critique that is truly international having drawn on the work of groups in Australia, Britain, Scandinavia and Europe, the USA, Canada, New Zealand, Malaysia and Japan. These campaigns have gathered support from consumer and environmental groups, trade unions, farmers, growers, supermarkets, food processors and traders.

Available from: *Campaign for Nuclear Free Food, PO Box 186, North Melbourne 3051.*

Energy at the Crossroads

Friends of the Earth and Video Education Australia

video, 15 minutes, \$59.00 plus postage

The main focus of this video is to point out that we, as the human race, have arrived at an energy crossroad, where we must carefully consider our energy future. We have to make a choice on the one hand, between the non-renewable forms of energy such as coal and uranium that we have used in the past, and on the other hand the renewable energy systems such as solar and wind that are now being rapidly developed. Produced in particular for school use.

Available from: *Video Education Australasia, PO Box 311 Castlemaine Australia 3450.*

International Green Front Report

Micheal Pilarski

Friends of the Trees

1988, \$7.00 plus \$2.00 postage

This is a directory to world wide re-afforestation, conservation, permacultural and organic propagation in the comprehensive Whole Earth style. Topics covered include tropical rainforests, species, sourcebooks, keyline, biogeography and orcharding. Although much of the material relates directly to America, there are a number of specific Australian listings, and the Green Network covers the world. The book is well illustrated with drawings and diagrams.

Available from: *Friends of the Trees, PO Box 1466, Chelan, WA 98816, United States.*

Uranium Mining in Western Australia

Shyama Peebles

Goldfields Against Serious Pollution

21 pages, 1989, by donation.

This comprehensive report on the state of play with uranium exploration and development in Western Australia, was prepared in response to mounting pressure by companies to be allowed to mine all uranium deposits that they consider to be viable.

Available from: *Goldfields Against Serious Pollution, PO Box 889, Kalgoorlie, Western Australia, 6430.*

Chain Reaction is printing tributes to two people who were both regular contributors to the magazine and valued activists within the environment movement, especially as regards anti-uranium activities. We share the sense of loss felt by the families and friends of Dick Borton and Willy Wabeke.

Dick Borton

The recent tragic accidental death of Dick Borton has deprived the earth of a genuine friend. He was an unassuming, and modest activist of many years standing. While many have long fallen by the wayside, because of burn out, Dick selflessly kept going on and on with seemingly endless enthusiasm and energy.

What Dick did not know about the uranium issue was not worth knowing. He was particularly well versed in the shocking environmental record of the uranium mining companies, especially those messing up in the top end of the Northern Territory. Dick was never one to seek publicity, and he will without doubt, go down in history as the unsung hero of the struggle to keep uranium in the ground. He had a close relationship with Aborigines, politicians, trade unionists and academics. When valuable information fell off the back of a truck, it inevitably seemed to end up in Dick's lap. It was of course an uneven struggle from the start, against the multinational companies, in league with both the Territory and Federal Governments. First the Aborigines were betrayed and double crossed, then the trade unionists were immobilised by the secondary boycott provision of the Trade Practices Act, and finally Labor politicians, many whom now occupy prominent positions, sold out to expedience.

With his work in Darwin at an end, he ultimately left for Townsville, before subsequently returning to Melbourne, his home town. He particularly wanted to be near his aging mother, little realising she would have to face the ordeal of seeing her son die before her.

My first encounter with Dick was some fifteen years ago, when he would set up a stall in the heart of Darwin every Saturday morning to sell copies

of *Chain Reaction*, and distribute stickers, posters, and pamphlets, as well as engaging all and sundry in the uranium debate. He eventually got hold of a printing press, which he then proceeded to teach himself to use, so that he eventually could put out his own material. He made a tremendous contribution, not just through these activities, but he also inspired others with his infectious activism.

My last encounter with him was here in Cairns, when he helped to organise a local demo against Bob Hawke, following the most shameful decision to sell uranium to France. In typical Dick fashion, it was he who came out with all the right slogans for our placards.

Dick gave his all to the movement, and in doing so made many a personal sacrifice. Consequently, he was always close to the bread line, and never amassed any of the so called trappings of civilisation. Because of his commitment, he had little time to spare for his own private life. It was therefore most gratifying, when he finally met up with Debbie Moon. In Debbie he was able to find a companion who could share his private life as well as his environmental concerns. Only seven months ago, Dick and Debbie had a daughter Alison, so that Dick has been cruelly deprived of the full joys of parenthood, while Debbie and Alison have been robbed of a loyal and devoted partner, and father. Our deepest sympathies lie with them, and with Dick's mother and family.

The movement mourns a great battler, and ASIO can close off one of its more important files. But uranium miners beware -- Dick has alerted us to all your tricks. His monumental efforts will surely be rewarded in years to come, when the rest of the world catches up with Dick, and decides that it is wiser after all, to leave uranium, in the ground, where it belongs.

Peter Springell, 10 April 1989

Willy Wabeke

We lost one of the most dedicated members of the anti-uranium movement with the death in March of Willy Wabeke, of Collingwood. This was his passion, his great crusade.

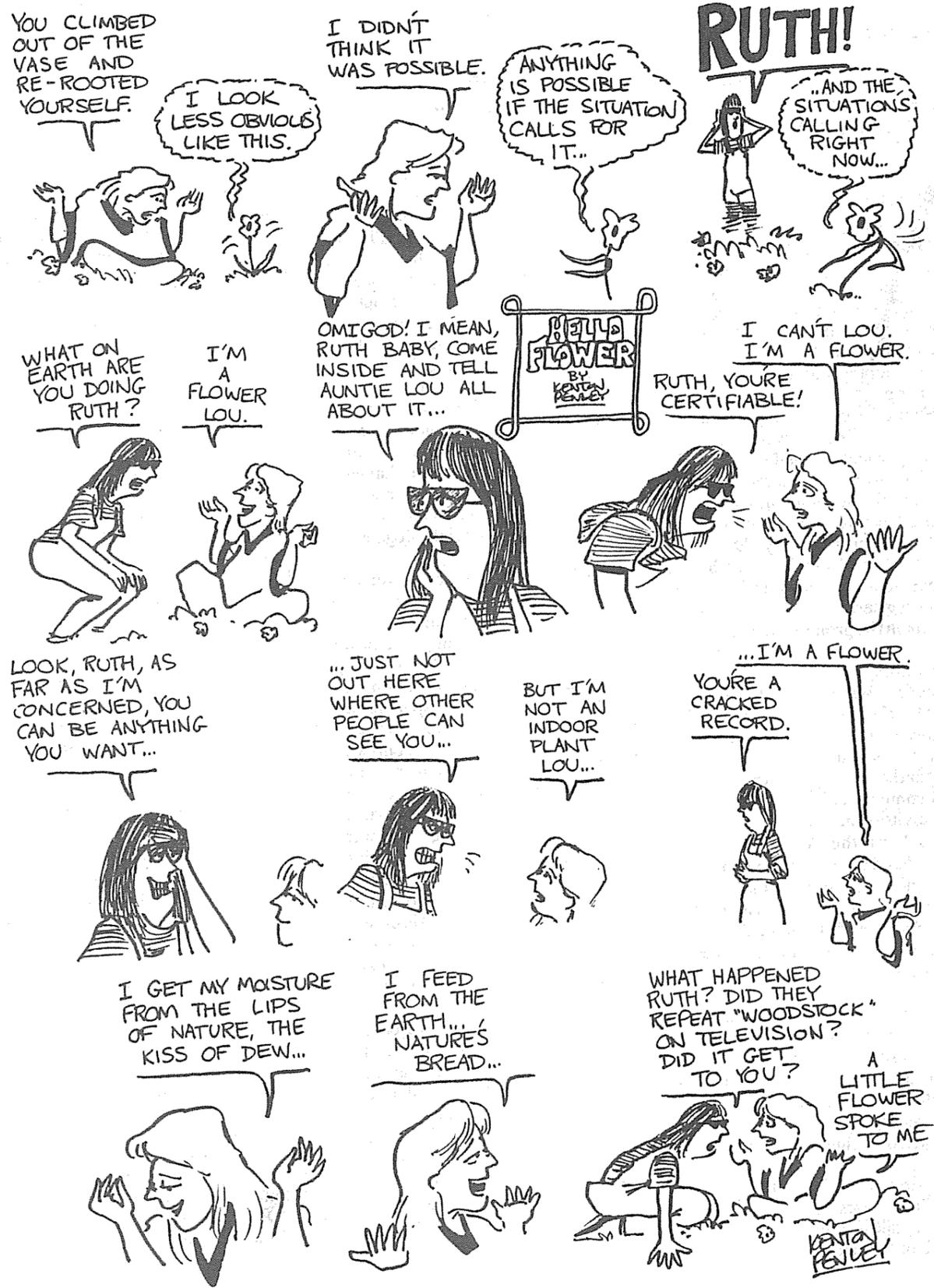
Willy had learnt his profession as a mining engineer in his native Holland. He had worked around the world as many mining engineers do. One mine at which he worked was El Sherana in the Northern Territory. Then he came to Melbourne. From his experience, he took a close interest in Ranger and Nabarlek, and Kakadu in general.

It was little known that in the mid-70s Willy had worked in Nicaragua. This was at Bonanga, the mining area in the north east of the country. Willy had been involved in a feasibility study for a mine extension. The company was American Smelting and Refining Co (ASARCO), a huge US concern. It was a large mining community, with imported staff who were provided with houses and imported food. The local Nicaraguans were treated like dirt - a classic case of a multinational company in a third world country. And of course there was scant concern for the environmental effects of mining or the treatment plant. Willy was upset at all this. When he left ASARCO's employ, he kept mine records, such as assay results of drilling to determine the extent of the ore body. The Nicaraguan revolution succeeded in 1979, ASARCO had by then left, as had the mining staff and all the mine details, making mining operations difficult for the Sandanistas.

Willy had kept his valuable records for over a decade. Then in late 1985 he produced them for me to take back to Nicaragua to give to the Ministry for Mining. The Nicaragua connection had gone full circle, Willy was happy that he had supported the revolution.

But it is in the Australian anti-uranium movement that he will be remembered. He correctly took the attitude that uranium mining had to be opposed on health grounds, not on economic grounds. He never wavered in his commitment. Had his health been better, he would have contributed even more.

Our condolences go to his wife Bella and children.
Bert King, May 1989



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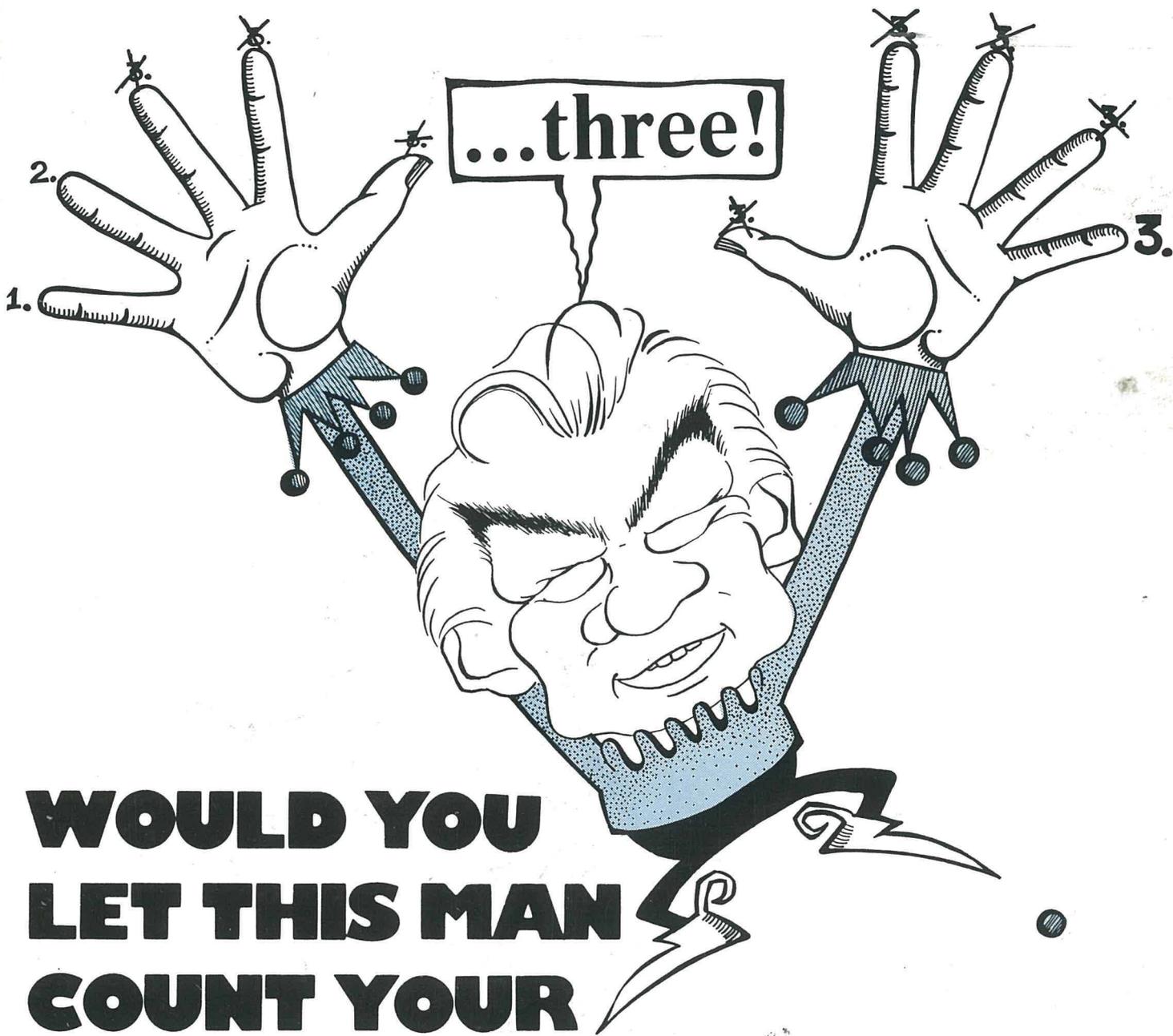
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