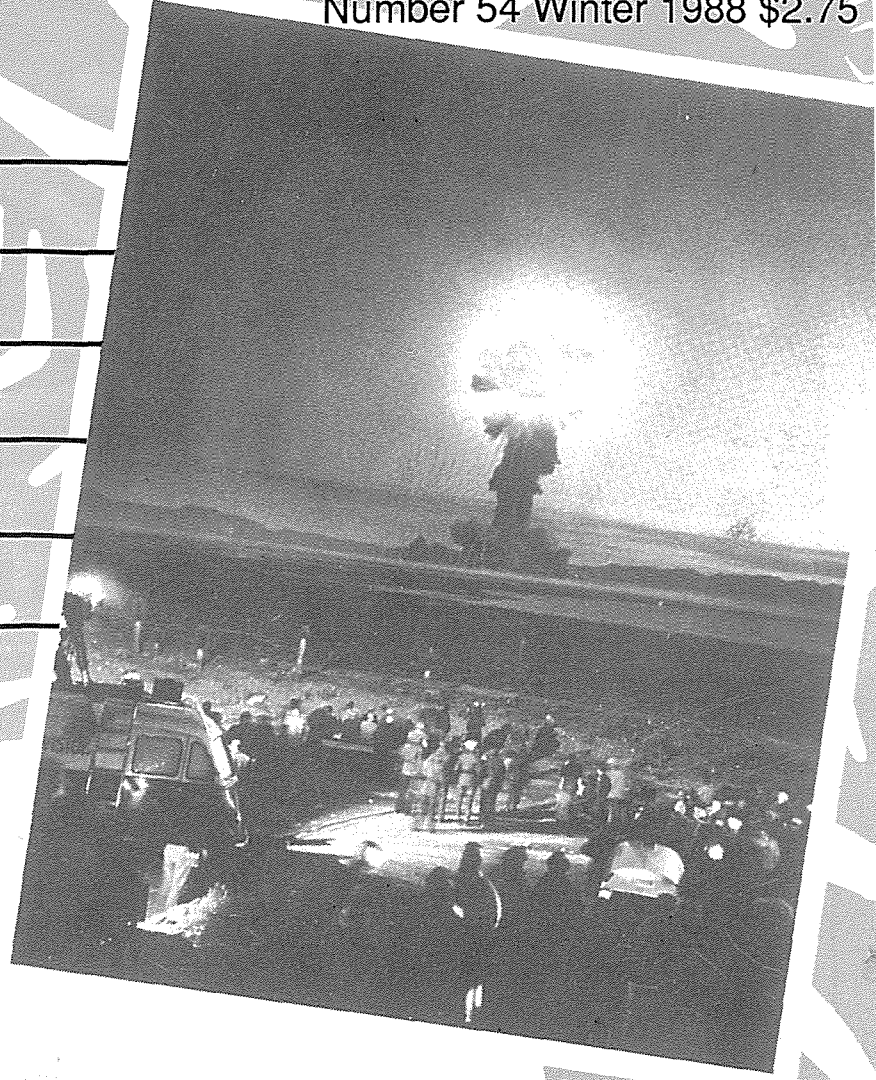


Chain Reaction

Friends of the Earth Australia

Number 54 Winter 1988 \$2.75

AUSTRALIAN URANIUM: THE BOOMERANG BRAND



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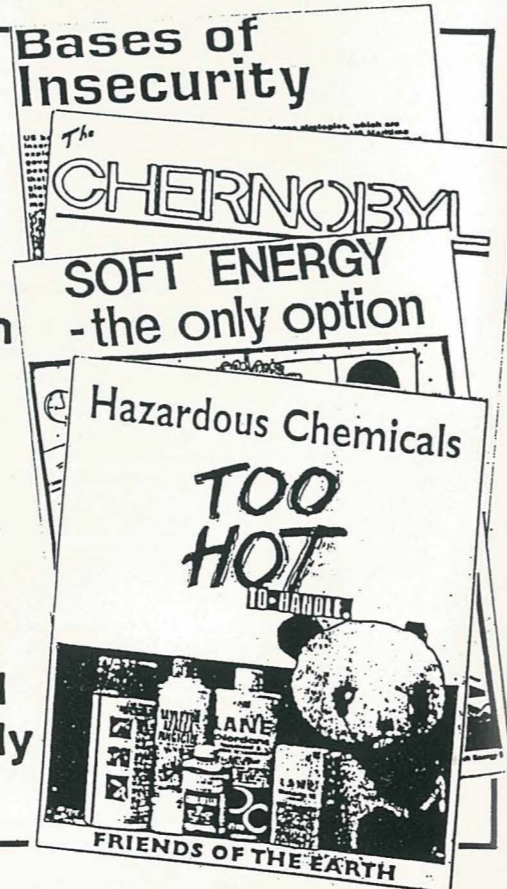
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Editorial Collective

Ian Foletta, Eileen
 Goodfield, Clare
 Henderson, Larry
 O'Loughlin.

Production

Fran Callahan, Jo,
 Ruth Maddison,
 Kenton Penley,
 Clive Rosewaurn.

Accounts

Eileen Goodfield

Earth News

Eileen Goodfield

Subscriptions

Eileen Goodfield

Production Coordinator

Ian Foletta

Reprographics

Melbourne Media
 Services

Typesetting

Deadset
 Publishing and
 Information
 Services, Kasia
 Graphics.

Printing

Newsprinters Pty
 Ltd, Shepparton

Correspondence

Chain Reaction
 PO Box 530E
 Melbourne 3001
 Australia
 Ph (03) 419 8700

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LETTERS

It's a long way to Tipperary

The Leader of the Parliamentary ALP in the Northern Territory, Mr Terry Smith, was heard to remark during a recent TV interview that he admired and supported the actions of Mr Warren Anderson in developing Tipperary station.

He was referring to the fact that thousands of hectares of land have been cleared and have been or are being sown with improved pasture, thus allowing the eventual turnoff of one hundred thousand head of cattle per year, presumably for human consumption.

It is this warped and myopic view of the world, exhibited by both of these gentlemen, that makes one despair of ever having a governmental policy that pays any heed to the ecological effects of such actions.

Whether Mr Smith is concerned or not, the world is hurtling towards an over-population crisis, and, paradoxical as it may seem, increasing the world's food supply without at the same time establishing population controls will only make the situation worse.

Mr Smith might, but is not likely to, concern himself why his friend Mr Warren Anderson finds it necessary to import endangered African animals into Australia. There is a very simple answer — they are endangered because there is already a human population crisis in Africa, there are simply too many people, and for many of them their standard of living

is so low, their security of life so tenuous, that the slaughter of wild animals for money is practically unavoidable.

Not only is the population pressure destroying the native animals, but it is destroying their habitat, which is precisely what Mr Anderson has done at Tipperary, but not because of population pressure, simply because of greed.

CM Friel
Alawa NT

Professional activists

This letter is prompted by a recent ad for a campaign officer with the ACF. The terms of the position pointed out just how professional the environment movement is getting. The ad even said that the successful applicant would 'ideally have an appropriate tertiary qualification'.

Has anyone within the movement questioned the effects that such 'professionalism' will have on the basic politics of the movement? Those who are concerned but lack the appropriate professional qualification will be stuck with the role of 'volunteer'. Without basic grass roots input and action the movement will not be able to forge the fundamental social changes required. Professional activists will only be able to change the balance of egos sitting in Canberra.

Fran Callahan
Northcote Vic

You are invited to write letters to *Chain Reaction* with your comments on the magazine or on other issues of interest. Letters should be kept within 300 words so that as many as possible may be published. Longer letters may be edited. Write today to *Chain Reaction*, GPO Box 530E, Melbourne, Vic 3001, Australia.

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EARTH NEWS

Marshall Islands Medical Cover-up?

Rongelapese officials have recently uncovered medical data which suggests a US cover-up of radiation exposure by Marshall Island residents.

The data came to light in an independent scientific review of a 1982 Department of Energy (DOE) report. Senator Jeton Anjain, who represents Rongelap in the Marshall Islands Parliament, says the DOE covered up the data to protect the US nuclear weapons program and to avoid high compensation claims. The data in question concerns signs of radiation found in urine and blood tests.

DOE officials and scientists at Brookhaven National Laboratory — who have tested the Marshallese since 1957 — insisted that the data had little medical significance and posed no health danger which is why it was not mentioned in the 1982 report. Saying that all test results were published eventually in scientific reports they added that 'informing uneducated, unwordly people of medical complexities often was impossible.

'There were lots of things that might have been added to that report' said Roger Ray, DOE's project manager for the Marshalls from 1972 to 1985. 'The people who wrote it made their choices based on what they believed to be the most significant for the people who had to use it. There was no attempt to conceal information.

'I know Sen Anjain and, if I told him something in picocuries per gram, I'd get a blank stare', Ray said.

Source: *Washington Post*



US food irradiation promotion.

Soybean Ink

A soy-bean based ink developed only a year ago is being used by about a third of America's daily newspapers and industry experts say it could help farmers and reduce dependence on imported oil.

'I would predict that by 1995 most US newspapers will use it for colour and, if there's a petroleum crisis, I think the switch-over will be 100 per cent immediately', said Mr Wilson Cunningham, director of research at the American Newspapers Publishers Association, in Reston, Virginia.

'About 500 of the nation's roughly 1,600 daily newspapers have tested or are regularly using soy ink. It's a competitive product.'

Its promoters say that besides providing more vivid colour and print that

is less 'likely to rub off, soy ink brightens the economic prospects of farmers. They also say biodegradable soy oil makes the ink easier on the environment than traditional petroleum-based ink.

Source: *Australian Financial Review*

Pesticide Ban Works

Indonesia's ban on 57 pesticides used in its rice fields is working. In 1987 farmers got the same yields as previously but only used half the amount of pesticides. And the brown hopper population, which has wiped out thousands of hectares of rice in the past seems to be declining.

According to Dr Soejitro, an entomologist with the Bogor Research Institute for Food

Crops, it's too early to come to any definite conclusions but the information we have collected so far shows a decrease in the number of hoppers.

The pesticide ban came into force in November 1986, as part of an intergrated pest management programme for rice. It is a revolutionary new strategy in the ongoing war with the brown hopper, based on the discovery that the pesticides were simply encouraging the breeding of bigger and better super pests.

The ban's objective is to maintain self sufficiency in rice, Indonesia's major crop. But its impact on the health of rice farmers and the environment is also likely to be considerable.

Source: *Third World Network Features*

Boycott General Electric

A United States group INFACT have released a 145 page report detailing the involvement of General Electric in the nuclear weapons industry. The premise of the report, 'INFACT brings GE to light' is that the company creates the supply and demand for nuclear weapons and has a heavy hand in creating military policy and national strategy to support the systems.

At a press conference to launch the report and a consumer boycott of General Electric, Nancy Cole Executive Director of INFACT was joined by Commander Withdraw of the US Navy (retired).

GE's ties to big business, the Pentagon, the President and Capitol Hill allow the company to advance its vested interest in nuclear weapons, according to Ms Cole and Commander Withdraw. 'Given that the nuclear arms race has an economic root, then it requires economic solutions, hence the boycott' Ms Cole said.

Plans for expanding the boycott include targeting architects and builders and the medical community to get them to stop using GE goods and services.

Further information can be obtained from INFACT, 256 Hanover St, Boston MA 02113 United States.

Source: *International Barometer* March 1988.

Man-Made Problem

The torrential rains responsible for the deaths of over 300 people in Brazil in February were the result of deforestation. According to Brazilian geologist Luiz Carlos Mollion:

Records show rainfall has been higher in the past. Our problem is man-made. If you look at the areas affected in Rio, it was where deforestation has occurred that suffered the most.

Source: *The Guardian*

Killer Concentrate

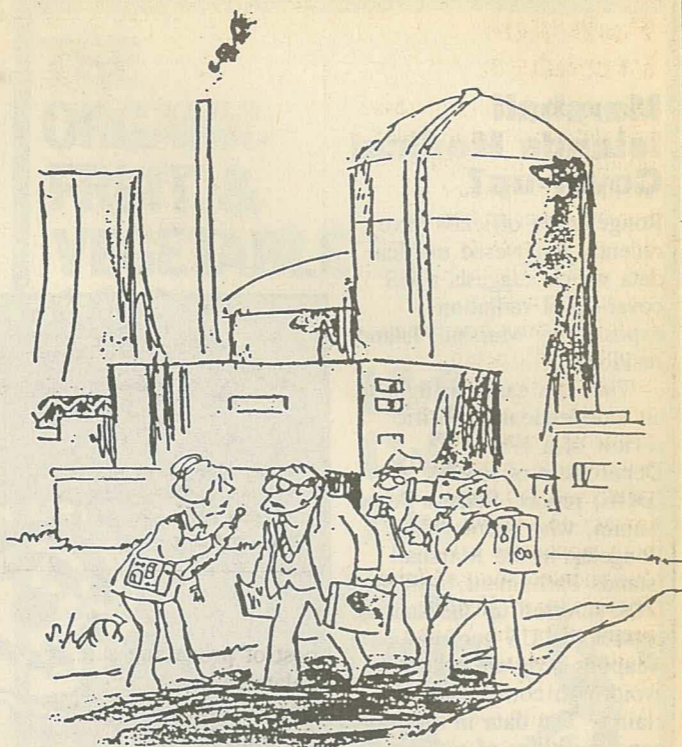
Industrial pollution from the Soviet Union's first bio-engineering plant, producing protein-vitamin concentrate for farm livestock, is poisoning the 60,000 people of Kirishi near Leningrad. Twelve children have already died, there are over one hundred permanent invalids and the incidence of bronchial asthma has risen thirty-five fold since the plant opened twelve years ago. The concentrate is now banned.

Source: *The Guardian*

Pest Strips probed

Washington — The Environmental Protection Agency says it will study the health risks of dichlorvos, a pesticide used in more than 880 products including no-pest strips. EPA is putting the chemical, also known as DDVP and Vapona, through its special review process because animal studies show it can cause cancer and liver and nervous system damage. About two million pounds of the insecticide are used in the US each year.

Source: *Not Man Apart*



Sydney Harris

"There is no problem. Any damage caused by the nuclear accident can easily be remedied by genetic engineering."

Patenting Engineered Animals

The first ever patent on a genetically engineered animal was issued in April 1988 by the US Patent and Trademark Office without public debate and amidst accusations that officials had acted in defiance of a request to delay the action. The patent (No 4,736,866) for 'transgenic non-human mammals' was granted to Dr Philip Leder, a geneticist at Harvard Medical College, and Dr Timothy Stewart, formally a Harvard researcher and now with Genetech. The two created a strain of mice which is particularly prone to developing cancer. Congress is considering the introduction of legislation to halt further patenting to allow more time to consider the associated ethical, moral and economic issues.

In Australia, by contrast, an application to patent transgenic pigs filed in May

by Dr Robert Seamart of Adelaide University will meet no such legislative opposition. The Australian Patent Office will grant the patent, which covers the creation of fast growing pigs by the insertion of growth hormone genes into embryos, if it finds that the animals represent a new invention, irrespective of the technique used. The CSIRO also intend to patent similarly manipulated sheep developed within the Division of Animal Production.

The European Patent Office will also be considering a patent covering genetically engineered sheep. A UK company, Pharmaceutical Products, has introduced a human gene for a human blood clotting factor into sheep embryos. The blood clotting factor is then expressed in the adult animals milk.

Source: *Australian Journal of Biotechnology* June 1988.

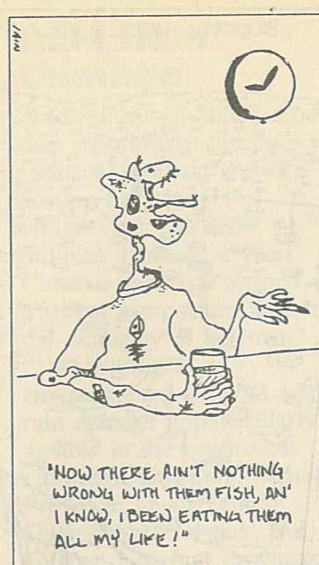
Pollution Increase

Due to population increase and deterioration in water quality, the per capita availability of water for human consumption is decreasing rapidly around the world. The impacts will be felt most severely in Third World where water supplies will decline by almost 50 per cent by the year 2000. These and other disturbing data about pollution levels in drinking water and food and their impact on the human body appear in a well-documented study, *Global Pollution and Health*, prepared by the United Nations Environment Program (UNEP) and the World Health Organisation.

Michael Gwynne, Director of UNEP's Global Environment Monitoring System (GEMS) reported the GEMS is the first global report on air and water pollution and food contamination and their effects on human health.

GEMS information on air quality comes from 170 sites, usually in or around large cities where pollution levels are generally highest in 50 countries. They represent different climatic conditions, levels of development and of pollution. GEMS water quality network consists of 344 monitoring stations — 240 of them on rivers, 43 on lakes and 61 on groundwater reservoirs. As for food contamination, we look for 19 agreed-upon contaminants in more than 400 individual foods in total diets in 35 countries.

The GEMS study reports that European rivers have the highest average nutrient levels (primary nitrogen and phosphorus) — some 45 times higher than their natural level. This condition results in algal blooms that are harmful to fisheries. The



cost of producing safe, palatable drinking water has risen drastically because of the high level of chemicals in rivers.

The study also found that despite the decreased use of pesticides in many industrialised countries, these toxic agents still remain in the soil and water and continue to enter the food chain. As a result, measurable levels of these chemicals continue in fish, meat and milk.

Source: *Earth Island Journal*

Non-violence

According to the editors of *The Nuclear Resister* arrest for nonviolent resistance to nuclear weapons jumped 60 percent from 1986 to 1987. The number of arrests in 1987 topped 53,000 roughly equalling the arrests reported in 1983, the year of the Euromissile deployment that sparked massive demonstrations in Europe and the US. Nearly half of the 1987 arrests occurred at the Nevada nuclear weapons test site.

Source: *Peace Priorities*

Throw-away bottles opposed

The Federal Ministry of Environment in West Germany plans to introduce a deposit on plastic throw-away bottles for soft drinks, mineral water, beer and wine so as to entice consumers to return empty bottles to the shop where they bought them. The consumer organisations, however, opposed such a measure, since it will not get rid of non-recyclable waste. It will merely shift the waste problem from the public domain to private business. Consumer organisations maintained that the only real solution to the growing mountains of non-degradable waste is to return to glass bottles that can be used many times.

Source: *Consumer Currents*

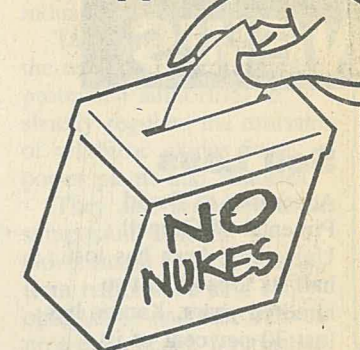
Friendly Insects

Biological control, whether natural or induced, creates a balance of pest and beneficial species and prevents insect pests from causing economic damage. Natural enemies are encouraged in three ways:

- By importing biological control agents. Sometimes a pest enters an area where it has no natural enemies. It may be necessary and effective to import a natural enemy that attacks such a pest. This must be done with maximum care and research.
- By augmenting or manipulating natural enemies.
- By conservation — protecting natural enemies by avoiding activities that control them.

Source: *Development Forum*

Reactors Scrapped



The Swedish Parliament has voted to unplug two reactors by 1996, thereby endorsing the first legislative programme by any nation to rid itself of nuclear power. The programme sets a timetable for dismantling the first of Sweden's twelve reactors and establishes a mechanism for deciding when to shut down the others within 21 years. Swedes voted in a non-binding referendum in 1980 to dismantle nuclear energy by the year 2010, but doubts remain about the wisdom of the public's decision.

Nuclear power provides half the energy needs of Sweden, which has a population of 8.4 million. Dismantling the two reactors could cost as much as \$A1 billion and the nuclear plants will probably be replaced with coal or oil-fired stations. The critics, however, are worried that Sweden's pristine forests and hundreds of thousands of clear lakes, could be threatened by pollution-heavy fossil-fuel energy which may also be more expensive. Swedes now pay the equivalent of about three cents per kilowatt hour, which means an average household pays the equivalent of \$A37.43 a month for electricity, including heating during the long, freezing winters.

Source: *Australian Financial Review*

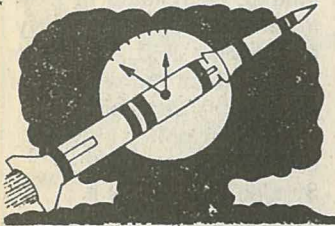
EARTH NEWS

Soil Loss

According to David Pimental of Cornell University, Iowa has lost half its topsoil in two hundred years. Kansas has lost 30 per cent of its organic matter in the last thirty years; India is losing 30 tonnes of soil per hectare per year and in Africa the rate of soil erosion has increased 20 fold over the last 25 years.

Source: *New Scientist*

Doomsday Clock Moves Back



The historic treaty that eliminates certain types of nuclear missiles signed in December 1987 by US President Ronald Reagan and Soviet General Secretary Mikhail Gorbachov, has prompted scientists to move the hands of the 'Doomsday Clock' back three minutes. The clock, printed in the *Bulletin of the Atomic Scientists*, symbolises the imminence of nuclear war. The last time the clock moved back was in 1972. Since then world tensions have steadily moved the clock forward from twelve minutes to midnight to three minutes to midnight. How long will the clock's hands stay at six minutes to midnight?

Forest Loss

Satellite images used to give the first precise picture of land clearing in Victoria have shown that about 246,000 hectares of mainly native forest has been cleared in the past fifteen years.

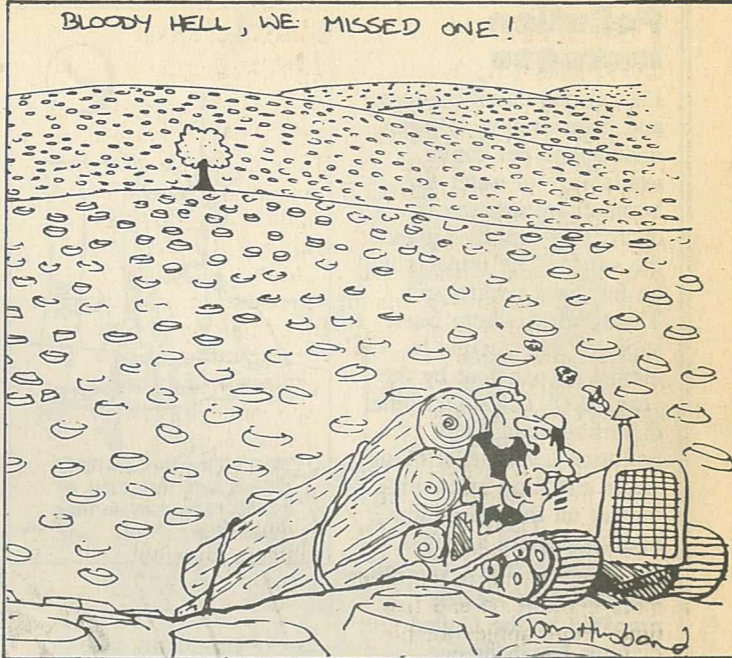
Landsat photographs taken in 1987 compared with the first hand-drawn maps from 1869, show that tree cover in Victoria has fallen from an initial twenty million hectares or 90 per cent of the state, to 7,950,000 hectares, or 35 per cent.

In recent times, the worst treated areas have been in the west, which lost well over one-third of the forest cut down in the past 15 years. Most of the later clearing has been on freehold land — 209,000 hectares, mainly around Mildura, Horsham and Portland. The figures, compiled by the Department of Conservation, Forests and Lands, come from an analysis of the earliest Landsat sweeps of the state, in 1972 and again in 1988. The picture over this timeframe is the first accurate measure of the rate of forest loss and gain in Victoria. Stored on computer, it will become vital baseline data to gauge future changes in what has come to be seen as a

New Rainforest Action Group Established

The Sydney Rainforest Action group held its inaugural meeting on 30 May. At the meeting the group decided to adopt the following aims. To ensure that:

- Australian overseas aid is environmentally acceptable
- Government and timber industry develop import



depleted and valuable resource.

Commenting on the report, the Minister for Conservation, Forests and Lands, Mrs Kirner, said it should be a warning, particularly to farmers and miners, that all of western Victoria could lose its forest cover by the year 2015.

'While some (clearing) has been necessary for agriculture and residual development, some has been ill-advised or excessive, resulting in salinity, soil erosion, marginal farm land, unattractive landscapes and pressure on flora and fauna.'

replacement plans for tropical timber imports

- Australian companies or those with Australian interests are not involved in rainforest destruction
- Timber resources in Australia and overseas are established as alternatives to the use of tropical forest timber.

As a lead up to a public meeting on 15 July the group organised a series of street theatre events which

On public land, the statistics showed that 36,000 hectares of native forest was cleared over the fifteen years, not counting timber industry harvesting or fire scars in the Mallee, both of which regrew. Mrs Kirner said an equivalent area of public land had been replanted, mainly with pines. Of the permanent Crown land cleared, a large part was around Mildura on long-term grazing leases, a reflection of the only recently changed incentives for farmers to 'improve' land by removing its tree cover.

Source: *The Age*

have focussed on the viability of using plantation timbers as an alternative to imported tropical timbers. The group hopes to use its research to provide information to the media, to lobby and resource future campaigns. They will soon be producing their first newsletter.

If you are interested please contact: Jonathon Doig (02) 217 6190 or (02) 519 6733 or Kate or Barbara (02) 300 0071

The littlest consumers

Scientists at the US Natural Resources Defense Council (NRDC) and else where found that children suffer significantly greater exposure to a number of pesticides than adults. For a child aged one to five, that could be a much as six to twelve times greater. That is because children not only eat a lot more for their body weight but also tend to eat a lot more foods containing pesticides, such as fresh produce and juices. The typical toddler, for instance, consumes ten times more apple juice and five times more apples for his body weight than the average adult woman.

High exposure to toxins early in life may carry greater costs because children are generally more vulnerable to toxins. Furthermore, early exposure to a carcinogen gives it more time to manifest itself as cancer.

Source: *Consumer Currents*

New N-Plant

President Hossain Mohammad Ershad said in Dhaka that Bangladesh would seek foreign assistance for a proposed \$US1 billion nuclear power plant.

'Attempts would be made to mobilise funds through supplier's credit, soft loan and equity participation for the proposed 320 megawatt plant at Rooppur in northern Bangladesh', he told a meeting of the plant planners. The project, about 200 km north of Dhaka, was first proposed in 1961. A West German firm Lahmeyer International is conducting a feasibility study and is expected to report by September 1988.

Source: *Australian Financial Review*

Acid Rain Damage

Acid rain has polluted more than 2.64 million hectares of Chinese farmland and is costing the nation two billion yuan (\$US560 million) in losses a year, Chinese scientists warned at a recent symposium held by the Academy of Science.

According to environmental experts, acid rain damage is particularly notable in the south-west cities of Chongqing, Sichuan Province; Guangzhou, Guangdong Province; and Guiyang, Guizhou Province.

The acidity of the soil in these areas is increasing and causing serious crop failures, the experts said.

The State Environmental Protection Bureau says forests are also dying in these areas. The Bureau reported that 46 per cent of the fir trees in a 1,800 hectare forest to the south of Chongqing are dead or dying, while just 4 per cent of the trees in a 6,000 hectare pine forest in nearby Wanxian to the north are alive and healthy.

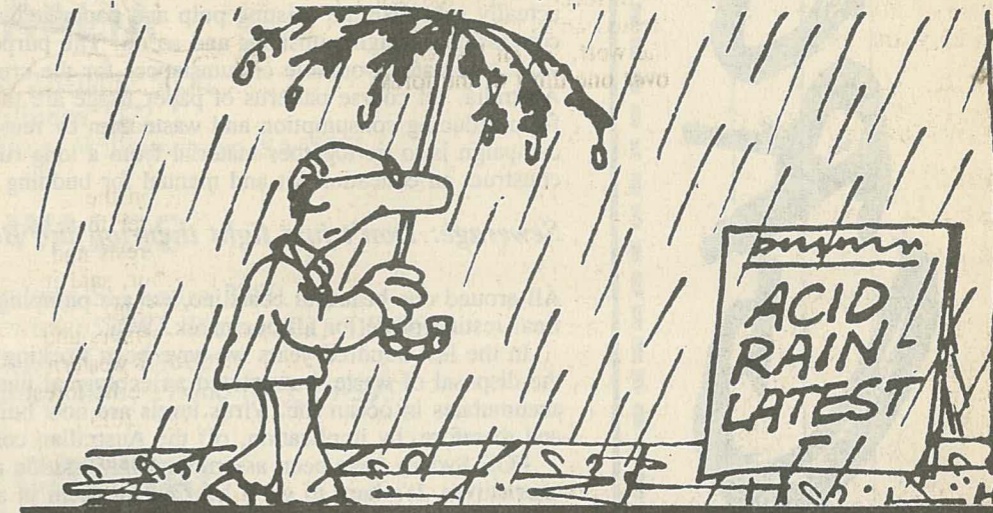
The experts blame the worsening acid rain damage on China's heavy reliance on

coal for power generation and a wide range of industrial activity.

They have appealed to the nation's environmental protection authorities to strictly regulate the emission of sulphuric oxides from power plants and factories.

They also proposed at the symposium that the Government initiate a long term nationwide acid rain observance and research project to check for further damage.

Source: *The New York Times*



Plastic Wrapping Banned

prohibited in Suffolk County, New York State. The new law will apply to restaurants, bars, delicatessens, roadside stands, grocery shops and other retail stores. Under the new legislation, these outlets will be required to wrap their goods in biodegradable products, such as paper and cardboard.

The ban, which applies to products containing polystyrene and polyvinyl chloride (PVC) is the first of its kind in the United States. Similiar legislation is under consideration by several other states and counties.

Polystyrene and PVC were selected for the ban mainly because their complex

chemical structure makes them particularly long lasting in the environment.

Source: *The Environment Digest* June 1988

Nuclear Fear

Highly toxic nuclear fuel waste will be transported by truck through densely populated areas of Sydney four times later this year. A *Sydney Morning Herald* report said that a total of 450 spent nuclear fuel rods from the Lucas Heights atomic reactor will be shipped to the USA between July and December this year.

Source: *The Herald*



As from July 1989, plastic shopping bags and plastic food containers will be

FOE GROUPS

What do paper recycling, decentralised appropriate sewage treatment and sustainable energy strategies have in common?

Correct, they are just a few of the issues that FOE Sydney are working on at present. They are also more than this. They represent solutions rather than problems and this is the key to the working philosophy of FOE. Changing the cogs involves not just opposing this power station or that forestry operation or the other chemical plant. These actions are important, most particularly when they raise public awareness, empower communities and force the costs of noxious industries to increase relative to less noxious ones. However, taken by themselves they are much like fighting a series of forest fires while the pyromaniac, in full view, blunders on ahead.

Paper Recycling: From Rip-off to Reuse

Hence paper recycling. FOE Sydney is about to complete a comprehensive analysis of the various factors working to prevent paper recycling in Australia. Why is there no significant production of fine paper using recycled pulp in Australia? Why isn't the Federal Government taking up some of the enlightened measures that have been implemented in some states in the US: paper procurement policies, preferential pricing, tax incentives? In fact, in a variety of ways, the Australian state governments actually subsidise the existing pulp and paper industry with favourable forestry concessions, freight subsidies and so on. The purpose of the FOE campaign is to work to create favourable circumstances for the creation of a paper recycling mill in Australia. Of course patterns of paper usage are the key (much more is to be gained from reducing consumption and waste than by reusing waste). The other aspect of the campaign is to tie together material from a long running campaign on packaging, and construct an education kit and manual for budding waste reducers and reusers.

Sewerage: Don't just fight them on the Beaches

All around our beautiful coastline, we are pumping our waste out to sea, the modern final resting place for all our muck. Why?

In the last hundred years we have been working to perfect an engineers solution to the disposal of waste, but created an ecological nightmare. Toxic industrial waste accumulates in ocean life. Virus levels are now building up off the United States coast and therefore, by implication, off the Australian coast.

FOE Sydney have been assembling information and campaigning on sustainable alternatives. It's hard to get a hearing for them in a capital city context, even though a four storey West Berlin apartment sports a biological composting toilet system and greywater recycling. So we have taken the campaign to coastal towns and produced a report which outlines a sustainable strategy for the NSW north coast town of Byron Bay. Again a campaign not just against a noxious practice, but also for a sustainable alternative.

Energy Strategies: Kicking the Fossil Fuel Habit

Nuclear power is a soft target now. Wall Street rejected it long ago and its future looks shaky. It is patterns of energy use themselves that are the problem — our current consumption patterns are unsustainable and unnecessary — we can and must 'live better with less'.

Recent alarm over global atmospheric changes resulting from industrial growth have put energy issues firmly and hopefully permanently back on the agenda. The Greenhouse '88 conference to be held in each capital city in early November must address the issues of energy use, industrial growth and sustainability. To facilitate this FOE will publish an expanded version of the proceedings of the Energy Strategies Symposium held at the ANZAAS Congress in Sydney in May. This will provide an important information resource on sustainable strategies for members of the public.

Interested in more information or working on these or other issues contact us:

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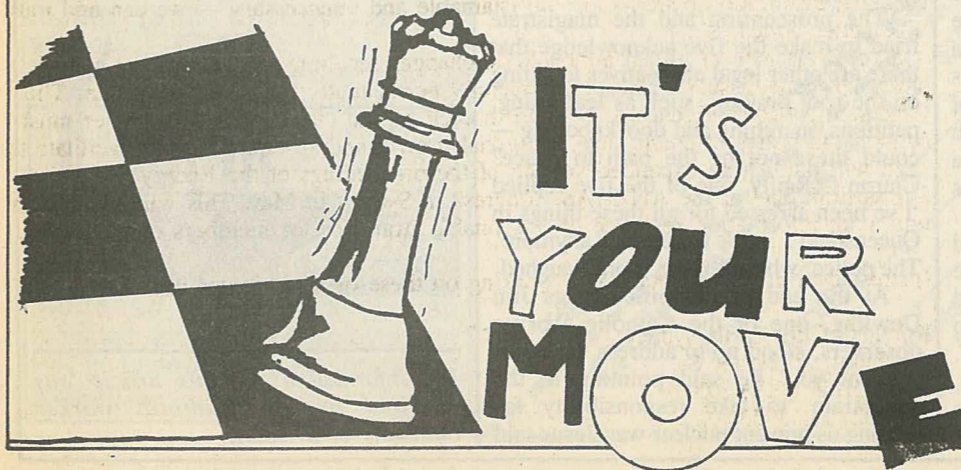
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Membership enquiries through FOE Sydney.
Sydney: PO Box 474A Sydney 2001, Phone (02) 211-3953

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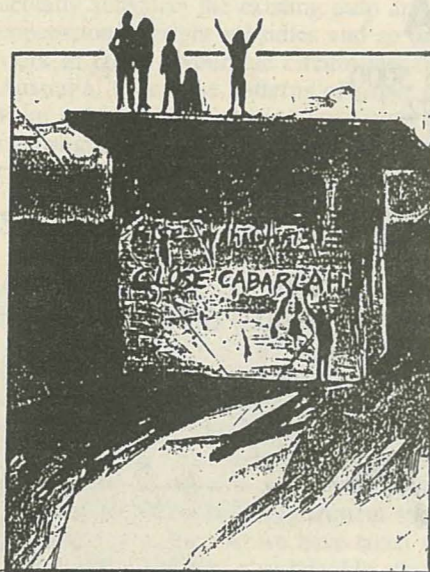
The Cabarlah five

Last Easter Sunday five members of the Catholic Worker community in Brisbane were arrested for climbing the 'Plessey Pusher' complex at the Cabarlah Army Base near Toowoomba, Queensland. The five were charged with wilful damage, trespass, and refusal to leave Commonwealth property. On 2 June they went to trial in the Toowoomba Magistrates court. *Chain Reaction* reports on their trial.

The five, defending themselves, decided to present evidence showing that they had acted under duress, feeling that nuclear war is a clear and imminent threat both to themselves and to the planet, and that their belief in the necessity of resisting this holocaust, based on their Christian convictions, forced them to take dramatic action.

Accordingly, they subpoenaed the commander of the Base to give evidence as to the role of Cabarlah in fighting a nuclear war, a psychologist to discuss 'nuclear numbness' and the necessity of taking action to break the silence which surrounds these installations, and a theologian to show how peacemaking is an essential part of Christianity.

These witnesses were deemed 'irrelevant' and were denied. The prosecution and the magistrate claimed that the base Commander could refuse to appear on the basis of 'national security'. A claim, the defendants pointed out, which affirms that the military is above the law.



The prosecution maintained that the five had no personal knowledge of what went on in that little grey shack at Cabarlah but, however, gave them no opportunity to demonstrate their knowledge.

The prosecution and the magistrate tried to make the five acknowledge that there are other legal alternatives to sitting on the roof praying, such as leafletting, petitions, marching and doorknocking — could these not be the path to peace? Ciaron O'Reilly, one of the five replied 'I've been arrested for all these things in Queensland . . . it's not enough anymore'. The police, who filled the room, laughed.

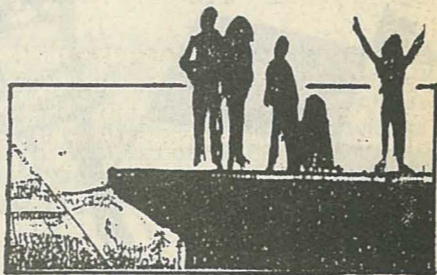
At the end of the proceedings Jim Dowling, one of the Catholic Worker observers, stood up to address the court 'I want you' he said pointing to the magistrate 'to take responsibility for helping us prevent nuclear war. Jesus said

. . . The magistrate cut him off, as he had done constantly through the trial, 'I take responsibility for nothing . . . I don't care what Jesus said . . .' and declared the day over. Guilty as charged.

Ann Rampa, Ciaron O'Reilly and Jim Dowling are now in Boggo Road Goal serving thirty-eight, twenty-six and two and a half month sentences respectively. Jenny Upton and Paula Hackney will serve twenty-one and eleven days in default of bonds.

Ciaron writes from the maximum security wing of the jail, 'It is not enough for politicians, prosecutors and ourselves to shout, "fire fire, I'm opposed", we must begin to move towards the exit, to follow the lead of brothers and sisters in the United States who are non-violently disarming weapons, of draft resisters in Poland and Hungary, and all of those imprisoned for speaking truth to power'.

You can write to the Cabarlah five:
C/- HM Prison
Boggo Rd
Brisbane 4000 QLD.



The information for this article was supplied by the Catholic Worker Community in Brisbane.

The Role of Cabarlah in Nuclear War Fighting Plans

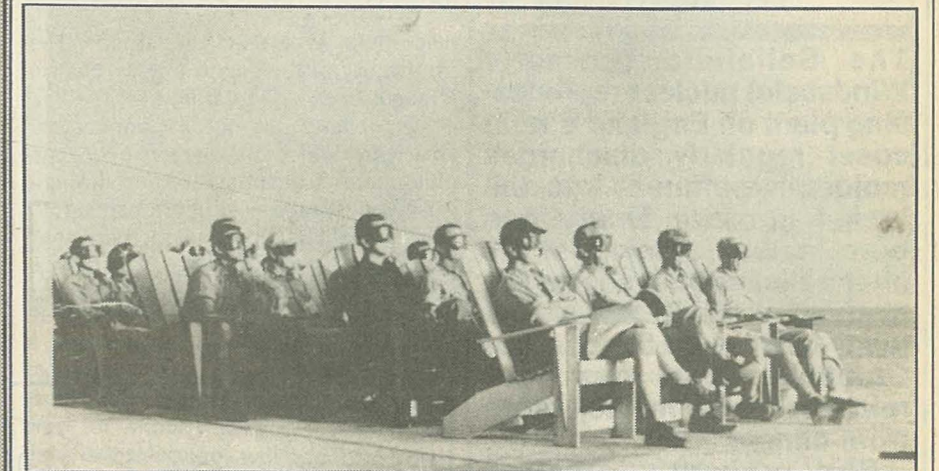
The ocean surveillance system of the United States can locate, identify and track all Soviet ships and submarines. Part of this is done by the signals intelligence (SIGINT) system which uses coastal spy stations to monitor high frequency radio signals transmitted by Soviet vessels. SIGINT operations have been carried out at the Australian Army base at Cabarlah since 1947. In 1978 a Plessey Pusher CDAA (circularly disposed antenna array) was installed to monitor transmissions throughout the South-West Pacific.

Information picked up at Cabarlah is sent to Victoria Barracks in Melbourne. Victoria Barracks is the Headquarters of the Defence Signals Directorate and also houses about ten officers from the United States National Security Agency (NSA) who oversee the Australian naval intelligence operations. Data received from Cabarlah is compared with that from other stations — Pearce (WA), Shoal Bay (NT) and Tangimoana New Zealand — and then sent to the Naval intelligence centre in the United States using the satellite ground station at Watsonia, Victoria.

All of this information is cross-referenced with data from satellites, underwater sensors and other sources and used to programme cruise missiles to locate (and destroy) Soviet vessels.

This precise targeting is essential to the US nuclear war fighting strategy of 'counterforce' with its implicit capability of first strike. In recent years the US Navy has adopted the strategy of forward deployment, particularly in the Pacific where 464 sea-launched Tomahawk cruise missiles are to be deployed on Pacific based US submarines and warships.

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Keep off the beach

The Sellafield (formerly Windscale) nuclear reprocessing plant on England's west coast regularly discharges radioactive effluent into the Irish Sea. Jean Emery was born in 1957, a few months after a disastrous reactor fire at the Sellafield plant. Like many families on the coast of Cumbria Jean has lost relatives early in life, often from cancer.

She recently visited Australia to tell people of the experience of Cumbrians living in an environment made radioactive by the Sellafield plant. Australia is linked to the plant through the reprocessing of its uranium after it has fuelled European reactors. Jean explained during her stay that 'What we're trying to do and why we come to places like Australia is to say "don't go down the nuclear path".'

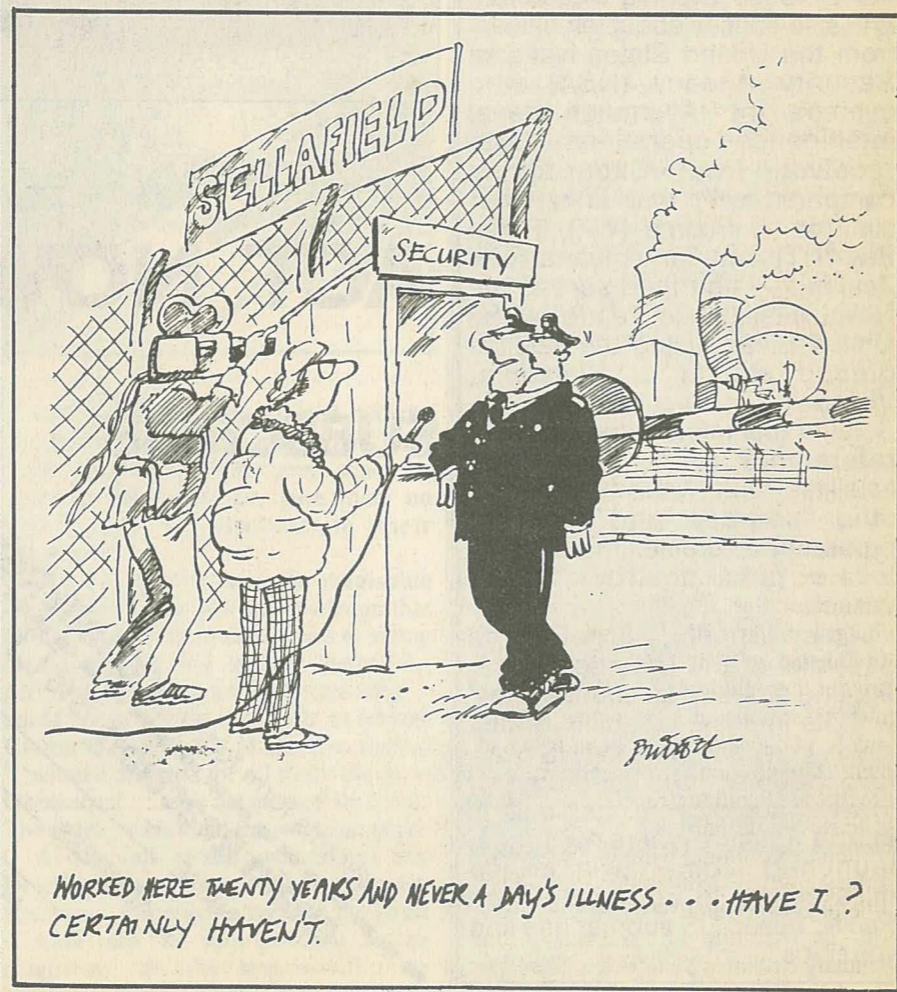
The following comes from an interview with Jean Emery by Peter Hunt broadcast on the ABC Earthworms programme.

The village of Seascale has ten times the national average for child leukaemia. When the village next door to the plant shows cancers and leukaemias it doesn't take an Einstein to make a connection. Around the Dounreay reprocessing plant for fast breeder reactor fuel in North Scotland they have also found an excess of child leukaemia of the same order of

magnitude as around Sellafield. The probability of this happening by chance is about one in five million.

The plants put out plutonium and americium which is even more toxic than plutonium. Contamination is through various pathways — children playing on beaches, inhalation of radioactivity and, certainly along the west coast where Sellafield is located, there is household contamination.

Believe it or not both Sellafield and Dounreay plants deliberately discharge radioactive effluent as part of their day to day procedure. They are 'authorised' to discharge to a 'safe' limit. The effluent carries freely accessible plutonium, cesium-137 and about forty other different radioactive isotopes, all discharged at phenomenal levels. Plutonium-241 had no authorised discharge limit yet it decays into americium-241.



Bill Stott

You simply don't lie on the beach anymore. You know it's something we have our own black humor about. I live on a peninsula. I used to love fish and other seafood but I just don't eat it anymore. The irony is that another thing I did love was British lamb. Here we are in England two years after Chernobyl and we still cannot kill lamb to eat because of radioactivity from a reactor accident 1,800 kilometres away. It's an extraordinary situation.

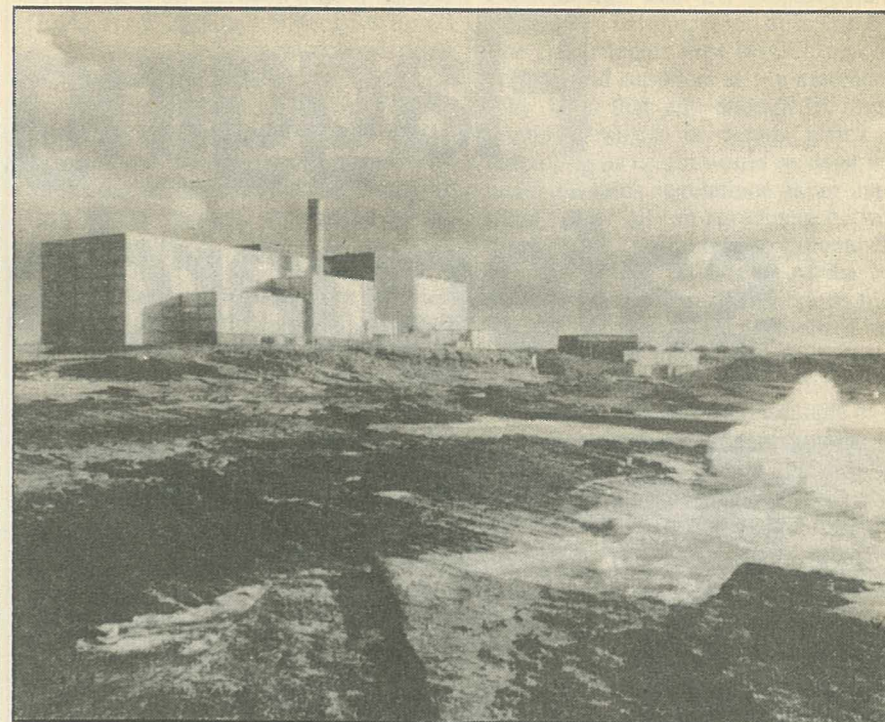
Along the Cumbrian beaches are the worst spots. It is up to 28,000 times the weapons fallout of the 1950s. They have poured half a ton of plutonium into the Irish Sea. Compare that with Maralinga where they dumped 20 kilograms of it.

You can have first rate science from places like Oxford and Cambridge but if you have third or fourth rate attitudes to health and safety, according to how they treat a local population, then these things will happen. Just because these people come from a highly advanced technological culture, it does not say what their attitudes to health and safety are.

We have a man called John Dunster who sits on the International Commission for Radiological Protection (ICRP). That body oversees radiation standards worldwide. He was the man who actually started the Sellafield discharges and he deliberately increased them in 1956. He admitted they had been deliberately increased as part of a scientific experiment. The Sellafield plant is the most cowboy operation in the nuclear world. So the man who is at the head of health and safety is also preaching to the world about radiation issues. It is so incestuous and such a compromising situation that we would like to see it stopped.

These people are telling you everything is hunky-dory in other countries. Radiation health and safety standards, whether you are having an X-ray or are in industrial radiography or uranium mining, are all set by the ICRP which, I might add, is a non-elective, non-delegative body and has no legal status in the whole world. If a bunch of environmentalists or anti-nuclear people were to do the same, would you listen as much? Probably not, because they do not have the same military or industrial back up these people have.

There is a contract with Roxby Downs for the supply of 3,000 tonnes of uranium to the electricity body in England. That will go through the reactors and eventually end up at Sellafield. There has already been a shortfall of plutonium and



it hasn't been lost through accounting procedures. Australians should know that Australian uranium could end up being used for military purposes. And if you think that safeguards will be effective then remember that Euratom inspectors, who are meant to look after Australian interests in Europe, have no access to the Sellafield reprocessing line because it is a joint military and civil complex.

Once the uranium gets to Britain can anyone say hand on heart where it's going. Britain has been involved in a lot of subterfuge in the nuclear industry. The British nuclear industry has been taken to the International Court of Justice with its European partners in Urenco because they have been illegally importing Namibian uranium. One of the tricks they use is to move it around in furniture vans. No-one knows what is going on.

Now do you expect these people to suddenly become honourable and open and honest with Euratom inspectors just because it's Australian uranium, because of the British connection?

Although the detailed epidemiological studies are still underway there is good evidence of premature deaths of workers at Sellafield from heart disease and cancer. The thing that really improved health and safety was the work of the anti-nuclear movement because I think that we have really got across the message of the true dangers of radiation.

I have lived with nuclear workers all my life. I was married to one, my father worked at Sellafield, my cousins worked

there. So I see it all from a personal angle, you see how people perceive things. At the beginning people thought they were just affecting themselves, now they realise the environmental and long term effects. A lot of people do find it a frightening place.

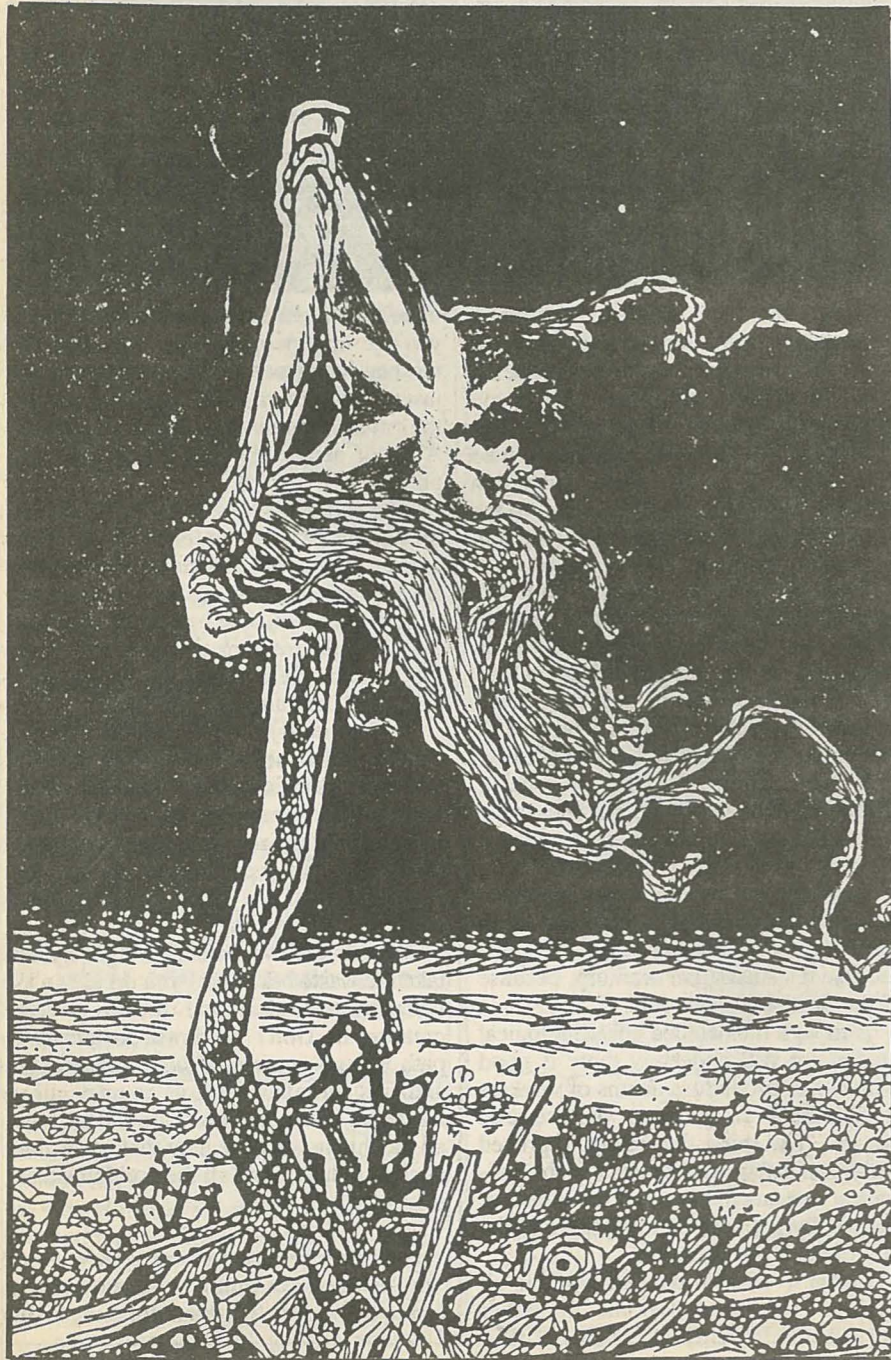
The economic and social implications for people who do demonstrate or make noises makes it difficult. The wider British public show a huge amount of concern about it. Just before the election the Government backed down over very low level nuclear waste for which they had four sites already allocated.

Unfortunately there is nothing that we can do about the Sellafield area now. It will be contaminated for thousands and thousands of years. Plutonium has a half life of 24,000 years. What we are trying to do and why we come to places like Australia is to say don't go down that path.

We say that everywhere we go. Don't take the waste because if you do they use you as an excuse and they'll go on creating it. Don't go down the nuclear path it's not economic. It's unnecessary and it's unsafe. And a country like Australia is the last place on earth with all the things you have here that needs the nuclear industry and all the problems that it brings.

This article was initially transcribed by Les Dalton for the Movement Against Uranium Mining Victoria newsletter.

Flagging safeguards



Australian uranium safeguards do not allow for Australian uranium to be used for non-peaceful means. The nuclear community however have found a way to get around this 'problem'. John Hallam offers some insight into the creative accounting that allows Australian uranium to end up where the nuclear industry want it.

Now that Australia is exporting around four thousand tonnes of uranium a year worth about \$350 million and looks likely to export another two thousand tonnes per year from Olympic Dam (if BP and WMC can get the contracts), there is growing concern about where our uranium is going. Queensland mines have been allowed to sell to France in defiance of existing ALP policy, and there were moves to change ALP policy at the Hobart conference to allow increased mining.

One of the reasons that these moves failed — at least for the time being — is concern that our uranium may be finding its way into weapons and that the spirit of Australian safeguards is being eroded by the practice of 'Flag Swapping' between uranium sellers under the aegis of Euratom.

The concern about flag swaps really arose in February 1988, when a dismissed employee from NUKEM, the West German uranium brokerage and fuel-cycle firm, sent confidential documents from NUKEM to a European Green Party MP, Ms Undine Von Blotnitz and the West German magazine *Der Spiegel*. Von Blotnitz forwarded the documents to Australian Democrat Senator Norm Sanders who used them to considerable effect in the Senate sparking precisely the kind of debate the ALP right-wing had hoped to avoid in the lead-up to the Hobart conference. This article is based on those documents.

According to the industry magazine *Nuclear Fuel* from February this year:

Der Spiegel, the West German weekly newsmagazine with a taste for scandal, discovered last week what the nuclear industry has known for years: That uranium owners regularly swap origins of their material, for a variety of reasons. The magazine sees only deviousness in the swap business. In a six-page feature published 15 February 1988, entitled 'Uranium

Swindle — Atoms Don't Bear Flags', *Der Spiegel* outlines in detail a number of swap deals on the uranium market, most of them well known, and most of them concluded in 1986. . . . The magazine concludes that not only are German utilities and broker NUKEM guilty of violating 'nearly worldwide' embargoes against South African uranium, and 'tricking' the US and Canadian Governments, but also the German Government, and the Euratom Supply Agency and Safeguards Agency have been playing along with such lawlessness all along.

Swapping the origins of shipments of uranium began in earnest after the US passed the Comprehensive Anti-apartheid Act, in 1986. Amongst other things, this act forbade the import of 'South African or Namibian origin' (SANO) uranium into the US. Immediately, US utilities who owned South African material pushed to exchange that material for US origin material with European utilities that had no objection to using SANO material.

Utilities and brokers such as NUKEM could actually exchange material, or they could engage in an 'origin swap', where they simply agree to regard the place of origin of the uranium as having been swapped. Thus, South African uranium would then be carried on the books of a US importer as 'US-origin' and a shipment of uranium in the hands of, say a West German utility would mysteriously become of 'South African' origin, all without the movement of any actual material.

Euratom seems to be vigorously promoting the whole business of swaps to the governments of the US, Canada and Australia. According to leaked minutes of

a meeting of the Euratom Supply Agency (ESA) from 27 May 1986, ESA thinks Australia needs 'education' to break down its 'resistance' to the concept of flag-swaps. I am unable to see very much 'resistance' from the Australian Government but Euratom presumably thinks our enthusiasm for flag-swapping isn't hearty enough. According to the leaked minutes:

Three cases of flag-swapping had been presented to Australia, and on each occasion the Australian authorities had refused to take a decision. The concept of flag-swaps had not yet been accepted; a considerable education effort had been made by the Commission and the Supply Agency, as a result of which a policy decision by ministers was pending, and expected in the near future.

The position of the US, at least as far as origin swaps is concerned, is felt by the ESA to be ambiguous — which indeed it is. It seems that the US Department of Energy (DOE) and the Nuclear Regulatory Commission have decided to interpret the Comprehensive Anti-apartheid Act to allow the importation of uranium hexafluoride made from SANO uranium ore, but not to allow the import of the ore. So it seems that if SANO material gets converted to uranium hexafluoride in, say, France or the UK, it magically becomes material of French or British origin in the eyes of the DOE.

In addition to its liberal dispensation regarding uranium hexafluoride, the DOE has said it is willing to record changes of origin in its accounting records for uranium held in stockpiles pending enrichment. But it seems there is bit of in-fighting between agencies of the US

Government: The US Department of State takes an altogether different line. The Departments Fred McGoldrick told utilities and suppliers at a conference in May 1988 that any attempt to import uranium mined in South Africa by redefining its origin would be dealt with under customs regulations as an act of fraud. After all, an agreement between two holders of uranium to pretend that uranium mined in South Africa was mined elsewhere does strike one as fraud doesn't it? Let's look at a couple of flag-swaps outlined in the documents leaked from NUKEM.

The first deal is a good example of the mind-boggling complexity of many swaps. On 5 January 1986, NUKEM's subsidiary NULUX took delivery of 207,591 pounds of uranium ore from Energy Fuels Nuclear of the US. The fuel was stored in the US. Ownership was transferred to NUKEM.

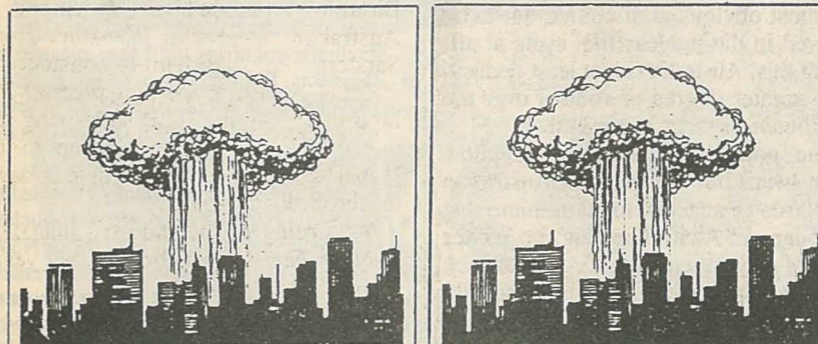
The next month NUKEM swapped the material — or rather swapped ownership of it since no uranium went anywhere — with South African supplier NUFCOR, for South African origin uranium stored in France. This meant that NUFCOR, a South African company, now had title to US uranium stored in the US, and NUKEM had SANO uranium stored in France.

On 19 February NUKEM did another swap — this time an origin swap — with uranium from Niger owned by a West German utility, Preussenelktra. The uranium magically became South African, (after all, who cared? Not Preussenelktra, who were presumably going to use it themselves) and the South African uranium from NUFCOR, which still remained in France, became Niger origin uranium — all at the stroke of a pen, or the flick of a keyboard. Isn't accountancy wonderful?

Finally the South African uranium that had so conveniently become Niger uranium, all without moving a centimetre, was sold to a Finnish utility, TVO, who are forbidden by Finnish law from using SANO material. TVO enriches all its uranium with a Soviet enricher, who is also not supposed to touch SANO material. But never mind, it was Niger uranium now. . . . So, having had its past changed by NUKEM's accountants, it was converted in France to hexafluoride and shipped to the USSR.

Another swap deal whose murky details surfaced from the NUKEM documents was one that finally resulted in Australian uranium being enriched to weapons grade material for use in the

SPOT THE DIFFERENCE



Yes - the bomb on the right did not contravene Australian safeguards!

Institut Laue-Langevin (ILL) reactor in Grenoble — in violation of Australian safeguards conditions. The problem is that, according to NUKEM, by the time this happened, the uranium was no longer of Australian origin but from the US!

This deal involved a number of complicated steps. At the start NUKEM made a deal with ILL to supply 25 kg of highly enriched uranium. It then looked for uranium to sell to ILL. Then, NUKEM's subsidiary NULUX gave NUKEM 2,900 kg of US-origin 'scraps' of uranyl nitrate which seems to have come from the de-fabricated fuel of an abandoned reactor in Austria. Uranyl nitrate cannot be enriched without first being converted to uranium hexafluoride, a time consuming, inconvenient and expensive process. These scraps were then swapped with a cylinder of 1289 kg of Australia origin hexafluoride from a West German utility, RWE, also linked to NUKEM.

The enrichment of the Australian hexafluoride beyond 20 per cent, as was envisaged, would have required Australian permission; permission that NUKEM wasn't sure would be forthcoming.

The solution, swap the origins! Accordingly, NUKEM and the West German RWE utility swapped the nationality labels and the safeguards on the two lots of uranium, so the Australia uranium now bore a US flag and US safeguards. The eminently enrichable 'US-origin' was now dispatched to be taken to ILL, something the Australia safeguards would not normally permit.

The response of the Australian Government to all these revelations has been underwhelming, to put it mildly. Faced with the details of the ILL swap-deal in Parliament, the Minister for Resources, Senator Cook, tried to say that Senator Sanders had based his allegations on allegations in *Der Spiegel*, although the Government had received copies of the NUKEM documents from Sanders. Cook told Parliament:

As far as has been reported to me, there is no contravention of Australian safeguards arrangements. Where material is exchanged, the Australia flag is transferred to the new material, and it becomes the responsibility of the Australia Safeguards Office to track the material to ensure that it is retained in the peaceful use cycle. Nuclear material held under Australian safeguards agreement cannot be enriched to more than twenty per cent without Australia's formal approval. This was not sought in the Grenoble case, as Australia

was not responsible for the uranium enriched at that research facility.

It is clear from all this that the spirit of Australian safeguards has definitely been broken. The bottom-line is that, had NUKEM not been able to re-label Australian uranium as US uranium, it would have been unable to supply 25 kg of weapons grade material to ILL.

Still, the NUKEM/RWE swap was probably within the letter of the Australia/Euratom safeguards agreement, though maybe only just. Thus, according to Senator Cook, in his Ministerial statement of 20 April;

The Australia/Euratom agreement permits safeguards obligations to be exchanged between one quantity of nuclear material and another subject to the following conditions: The two quantities involved must be equivalent, there must be operational reasons for the exchange, both quantities must be located within Euratom's jurisdiction — that is, within the European community — and the exchange must not result in reducing the quality of the material subject to Australian safeguards.

It is indubitable that our flag and safeguards were placed on uranium that, as uranyl nitrate, was in a less useful form. The upshot of all this is that *either* our safeguards have, in fact, been breached by the substitution *or* they are so weak as to be worthless. The government is *technically* correct in saying that 'there is no evidence that any material subject to Australia's bilateral safeguards agreements has been diverted from peaceful use'. But this is not much help if the flag swapping *removes* material from Australian safeguards anyway and substitutes less useful material.

There are in fact a number of possible technical fixes to this problem. All involve re-negotiating the Australia/Euratom safeguards agreement. The most obvious is of course not to be involved in the nuclear fuel cycle at all. Failing this, Australia can at least demand some greater degree of control over the swap business than at present.

One possibility would be to allow origin swaps but to insist that Australian safeguards be attached to all uranium that *ever* bears an Australian flag, no matter what its subsequent flags. Another tack would be to permit ownership swaps only and to refuse origin or safeguards swaps outright. A third is to allow swaps only between identical batches of uranium bearing identical safeguards obligations.

The disturbing aspect is that the Australian Government has not shown the slightest interest in tightening up the

system. Rather, it has sought to defend it as it stands, although it allows Australian uranium to end up in some pretty dubious places.

One way of tackling not only the problems presented by the swaps, but a host of other safeguards problems was spelled out in Senator Norm Sanders Nuclear Non-Proliferation (Exports) Bill 1988. This would ban outright uranium exports to any country that:

- Is not a Nuclear Non-Proliferation Treaty signatory, (eg France)
- Does not have a bilateral safeguards agreement with Australia,
- Does not accept safeguards on *all* its nuclear installations, (eg USA, USSR, France, UK)
- Is planning to build, or continuing to build, nuclear weapons, (eg USA, USSR, France, UK)
- Plans to produce, or is producing, uranium enriched to 20 per cent or more, or plutonium, (eg US, USSR, France, UK, Japan, West Germany)
- Has another country's nuclear weapons on its soil, (many countries)
- Hasn't specifically agreed not to involve Australian uranium in flag swaps.

This would not completely prevent the export of Australian uranium. However, according to Sanders, 'It would ban uranium sales to most of Australia's current customers, with exception of Finland and maybe Sweden'.

As Sanders points out, this would cause the uranium supply to shrink, as Australia is sitting on 30 per cent of the world's low-cost uranium — so our leverage is considerable. In Norm Sanders own words:

This bill would give Australia significant leverage with which to prevent the spread of nuclear weapons. This leverage would not be immediate. Australia would have to forego revenue from uranium sales to excluded countries until they cleaned up their acts. But, if the goal of safeguards is preventing the spread of nuclear weapons as the Government says it is, then this bill is an essential measure.

Sanders bill has been formally endorsed by a number of environmental and anti-nuclear groups including FOE and MAUM in NSW. You can help put pressure on the Government by writing to the Minister for Primary Industry, Mr Kerin, and the Minister for Resources, Senator Cook, urging that it be passed.

John Hallam, alias John Hallum, is a researcher with FOE Sydney and a regular contributor to Chain Reaction.

Australian Uranium: The Boomerang Brand



FRIENDS OF THE EARTH

The issues of Australia's role in the mining, milling and export of uranium remain among the greatest environmental concerns in this country.

Uranium is a hard white metal that has been found in great quantities in Australia usually in the form of uranium oxide — yellowcake. It is sought because its physical property of absorbing neutrons and splitting its nucleus releases an amount of energy. This energy is used to build the awesome power of nuclear weapons or as heat which is converted to power.

The arguments against uranium are overwhelming — on the grounds of economy, morality and safety. Yet good arguments have not been enough to stop Australia heading down the nuclear path. Uranium in Australia is currently mined at three locations, with many other exploration sites, the future of these sites is unclear.

There have even been suggestions from some politicians that Australia should undertake uranium enrichment and nuclear power generation, and build nuclear powered submarines. There has been no mention of Australia needing to build nuclear weapons, although there have been newspaper discussions of the country's capabilities should the need arise.

It is claimed that Australian uranium is only used for peaceful purposes. But recent revelations of 'flag-swapping' demonstrate that the addition of Australian uranium to the world supply enables other uranium to be diverted to nuclear weapons. Some of the metal mined in Australia may actually be going into nuclear weapons.

Nuclear power generation of electricity has not been the savior once predicted. Australian uranium may not have been used in the reactors of Chernobyl, Three Mile Island or Sellafield, but how long will it be before we fuel another catastrophe? Will we feel the stealthy statistics of cancers and birth defects?

This supplement gives an overview of the situation at each of the existing three sites of mining activity and the major sites of exploration in Australia. It is intended to be a source of useful information for all people involved in debating the issues of uranium mining.

ALP U-TURNS

The intensive anti-nuclear campaigns in the 1970s led the Australian Labor Party to completely change its uranium policy from one of support, in 1973, to one of total opposition to the mining, milling and export of uranium in 1978.

However, with two uranium mines producing and exporting despite some trade union opposition, the ALP in 1982 developed a 'no new mines policy'. It provided for the continuation of Ranger Uranium Mine and Nabarlek in the Northern Territory, and the commencement of Roxby Downs in South Australia.

Despite the existence of two additional uranium deposits in Kakadu National Park, a World Heritage area, only Ranger would be permitted to operate. The export of uranium to France would be banned, while it continued nuclear testing in the Pacific.

Roxby was a political trade-off to benefit the Labor Party in South Australia which was to face a State election that year. It subsequently won office and in March 1983, a Federal ALP Government was elected. Some political commentators believed that the new ALP uranium policy was a practical compromise.

In 1986, the Australian Mining Industry Council (AMIC) mounted a major campaign to gain access to National Parks, Aboriginal land and conservation areas. With Federal and State elections due within 18 months, AMIC timed their action to extract the maximum political benefit, using Kakadu as the prime target.

AMIC lodged full page national newspaper and TV advertisements denouncing Aboriginal land rights and invited readers to apply for a free series of glossy well-produced maps and brochures which advocated the mining argument.

A Federal Parliament Senate Standing Committee commenced an investigation in March 1986 on the *Potential of Kakadu National Park Region* with particular reference to:

- (i) the nature of the resources available for exploitation and
- (ii) the impact of utilisation of these resources, particularly mining and tourism.

By September 1986, before the Senate Committee reported its findings, the Federal Government bowed to the mining industry by reserving for mining exploration 35 per cent of a proposed addition to Kakadu. The fact that BHP had a 45 per cent interest in a potentially valuable platinum and gold mineral deposit at Coronation Hill within the reserved area strongly influenced the Government's decision. Uranium may be present in the orebody, however BHP is not unequivocal on this.

The Labor Government, in August 1986, also granted approval to export uranium to France in a budgetary move aimed at increasing foreign exchange earnings. The decision reeked of business opportunism and many ALP members resigned from the party in disgust.

Media publicity surrounding a heavily biased public opinion poll conducted by AMIC in November 1986 gave the impression that a majority of Australians supported exploitation of Kakadu. In a series of legal manoeuvres in December, through Peko Wallsend, AMIC frustrated the World Heritage listing of the proposed Kakadu addition, effectively delaying declaration for at least two years.

In March 1987, the Government denied a request by Ranger Uranium Mines to release contaminated excess water held on the mine site into Kakadu. The decision was widely regarded as an attempt to maintain the conservationist vote in an election year.

The July 1987 Federal election immobilised the Kakadu Senate Committee, and its report is unlikely to be published.

A second national park with Aboriginal custodians, in Western Australia, shaped up as a major issue following publicity in 1987. CRA and Western Mining Corporation are exploring for uranium and base metals around and within the

boundaries of Rudall River National Park, situated about 500 kilometres south east of Port Hedland.

The WA Chamber of Mines and AMIC jointly pursued an extensive advertising campaign in Western Australia throughout 1986-7 which, the Federal Government claimed, effectively prevented a National land rights policy for Aboriginal Australians.

In January 1988, the ALP approved a new uranium sales contract between Ranger Uranium Mines and Electricite de France, and permitted a subsidiary of Cogema France to buy 1.25 per cent of Ranger. Cogema prepares nuclear material for French nuclear weapons.

While there has been a downwards revision of France's uranium requirements, a further indication of a weakening nuclear industry, the Labor Government plans to eventually capture sales of around 2,000 tonnes annually to France. This issue is hotly contested within the Labor Party and pressure from anti-nuclear campaigners against French tests in the Pacific is a key link in the argument to prevent any further deals with France.

The ALP National Conference in June 1988 faced much pressure on its uranium policy and decided to ask the ALP

National Executive to establish a review process. This review was considered urgent at the time and it was agreed that changes to the policy may be decided by a postal ballot of the delegates.

However the tide is turning in public opinion and the nuclear industry remains unhealthy. A newspaper poll conducted one week after the Conference found that a clear majority of Australians opposed increasing the number of uranium mines, the increased export of uranium, establishing a uranium enrichment plant and storage of nuclear waste in this country. (*Australian*, 16 June 1988)

The market for uranium is declining with nuclear power utilities going bankrupt in the United States, the recent reduction in projected French demand; and one of the worlds largest uranium mines at Roxby Downs going into production with contracts for only half its output.

The memories of Three Mile Island and Chernobyl give the superpowers another common link, and all the world shares nuclear power's potential for danger. There is even talk of reducing nuclear weapons stocks. Uranium prices are dropping, yet there are some people in Australia intent on opening more mines and selling more uranium.



AUSTRALIA'S URANIUM

Australia has an estimated 30 per cent of the West's total uranium reserves and is sixth in a list of producers after Canada, the USA, South Africa, Niger and Namibia

Over fifty locations of uranium deposits in Australia have been publicly gazetted and there are three mines in commercial production.

Uranium was first discovered in 1906 at Radium Hill, South Australia. A second deposit was found in 1910 at Mt Painter. Both were mined before World War Two for their radium. Radium Hill was reopened and, along with Rum Jungle in the Northern Territory, supplied the uranium to fuel the American and British nuclear bomb projects after World War Two and until the early sixties. A plant at Port Pirie refined the ore from Radium Hill leaving to this day radioactive tailings out in the open.

Another early mine, Mary Kathleen, opened in 1958 and closed in 1963 due to a depressed market. It was reopened in 1974 and finally closed in 1982. Yellowcake from the mine continued to be exported to the US and Japan in 1984.

Between the late 1960s and mid 1970s discoveries were made in Australia of some very large deposits. Included in these were the three large deposits of Jabiluka, Ranger and Koongarra and the rich, although small deposit of Nabarlek, within an area known as the Alligator Rivers Region in what is now Kakadu National Park. Discoveries were also made in Western Australia, in particular a large one at Yeelirrie. In 1975, possibly the largest known deposit in the world was found at Roxby Downs in South Australia. a similarly large deposit of uranium exists in the Maureen area of north east Queensland, but not with other minerals sufficiently to consider mining yet.

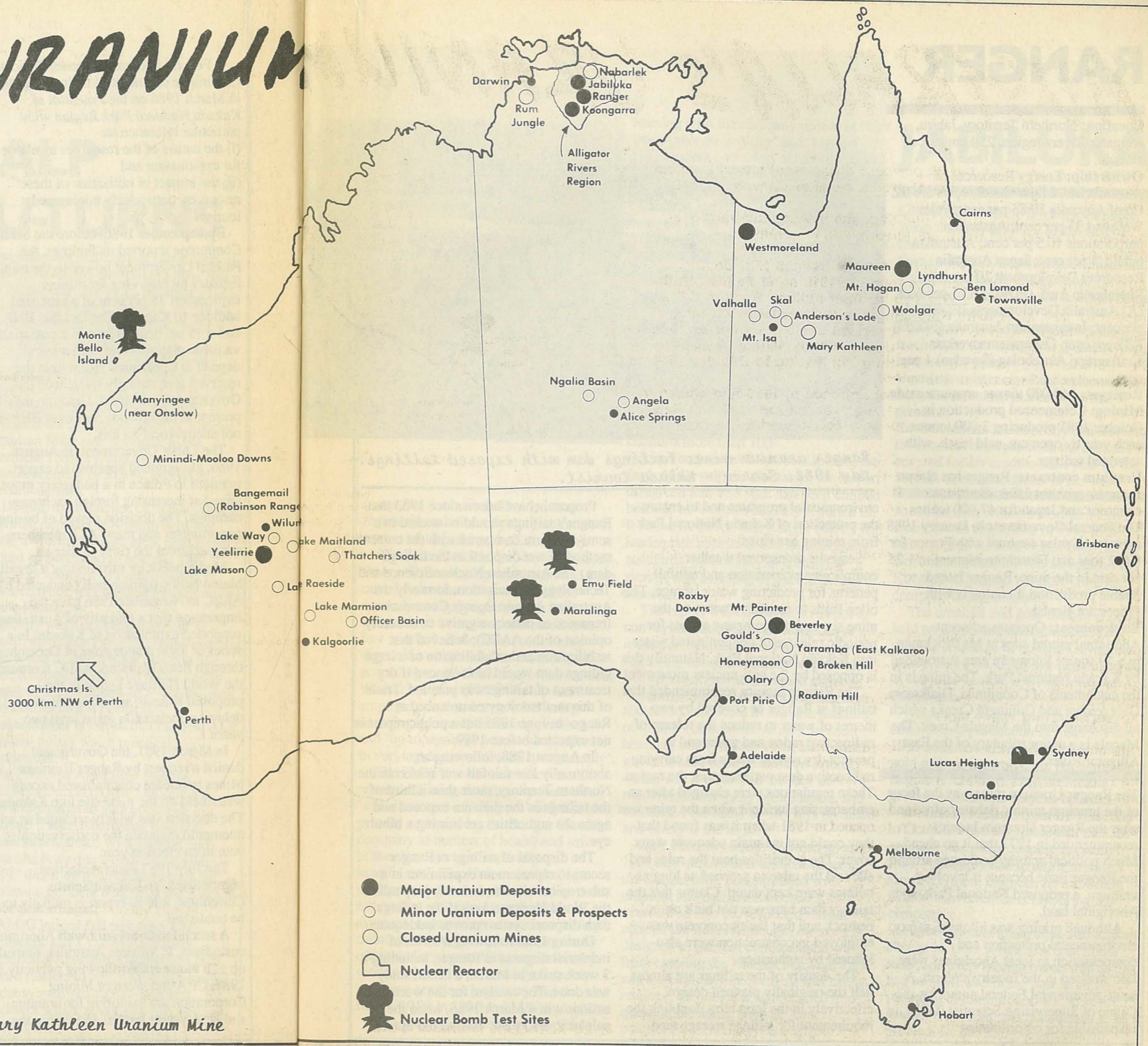
A number of other, smaller deposits have also been discovered and proposed as mines but rejected on environmental grounds. These include Ben Lomond, West of Townsville which threatened contamination of water supplies and Beverley, east of Mt Painter in South Australia where the leaching process would have polluted the underground water table.

This map shows some of Australia's uranium deposits and all existing and closed mines. Also included are nuclear test sites and the Lucas Heights nuclear reactor — places where Australian uranium has been used.

Further details of major deposits are in the following pages.
Map compiled by Salvatore Rotin for Pax Christi Australia.



Mary Kathleen Uranium Mine



RANGER

Location: Northern Territory, Jabiru, Alligator Rivers region, 250 km east of Darwin.

Ownership: Energy Resources of Australia Ltd. Major shareholders are EZ Co of Australia 30.85 per cent; Peko Wallsend 33 per cent; Australian corporations 10.5 per cent; Australian public .5 per cent; Japan Australia Resources Development 10 per cent; Rheinbraun Aust. (FDRG) 6.25 per cent; UG Australia Developments (FDRG) 4 per cent; Interuranium Australia (FDRG) 3.75 per cent; Oskarshamnsverkets Kraftsgrupp Aktiebolag (Sweden) 1 per cent.

Reserves: 140,000 tonnes uranium oxide.

Mining: Commenced production in October 1981 producing 3,000 tonnes each year by open cut, acid leach, with saturated tailings.

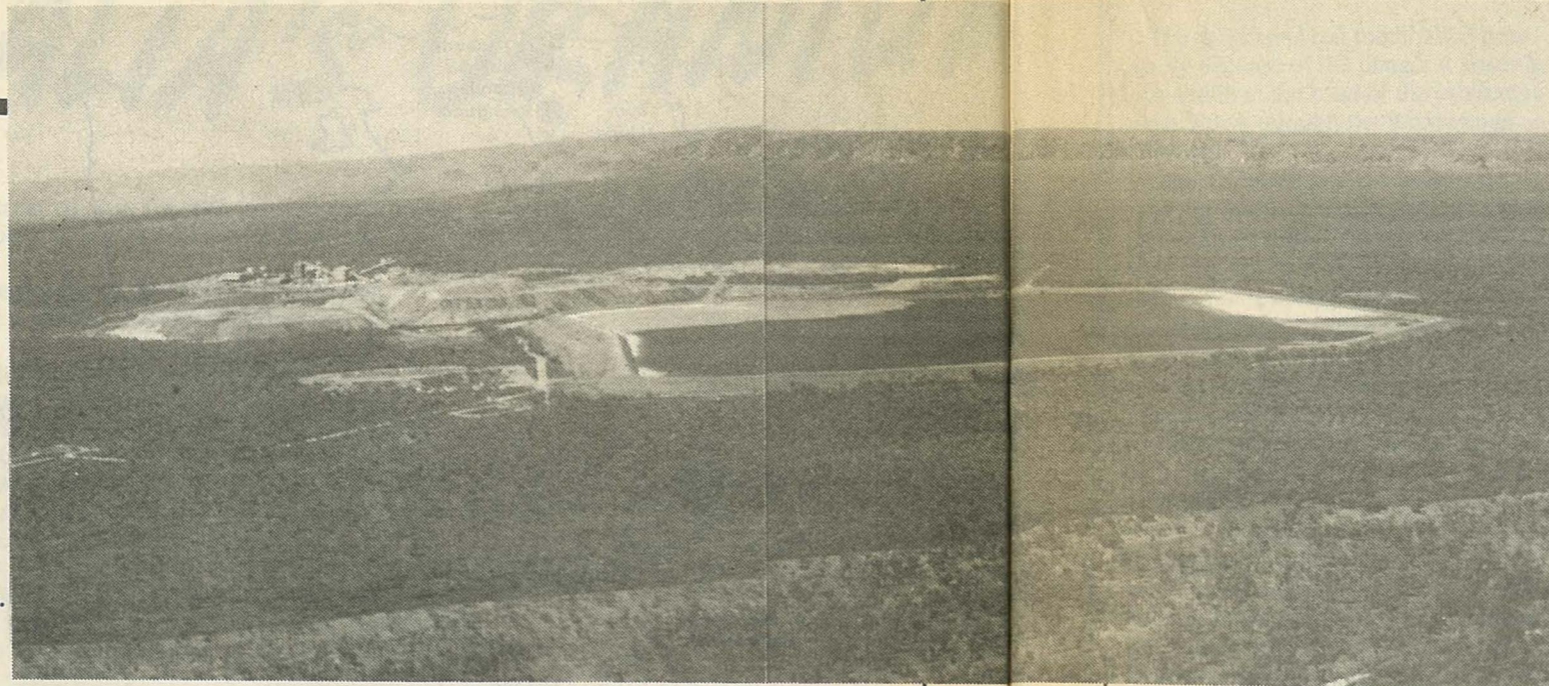
Uranium contracts: Ranger has eleven contracts with the USA, European countries and Japan for 47,400 tonnes.

The Federal Government in January 1988 approved a sales contract with France for 3,662 tons and French investment to 1.25 per cent in the mine. Ranger intends to double production if contracts with France are signed.

Environment: Operates adjacent Aboriginal sacred sites at Mt Brockman in a 79 square kilometre area surrounded by Kakadu National Park. The mine is in the catchments of Coonjimba, Djalkmara, Georgetown and Gulungul Creeks which all discharge into the Magela Creek. The Magela is a major tributary of the East Alligator River.

The Ranger Uranium mine was the focus of the uranium mining debate before and after the Ranger Uranium Inquiry recommended in 1977 that it go ahead. Much political activity coalesced around the Ranger issue because it involved uranium, a proposed National Park, and Aboriginal land.

Although mining was allowed, safety, environmental protection and compensation to local Aborigines were also stressed in the Inquiry's report. A semi-government Federal authority, the Office of Supervising Scientist (OSS), is responsible for co-ordinating



Ranger uranium mine. Tailings dam with exposed tailings. May 1988. Source - Kakadu tourist.

environmental programs and to ensure the protection of Kakadu National Park from mining activities.

Seasonal monsoonal weather complicates evaporation and rainfall patterns for predicting water storage. This often leads to excessive water on the mine site and the company argues for periodic releases of contaminated water into Kakadu National Park. Naturally this is opposed by the anti-nuclear movement.

The Ranger Inquiry recommended that tailings at Ranger be covered by two metres of water to reduce the release of radioactive radon and gases and to prevent dry season winds from carrying radioactive dust particles over the region. These regulations were changed after an embarrassing incident when the mine was opened in 1981 when it was found that they could not maintain adequate water cover. The authorities bent the rules and allowed the mine to proceed as long as tailings were kept damp. Claims that the tailings dam base was not built on bedrock and that faulty concrete was employed in construction were also ignored by authorities.

The density of the tailings are almost half the originally planned design, effectively in the long term doubling the requirement for tailings storage area.

Proposals have arisen since 1983 that Ranger's tailings should be treated in a semi-dry form compared with the current method of wet disposal in the tailings dam. The Australian Nuclear Science and Technology Organisation, formerly the Australian Atomic Energy Commission, (renamed to deflect negative community opinion of the AAEC), believed that stabilisation and rehabilitation of a large tailings dam would be enhanced if dry treatment of tailings was pursued. Trials of this methodology commenced at Ranger in June 1985 but a public report is not expected before 1989.

In August 1988, following an abnormally low rainfall wet season in the Northern Territory, more than a third of the tailings in the dam are exposed and again the authorities are turning a blind eye.

The disposal of tailings at Ranger seems to represent an experiment in a sub-tropical climate and may jeopardise the World Heritage Area if the tailings dam disposal system proves inadequate.

During 1986 following a series of industrial disputes at Ranger, including a 3 week strike in March, a health study was done. The catalyst for the workers' actions was 4 March 1986, when the sulphuric acid plant was started up at a

faster rate than usual. This led to an increased emission of sulphur dioxide in excess of 10 parts per million (ppm).

The actual level is not known because Ranger's monitoring equipment had been out of order since November 1985, contrary to legal requirements. A temperature inversion, combined with low winds, had the affect of limiting dispersion of the sulphur dioxide and, according to the Federated Miscellaneous Worker's Union (FMWU), 'up to 40 employees had to leave. . .suffering watering eyes and breathing problems' and 'up to some 40 people were affected in varying degrees, several quite acutely'.

The FMWU made a detailed media release claiming that the exposure was 'well in excess of 150 ppm' and that 'the priority accorded by the Ranger Uranium company to matters of health and safety at the mine site was markedly insufficient'. The Union cited leakage problems in the acid plant, uranium mill, evacuation procedures, policies on asbestos, supervision of workers, safety training and operation of equipment by office and senior staff during strikes by workers. In addition, average monthly lost-time accident frequency had doubled from 50/100 in 1980 to 115/200 in 1984. None of these statements were in

keeping with the company profile of 'best practicable technology' and 'highest environment and safety standards', claims which are now understood to be cheap rhetoric. In the face of this concerted attack by the FMWU, and with workers on strike, Ranger sacked seven workers but finally agreed to a peace plan which included the appointment of an Inspector to conduct an occupational health and safety study on behalf of the Arbitration Commission.

Dr Ronald Rosen, who was a radiation advisor to the Ranger Uranium Environmental Inquiry during 1975-7, led a team of 10 health professionals — many employed by the National Occupational Health and Safety Commission. The 160 page report contains more than 100

recommendations. Without disputing the facts of the sulphur discharge, the Report disagreed that 150 ppm had been emitted because no workers actually reported ill. It found however, that Ranger clearly had inadequate industrial and housekeeping standards, particularly in relation to storage and handling of chemicals and uranium.

The report was contrived so as not to convey too many precise instances of industrial malpractices. For example, the following recommendation infers that workers lack essential trained skills — 'Employees in the product packing area should be instructed in the safe handling of drums' (of uranium oxide). In court hearings in December 1987, the 7 sacked workers were ordered to be re-instated which was a victory in the face of tremendous company intimidation, and vindicated the stand by workers on health and safety at the mine.

On 2 February 1988, between 20 and 100 cubic metres of treatment water in the Ranger mill, contaminated with uranium and calcium carbonates, overflowed into the restricted release zone of the mine. Although, the zone is designed to prevent contaminated water from entering the Kakadu National Park and the company claimed all was safely retained, the incident again called into question the application of 'best practicable technology' at Ranger.

JABILUKA

Location: Northern Territory, Jabiluka, 20km north of Jabiru, 270 km east of Darwin.

Ownership: Pancontinental Mining Ltd. Major shareholder is American.

Reserves: 230,000 tonnes uranium oxide and 12 tonnes gold.

Mining: Proposed underground, acid leach, saturated tailings to produce 9,000 tonnes each year.

Uranium contracts: Pancontinental has not publicly stated marketing arrangements.

Environment: The orebody extends into the Arnhem escarpment in the east and is covered for six months each year by the Magela Creek floodplain in the west.

An agreement with the Northern Land Council was negotiated in 1979 to allow mining, after internal opposition, but the Government has, for similar reasons to Koongarra, resisted pressure from the company to allow mining.

The uranium and gold deposit is being held on a care and maintenance basis pending a change in Federal Government policy, however, Getty Oil had pulled out of the joint venture in a major loss of confidence.

More than 20 new gold mines have commenced production in Australia since 1985 and there is no ALP opposition to gold mining generally, but the doubling of gold prices hardly represents any greater incentive to mine at Jabiluka.

Documents leaked from BP Australia in October 1986 suggested that the Government was under 'intense pressure' from Pancontinental to allow mining. However, there has been no indication that the Government is favouring the company.

Pancontinental underwent a structural change in 1987 which may sanction a reduction in its foreign ownership as this had been viewed in the past as an impediment to mining Jabiluka however foreign ownership has not seemed to be a problem for the Labor Government.

NABARLEK

Location: Northern Territory, within Arnhem Land Aboriginal land, 20 km north-east of Gunbalanya (Oenpelli).
Ownership: Queensland Mines Ltd (QML). Major shareholders are Pioneer Concrete 50 per cent; Ampol Ltd 50 per cent (Note that Pioneer owns 79 per cent of Ampol).

Reserves: 13,000 tonnes uranium oxide, expected to be depleted by mid-1988.

Mining: Commenced production in April 1980 producing 1,500 tonnes each year by open cut (mined entirely and stockpiled in 1979), acid leach with saturated tailings.

Uranium contracts: QML has six contracts with Japan, Finland and France for 8,120 tonnes.

Environment: Operates adjacent Aboriginal sacred site in an area within Aboriginal land. The mine is in the catchments of Buffalo and Coopers Creeks which discharge into the East Alligator River.

Nabarlek was also considered by the Ranger Inquiry and after its draft Environmental Impact Statement was released in 1978, the Coalition Government approved the project almost immediately.

The ore body which was relatively small and rich, was mined in one year and stockpiled to be processed over ten years. By mid 1988, Queensland Mines Ltd will complete milling ore which had been extracted in 1979. Plans are advanced for the decommissioning stage and rehabilitation of the mine site.

In March 1981, contaminated water escaped from a plant run-off pond at Nabarlek and entered the creek system.

Soil studies six months later indicated elevated levels of contaminants (Cu, U, Mn, Pb, Zn) at the monitoring sites downstream of the pond. Further research was regarded as necessary by the authorities but no public reports of studies have appeared.

The tailings at Nabarlek are neutralised with lime and disposed in the open cut. Until June 1985, the tailings had been maintained in a wet state but since that

time semi-dry techniques were employed.

Authorities believe that improved conditions for rehabilitation are resulting although the company still has to remove the sub-aqueous excess water which was originally deposited with early tailings.

The Northern Territory Government has lobbied Queensland Mines to continue exploration on Aboriginal land so that the \$60 million plant at Nabarlek can be utilised. Since 1981, the mine has maintained a very low profile but has sought to influence the nearby Aboriginal community at Gunbalanya (Oenpelli) to permit further mining exploration activity.

QML has applied for exploration licences in the vicinity of the region surrounding Nabarlek, but has had only partial success in convincing Aboriginal owners to permit exploration. Exploration on Aboriginal land is a key issue and it is apparent that, despite a contraction in the uranium market, some mining companies are anxious to explore for base metals and to alienate land as part of the AMIC campaign.

The Australian mining companies do not want Aboriginal land rights to be extended to the States and it bolstered their political strategy to claim that no agreements had been signed for more than five years permitting exploration rights to Aboriginal land in the Northern Territory.

However, the first major exploration agreement was signed between the Northern Land Council (NLC), representing Aboriginal landowners, and a joint venture of Uranerz Australia (Uranerz Bergau GmbH, West Germany) and Kumagai Gumi (Japan) on 1 August 1986. The agreement was for exploration of a highly prospective mineral exploration licence at Myra Falls, 60 km south-east of Gunbalanya. Uranium will possibly be located there.

The NLC argues that the agreement recognizes that foreign companies will negotiate with indigenous people on fair and equitable terms as opposed to the Australian interests which have political objectives in opposing Aboriginal land rights.

KOONGARRA

Location: Northern Territory, Koongarra, Alligator Rivers region, 20km south of Jabiru, 270km east of Darwin.

Ownership: Denison Mines Australia. Major shareholder is Denison Mines Canada.

Reserves: 15,000 tonnes uranium oxide.
Mining: Proposed open cut, acid leach with saturated tailings to produce 2,000 tonnes uranium oxide each year.

Uranium contracts: Denison have not stated their marketing arrangements, however it has been suggested that Denison Canada have virtually pre-sold uranium which it intended to be supplied by either Koongarra or a mine operated by Denison in Saskatchewan, Canada.
Environment: Although technically excised from Kakadu National Park, it lies within the Nourlangie Creek catchment which is a major tributary of the South Alligator River.

The Ranger Inquiry stated that Koongarra should not go ahead under any circumstances given its proximity to the Woolwonga birdlife area in Kakadu. It is also in the vicinity of the Nourlangie Rock and areas of important Aboriginal art.

The mine has been mothballed principally because of the danger it poses by its location at the head of the catchment which flows through the Woolwonga sanctuary.

Denison purchased the lease from Noranda (both Canadian corporate multinationals) in 1981. The uranium deposit and camp are on a care and maintenance basis pending changes in Federal Government policy. Despite a review in 1984 of ALP policy, export licence approval has been withheld from Denison. The Liberal and National Parties would allow mining in the existing Kakadu National Park. Attempts have been made to force the Government to reincorporate the area into the National Park, however this has been politically difficult.

After protracted legal argument and bitter internal disagreement between the Aboriginal owners, the Northern Land Council negotiated an agreement to mine at Koongarra in 1984. The NLC has campaigned to have the Government decision on export licences reversed to allow mining, but they have received no support from the Government.

The NLC position is somewhat contradictory, as the evidence in some of its own publications represents some of the reasons for not permitting Denison to mine ('Kakadu — A Land and People Under Pressure', *Land Rights News*, November 1986).

An Aboriginal delegation lobbied for Denison at the ALP National Conference in June 1988. Pro-nuclear ALP members argued that Denison had contracts arranged and that Aboriginal support was strong. The push was rejected by the Conference, although the uranium policy was put up for review.

Traditional owners of Koongarra criticised the delegation, who were not owners of Koongarra land, for misrepresenting the Aboriginal position. (Source: Letter sent to ALP National Secretary, Bob Hogg, following his comments that ALP members were manipulating Aborigines).

It has since been reported that Denison's 'contracts' to sell uranium may only have been letters of intent from Japanese customers or photocopies of contracts tied to Denison's Canadian mines (*Australian Financial Review*, 8 August 1988).

KARLAMILYI

Location: Western Australia, on the edge of the Great Sandy desert, about 1,200 km north east of Perth.

Ownership: Canning Resources a subsidiary of CRA.

Reserves: 35,000 tonnes.

Mining: Proposed open cut.

Uranium Contracts: unknown.

Environment: The 1.5 million hectare Rudall River National Park (Aboriginal people call it Karlamilyi) provides one of the best examples of an undisturbed desert ecosystem in Australia and perhaps the world.

The Rudall River National Park is the largest in Western Australia and second largest park in Australia. It is also land to which the Aboriginal Martujarra tribe makes traditional claim. The nearest Aboriginal communities at Punmu and Pangurr are not recognised as landowners but have attempted, since 1981, to establish viable settlements in the region. The riverine environments figure prominently in the social and cultural geography of western desert Aboriginal beliefs.

Since 1985, exploration for uranium and base metals within and around the Park by Canning Resources has been encouraged by the State Labor Government. Canning has spent almost \$20 million exploring the Park and has established camps and access roads through a northern sector of 7,400 square kilometres of the Park. Canning will spend \$10 million in 1988 on further exploration and studies for production of a 1000 tonne a year open cut mine, although the deposit lies about 700 metres inside the National Park.

CRA is looking also for other minerals in the Park, including gold and platinum, however, it stopped drilling in the Park's eastern region after protests by the Aboriginal Western Desert Land Council. Western Mining Corporation holds adjacent exploration licences and is increasingly interested in the region but has made no announcements.

There is considerable pressure in Western Australia to open up National Parks to 'resource utilisation'. A Western Australian Commission of Inquiry on land management in 1987 concluded that, with

the exception of sites of extraordinary aesthetic, ecological or cultural significance, all else should be viewed as potential development zones.

YEELIRRIE

Location: Western Australia, 700kms north east of Perth, near Kalgoorlie.

Ownership: Western Mining Corporation 90 per cent; Urangessellschaft 10 per cent.

Reserves: 47,320 tonnes uranium oxide.

Mining: Proposed open cut mining producing 2,000 tonnes a year.

Contracts: None.

Environment: A semi-arid region reliant on underground water. The area of the proposed mine already has very high radon levels.

A draft environmental impact system was prepared in 1978 and a pilot processing plant established in Kalgoorlie. However commercial arrangements between joint venturers did not materialise and the Australian Government policy has prevented further development. Infrastructure at the mine site (pilot plant and camp) is still on a care and maintenance basis by Western Mining Corporation which holds the lease for this deposit.

MANYINGEE

Location: Western Australia, 80 km south of Onslow.

Ownership: Total Mining Australia, subsidiary of Total France.

Reserves: 4,000 tonnes.

Mining: alkaline leach or in situ solution mining.

Contracts: unknown.

Environment: the mine is located in an old dry bed of the Ashburton River.

Uranium exploration started in 1973 and uranium mineralisation was discovered in 1974.

The company actively developed the mine in 1985 despite the ALP policy on uranium mining and in that year up to 24 tonnes of yellowcake was produced. Technical problems with the pilot plant forced Total to abandon development of the site as a mine in December 1986.

ROXBY DOWNS

Location: South Australia, Olympic Dam, 20 km west of Andamooka and 500 km north of Adelaide.

Ownership: Western Mining Corporation Ltd 51 per cent and BP Australia Ltd 49 per cent. Managed by Roxby Management Services.

Reserves: 1.3m tonnes uranium oxide, 32m tonnes copper, 1,200 tonnes gold.

Mining: Commenced production in August 1988, by underground mining and dry tailings. 1,900 tonnes uranium each year.

Uranium Contracts: Roxby has signed contracts with British, Swedish South Korean and Japanese utilities. However, about 50 per cent of its projected annual output remains unsold.

Environment: Roxby will become the largest industrial consumer of underground water in the world. The granting of a license to use up to 33 million litres of water daily from the Great Artesian Basin in central Australia has been hotly contested.

The Roxby Downs/Olympic Dam uranium deposit is one of the largest in the world and it has led to the largest anti-uranium activity in Australia. Two blockades held in 1983 and 1984 aimed to mobilise public opinion and put pressure on the ALP to overturn its 1982 policy which was seen to allow the mine to proceed.

The Kokotha people have continued to campaign against the mine's effects on their country. In 1983 they blockaded a road which was desecrating sites, and achieved some concessions from the company. Kokotha representative Joan Wingfield undertook an overseas speaking tour in mid 1988 to point out the activities of the miners.

North of Roxby are the Mound Springs which are pools of mineralised water surfacing from the Great Artesian Basin. These springs have played a pivotal role in the white pastoral settlement of the region and are also fundamental to the lifestyle and spiritual beliefs of the local Aboriginal tribes.

Roxby Management Services have a licence to pump 15 million litres of water a day from the Basin from the area around the springs. When the mine is fully operational a further 18 million

litres will be required. Although Roxby Management Services have an obligation to monitor the wellfields and report to the State Government, they are under no obligation to make their findings public. The Roxby Draft Environmental Impact Statement states that insufficient data are currently available to accurately assess the impact of the Roxby bores on the Mound Springs.

At least two of the springs have dried since Roxby's water extraction program commenced and this requires investigation. There is no environmental surveillance program comparable with that at Kakadu.

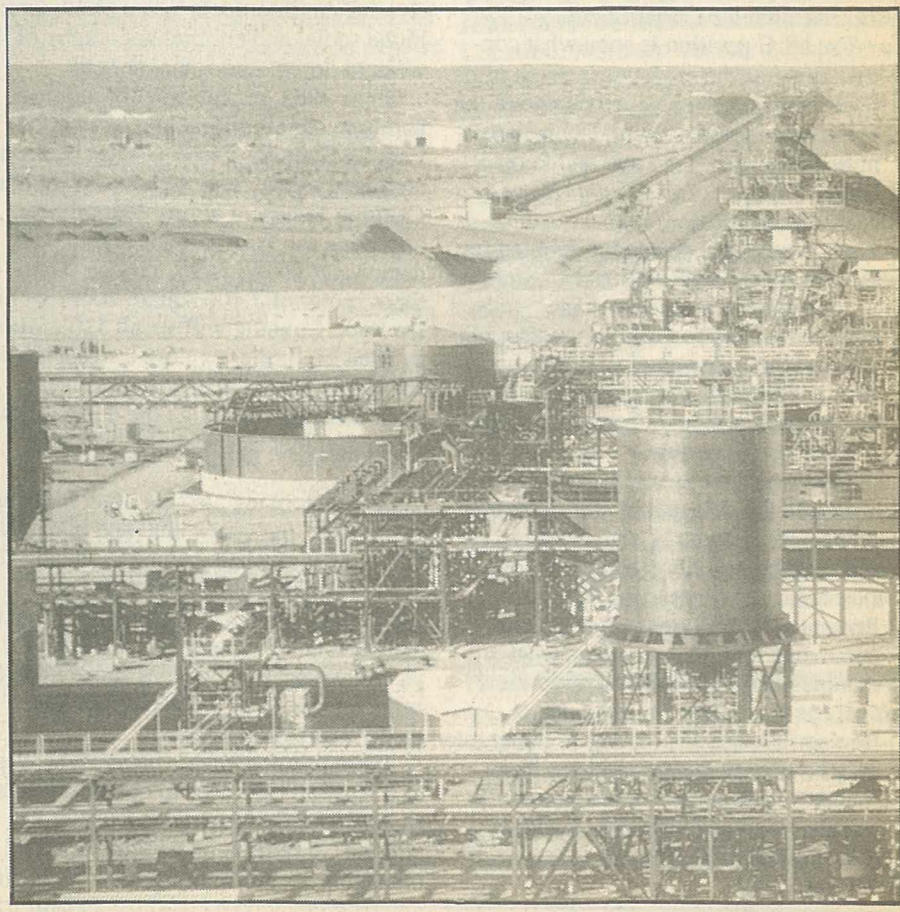
Roxby has been promoted as a bonanza for the depressed South Australian economy. Extravagant claims about jobs and royalties were in part the arguments used as justification for the turnabout in ALP policy on uranium. However from initial forecasts of creating 5,000 direct jobs (1979) it has gone to 2,430 (1982) to 380 (1988).

Unlike other mining projects, royalties

for Roxby will not be paid on each tonne of ore extracted. Instead, royalties will be paid on Roxby Management Service's profit after the ore has been sold, at 2.5 per cent for the first five years and 3.5 per cent thereafter. There is no guarantee that the state Government will receive any return of the at least \$50 million that it has put into the project.

The world trend of cancellation of orders for nuclear reactors due to spiraling costs and unresolved safety problems means that future markets for Roxby uranium are highly uncertain. Roxby wants to sign more contracts with Japan, a move which will place pressure on the uranium market in reducing uranium prices.

In 1986, leaked documents exposed preliminary discussions within Roxby aimed at circumventing Australian safeguard arrangements by selling to South Korea through an agent. Korea has refused to sign the Nuclear Non-Proliferation Treaty. However in early 1988 a contract with Korea was secured.



HONEYMOON

Location: South Australia, 75km northwest of Broken Hill.

Ownership: 49 per cent MIM Holdings Ltd; 25.5 per cent CSR, 25.5 per cent Teton Mining.

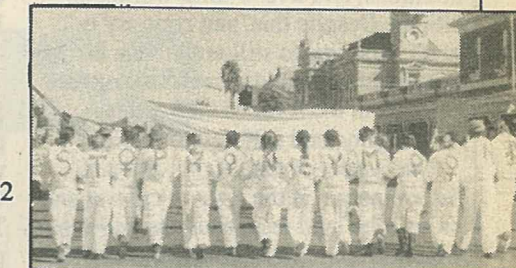
Reserves: 3,384 tonnes uranium oxide. **Mining:** Proposed solution or in-situ leaching producing 250 tonnes per year. **Uranium Contracts:** None.

Environment: Low rainfall area with sparse hardy trees and shrubs.

Honeymoon's uranium was discovered in 1972 and an in-situ mining process was proposed. This process involves the forcing of acid through the ore body to dissolve the uranium, which is then recovered by chemical processing. This technique is not a fail safe proven technology.

A Draft Environmental Impact Statement was prepared in 1980. In May 1982 a nationally co-ordinated anti-uranium action was held at the proposed mine.

The Labor Government in South Australia rejected the mines license shortly after its election in 1982.



URANIUM MARKETS

An important condition of contracts with Ranger's existing customers is now being seen as a disadvantage in the light of the Chernobyl experience. This condition is that when the price paid to Ranger exceeds the international long term market prices (as has been the case since 1983), partial offsetting credits to the customers may be negotiated for subsequent years when and if demand recovers. In the view of Ranger's Directors, it was always assumed that energy growth beyond 1990 would provide the necessary demand, and that this would logically be met by nuclear power.

Chernobyl, like the American near-meltdown experience in 1979 at Harrisburg, has sharply focused the world's attention on the shortcomings of nuclear power and represents the greatest setback for nuclear reactor sales.

In a survey of the United States uranium market conducted by the US Department of Energy, it was reported that the average price of domestic uranium delivered under contracts in 1982 was \$99.76 kg/uranium. In 1983, the figure was \$99.35 and by 1984 it had slipped to \$84.90.

However, the price paid by United States buyers for imported uranium in 1983 and 1984 was quoted as \$68 kg/uranium and \$56.84, respectively. This represents a decline in price of 20 per cent.

In February 1983, Melbourne Stockbrokers Potter Partners (who also own shares in ERA/Ranger), reported that prices for uranium between Ranger and 'non-West German and Japanese contracts were lower than anticipated'.

The spot market price fell by 48 per cent between August 1983 and May 1985 to \$39.00 kg/uranium. Importantly, the share of uranium sales traded at the lower spot price doubled between 1983 and 1984 and reached 12 per cent of total production.

Any uranium sales at the low spot market prices will reduce the quantity traded of medium-term uranium sales and have a dampening effect on the level of prices at which they are traded. Many

uranium supply contracts will be approaching renegotiation in the late 80s and early 90s. It will be very interesting observing the Australian Government's role in setting a new, and almost certainly lower, floor price for uranium. While the average Australian export prices declined between 1983 and 1984 from \$93.86 kg/uranium to \$92.35 kg/uranium the expectation is that uranium prices will slide substantially lower and market prospects remain dim for new contracts.

Uranium contracted for delivery as at August 1988

Ranger Uranium Mines (Energy Resources of Australia Ltd)		
Kyushu Electric Power Co.	2,000	1977-86
Korea Electric Co.	2,500	1983-92
Indiana & Michigan Electric Co.	2,250	1982-90
Rheinisch-Westfaelisches Electrizaetsverk	9,094	1982-96
Saarberg-Interplan Uran GmbH	5,456	1982-96
Urangesellschaft GmbH	5,820	1982-96
Japan Australia Uranium Resources Development Co.Ltd	13,413	1982-96
Oskarshamnsvetkets Kraftgrupp A.B.	3,150	1982-96
Synatom Societe Anonyme	1,575	1982-94
Wisconsin Electric Power Co.	1,000	unknown
Virginia Electric and Power Co.	unknown	unknown
Maine Yankee Atomic Power Corp	unknown	1990's
Vermont Yankee Nuclear Power Corp	unknown	1990's
Electricite de France	3,662	1988 — 2001
Narharlek (Queensland Mines Ltd)		
Teollisuuden Voima Oy	900	1981-89
Electricite de France	2,600	1982-88
Shikoku Electric Power Co.	1,390	unknown
Kyushu Electric Power Co.	400	unknown
Roxby Downs (BP and Western Mining Corporation)		
Swedish State Power Board	unknown	unknown
Central Electricity Generating Board (UK)	unknown	unknown
Korea Electric Power Corporation	unknown	unknown
Unspecified Japanese power utility	170 — 190	unknown

URANIUM AND ABORIGINES

After 200 years, many Aboriginal Australians have lost access to their land and traditions, and live in third world conditions. Despite this, and contrary to myth, Aborigines still maintain a distinct culture and demand recognition of their heritage in the form of land rights, sovereignty, and self-determination.

One aspect of land rights and self-determination is the right to control and protect the land (especially sacred sites) which still have special cultural and historical significance for Aborigines.

Until Aborigines have land rights and self-determination they have no power over what happens to the land. Permission to mining companies to mine some of the land Aborigines have gained control over, as with uranium in the Northern Territory, is often a matter of survival not choice.

It must be recognised that for many Aboriginal people land rights means access to an economic base. At times this usage of land will come into conflict with non-Aboriginal environmental principles. Nevertheless, consistency in recognising the fundamental issue of rights to land for Aborigines can provide an important basis from which to develop an environmental analysis.

Aboriginal people who own Kakadu face the tremendous social and cultural stress which mining and government administration have brought to the communities in the vicinity of Gunbalanya. The mining companies have paid annual compensation to traditional owners representing about 4 per cent of mining revenue. The income for Aboriginal people has been used to provide basic services such as transport, housing, education and community health facilities. These were either denied them in the past or were poorly administered by non-Aboriginal people.

Aborigines are greatly concerned about possible pollution from mining in Kakadu and threatened to take Ranger Uranium to court in 1986 to prevent the planned release of mildly contaminated excess water from the mine site.

The Northern Land Council (NLC) has requested the authorities to broaden the scope of research on food sources of Aboriginal people. For example, water birds frequent the contaminated storage

ponds at Ranger and freshwater mussels from creeks in the vicinity of Ranger Uranium Mines have been known, since 1972 to contain excessive levels of radium.

In May 1983, the Office of Supervising Scientist, ANSTO/AAEC and the NLC presented differing viewpoints as to which plants or animals (bushfood) would be scientifically valid to research. The AAEC has generally restricted its projects to researching radium 226 in the mussels without relating it to consumption by Aboriginal people.

In 1985-6, the Supervising Scientist contracted the Australian National University (through Prof. Golson) to undertake a study on *The Quantification of the Aboriginal Consumption of Bushfoods in the Alligator Rivers Region*, however, the results are unpublished.

Numerous OSS technical projects have examined specific aspects of limnological, toxicological and ecological habitats and species of the region, but have been conducted in isolation to Aboriginal diets.

No conclusion one way or the other can therefore be drawn from research conducted to date in respect to radioactive pollution in Aboriginal food sources. The NLC must accept some responsibility for the fact that the research to date is inadequate.

Anti-nuclear relationships with the NLC are markedly reduced due to the dominance of pro-nuclear sentiments in the Council.



This booklet has been written for the Friends of the Earth Anti-uranium Collective by Dick Borton and published by *Chain Reaction*, National Magazine of Friends of the Earth, August 1988.

Please send comments and criticisms to Friends of the Earth, 222 Brunswick St, Fitzroy 3065, Ph: (03) 419 8700.

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Fitzroy Australia 3065
Ph: (03) 419 8700.

Driving into the greenhouse

The world is becoming warmer. Heat trapping gases accumulating in the atmosphere threaten climatic change in the very near future.

Human activities are to blame — modern agricultural practices, excessive industrialism and the ever expanding global automobile fleet are prime culprits.

At a recent conference in Toronto, scientists and climatologists from 46 nations displayed remarkable consensus in calling on governments and industry to reduce fossil fuel consumption by 20 per cent. In the absence of such action, the conference concluded, 'the expected rates and magnitude of climatic change will greatly exceed those experienced since civilisation began.'

Has the greenhouse effect finally arrived? Ian Grayson analyses the current situation.

Life exists because protective climatic conditions prevail. Adequately distributed rainfall coupled with an average global temperature of 15 degrees Celsius have provided life with stable conditions for thousands of years.

The ozone shield protects us from the harmful effects of ultra violet radiation, and the oceans act as a thermostat for the

incoming solar energy absorbing excess heat and cold. Global cloud cover assists the thermostat by shielding out some sunlight and conversely by trapping heat.

The chemical composition of the atmosphere plays a critical role in this system by allowing excess solar heat to be radiated back into space while at the same time trapping sufficient heat for life to flourish.

We live under the protection of this mild greenhouse.

Human activities since the start of the industrial revolution are raising the global temperature and we are now creating an intensified greenhouse — one which will not be to our liking.

Heat trapping gases, mainly carbon dioxide and methane, are building up in the atmosphere at an alarming rate. The rate of increase for these gases, together with nitrous oxide, the third greenhouse gas, has skyrocketed since the 1950s when industrial production reached new heights.

The global warming effect caused by the build up of these gases is known as the greenhouse effect. It has been predicted for over fifty years but recent climatic trends indicate that it is no longer

a theory — it is here.

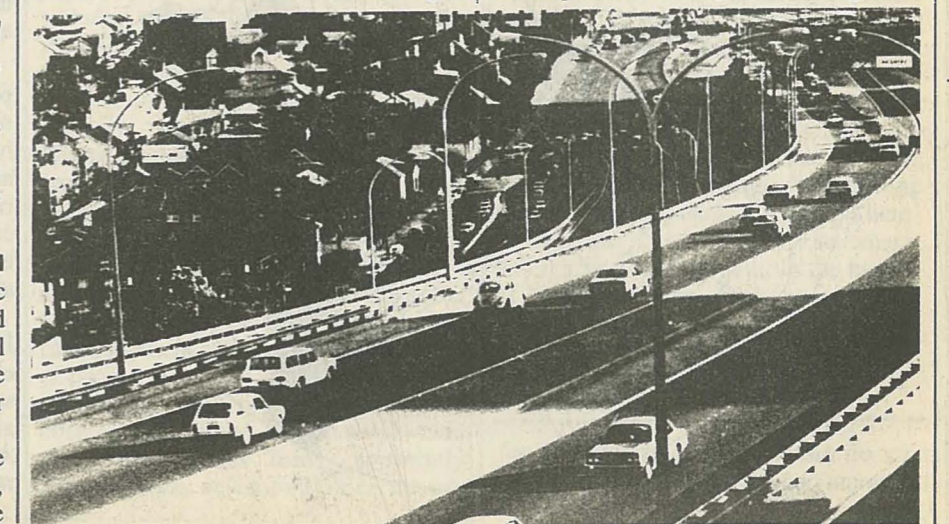
Last year was the warmest year on record with the world's average temperature standing at the outer limit of all known fluctuations. The detected warming attributable to the greenhouse gases is already 0.5 degrees Celsius. This is a global average increase, not a regional fluctuation, and the temperature is calculated to rise by 4 degrees Celsius at most. We are therefore well along the way.

Ice Core Evidence

Scientific opinion is now swinging behind the view that these global temperature trends are the first greenhouse 'signals'.

This view is backed by computer modelling which has predicted a cooling of the stratosphere. If heat is trapped near the ground, the layer of atmosphere above this, the stratosphere, should become cooler. Balloon measurements have confirmed this prediction.

Computer models of the greenhouse effect were once considered inadequate because of the lack of a reasonably accurate climatic history. Recent developments in deep ice drilling have



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changed the picture.

Deep ice cores give climatologists a record of the past from which they extrapolate future trends. So far three deep ice cores have been drilled in the Antarctica. The deepest hole took the Russians two years to drill and goes 2,200 metres through solid ice giving an unbroken climatic record stretching back 160,000 years.

Armed with this evidence, together with increased research funding in the wake of the ozone hole scare, climatologists have been able to refine their computer modeling, and the results do not look good.

Rainfall Change

The most immediate threat from the greenhouse effect is the changes to the global rainfall patterns. The implications for human society are staggering.

Although increased and changed rainfall patterns may not necessarily be bad for the planet (plant growth may well increase) they are potentially disastrous for humanity. Cities and their industries could become worthless as rains desert their hinterlands. Many countries would face bankruptcy as their industrial infrastructures became useless through lack of water. No country would stand to gain. Mass migrations, increased famine and severe social disruption would result.

Studies indicate that many of the world's major grain growing areas will dry out. The mid-west of the United States is predicted to be much drier, for example. Many arid areas will receive increased rainfall including Saudi Arabia, Northern India and large parts of Western Australia.

Recent papers in science journals suggest that such changes could occur anytime now — perhaps abruptly.

The Causes

Carbon dioxide is considered by many to be the major cause of the greenhouse effect.

However increased methane concentrations are perceived as an equally dangerous threat and some studies suggest that it is a bigger menace because it absorbs outgoing radiation twenty times more effectively than carbon dioxide. Carbon dioxide has increased by a third in 200 years while methane concentration has more than doubled and is increasing at over 1 per cent a year, much faster than carbon dioxide.

The third major greenhouse gas is nitrous dioxide which contributes only slightly to the global warming compared with carbon dioxide and methane.

The role of chlorofluorocarbons (CFCs) is as yet unclear but recent research suggests that they contribute

slightly to the increased warming.

Within our industrial growth system some specific human activities causing the intensifying greenhouse stand out. Combustion of oil gas and coal throws carbon dioxide into the air and the ever-increasing use of motor vehicles for personal transport in the affluent west stands out as a prime source. The global automobile fleet consumes over one fifth of all oil produced. In the US private cars account for one third of all the oil used. This inefficient and wasteful transport system foisted upon us by giant oil companies and car manufacturers has a lot to answer for.

Cement production, natural gas flares, coal and oil burning power stations, fires from land clearance — the list of contributory factors is endless, encompassing every human activity that throws large amounts of smoke into the atmosphere.

Methane

The sources of increased methane also pose seemingly insurmountable problems for our growth economies.

Natural methane has been rising into the atmosphere since life began. Its main natural sources are wetland habitats (including rice paddies), wood-eating insects such as termites, and animal flatulence (commonly known as farting).

Excess methane in the atmosphere has always been disposed of by hydroxyl, with which it reacts. Hydroxyl renders the methane harmless and recycles it back to earth through the ecological cycle.

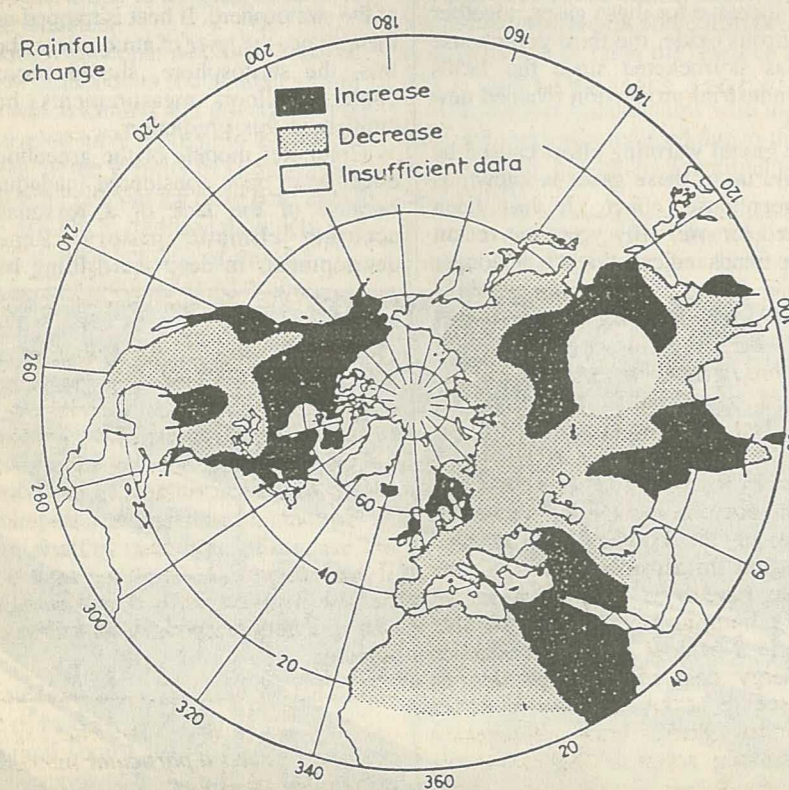
Recent studies have shown that carbon monoxide from fossil fuel combustion, particularly car engines, is destroying the hydroxyl.

The atmospheric methane build up, whether of natural origin or not, is therefore directly attributable to industrial activities.

In addition, the world's cattle population has doubled in forty years mainly to satisfy the West's appetite for hamburgers. Apart from increasing the amount of pasture at the expense of rainforests (which contributes to the carbon dioxide build up), there are now twice as many cow farts floating up to the atmosphere every day.

The contribution of termites is unclear. If their populations increase after land clearance, it could be significant. Few studies have been conducted on this aspect of termite populations and Australia may be the ideal place for such research.

Nitrous oxide, the other greenhouse



gas, is mostly the product of combustion, and once again car exhausts are a major source. Fertilised agricultural systems also emit nitrous oxides in greater quantities than natural ecosystems. Its global concentration is increasing at 0.2 per cent per year.

Vulnerability

The imminence of the global warming does not give us much time to adapt, and by the time the case is proven beyond doubt it will be too late.

Modern agriculture is particularly vulnerable. Our agricultural productivity has a very narrow genetic base and is fine tuned to produce bumper harvests in optimum climatic conditions.

A more rational agricultural system, using a wider variety of strains with a more diverse genetic base would be more rugged and only slightly less productive and would not be so threatened by the hotter greenhouse. At least it would give us more time to adapt.

By allowing agribusiness interests to fine tune our agricultural systems to a narrow climatic band in the interests of profit maximisation we are leaving ourselves wide open to massive crop failures during changing climatic conditions.

This is particularly true of the grain growing areas of the mid west of the United States which accounts for a large portion of the world's food surplus, and which is currently experiencing its worst drought in fifty years — a drought which many climatologists believe is an early manifestation of the greenhouse effect.

Whether or not we agree with their agricultural methods, the American grain harvest is part of the world's insurance against famine. The prospect of crop failures across the major grain growing areas of the northern hemisphere is one of the most disturbing aspects of the greenhouse effect.

Drought is also predicted for the major grain growing areas of the USSR and northern Europe.

Political Options?

It is hard to envisage any political solution to the greenhouse effect coming from within the capitalist industrial system. The technical fix, so beloved of policymakers, is not an option — and this makes the greenhouse effect unique.

For example the technical fix approach could be applied to protect the ozone shield — another part of the atmosphere that has been damaged by human

activities, in this case the culprit is CFCs.

Given political will the ozone shield could be restored. By stopping the production and use of the offending chemicals and development of safer substitutes the ozone layer could replenish itself. This technical fix was attempted by the Montreal agreement of 1987 which limits future production of CFCs.

Although the agreed production cuts are totally inadequate to bring about restoration of the ozone shield there is still room for optimism. The agreement could be strengthened by including the 85 per cent cut in production of CFCs necessary to prevent further ozone depletion.

We are after all only concerned with specific chemicals, whose abandonment would not greatly harm the world's political and industrial system.

However, for the encroaching greenhouse effect there is no technical fix. Only a radically different political order could accommodate the necessary changes.

A global reduction in industrial output appears to be the only solution. This would turn the capitalist system on its head, as economic growth is its cornerstone, just as it is with virtually all the world's policymakers whatever their political pretensions.

Yet action must be taken. In the short term (which is all we really have) agriculture must be made less artificial and able to withstand wider climatic variations.

Transport systems

Planners should also turn their attention to our wasteful and polluting transport system which assumes an endless increase in car ownership. The eight per cent of the world's population affluent enough to own cars are very much responsible for the atmospheric carbon dioxide build up.

According to Worldwatch, a non-profit research organisation funded by the United Nations, cars account for 17 per cent of all atmospheric carbon dioxide, released by fossil fuels. This conservative estimate does not include the production process or the building of the car's extravagant infrastructure. Bridges, for example, have to be six times wider for cars than trains to move the same number of people. Nor does it take into account the energy cost of the high rate of obsolescence in the car industry where the United States leads, apparently throwing away seven million cars every year.

A switch in transport priorities by the industrialised world to bicycles and public transport would reduce the greenhouse threat substantially.

A more rational industrial system is also needed. Cutting wasteful and unnecessary production would cut carbon dioxide emissions considerably.

But this would be no easy task as the production of waste in capitalism is deliberate. Without it factories would be idle — workers unemployed. Planned obsolescence keeps economies 'buoyant' by ensuring repeat sales. Disposable cans which absorb 1.4 per cent of US energy use, serve the same function. The wheels of industry must turn at an ever increasing rate for capitalism to survive.

Even if these contradictions could be overcome, where would cuts in industrial output start? Who would decide which industries should be curtailed?

And how would international agreement be reached? No satisfactory agreements have yet been reached on acid rain, so how could agreement be reached on this more complex issue? Only a change in public awareness and individual lifestyles appears able to tip the balance.

The ozone hole has at least focussed public attention on the vulnerability of the atmosphere to human activities. Genuine concern is displayed by the declining sales of aerosols in the United States, including aerosols containing CFC substitutes.

There is scope for expanding this concern, even though it is much more difficult to abandon a lifestyle than a sprays. Who, for example, would abandon their car to preserve the climate? Hopefully, as the debate increases, as it surely will within the next two years, such options will be adopted by an increasing number of people. Time is not on our side. The adoption of simpler, less energy intensive lifestyles is a necessity if society is to avoid the approaching climatic catastrophe.

The intensity of the situation was clearly shown last June when the National Aeronautics and Space Administration climatologist, Dr James Hansen told the US Congress 'It is time to stop waffling and say that the greenhouse effect is here.'

This was a historic public statement, and marks a turning point in the history of the human race, implying as it does that the absolute limits of industrialism have now been reached. What will be our response?

Ian Grayson is an activist who lives in Adelaide. He has a particular interest in sustainable transport.

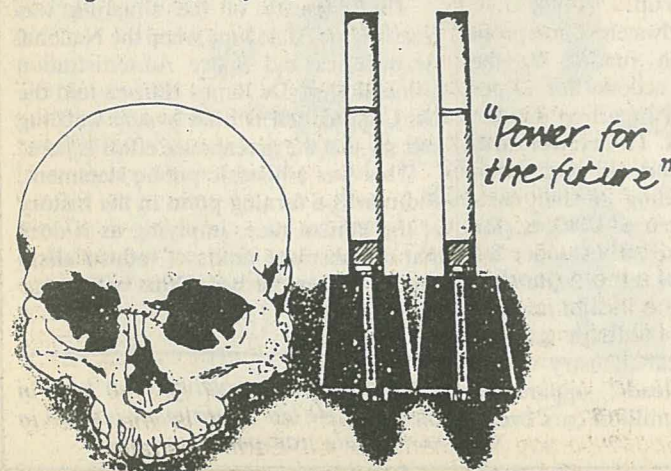
Clutching at nuclear straws

Driving into the Greenhouse argues that there is no 'technical fix' to the greenhouse problem. Some however argue that the solution already exists — nuclear power. **Stuart White** examines the myths surrounding the debate and points to renewable energy sources as the solution.

Recent indications are that after a spell on the backburner due to the low oil prices, energy issues are coming on the agenda, mainly because of concerns about the impact of global climatic change due to greenhouse gas emissions.

Last time the uninformed told us it was 'oil imports or nuclear power', despite the mountains of evidence that this was, at best, a false choice.

This time around we have the predictable but equally fallacious slogan 'greenhouse effect or nuclear power' being advanced, and by all accounts, the last dying gasp of the nuclear industry will bring out a few more hoary old chestnuts. Joining the circus, Max Walsh postulates a crude choice between 'nuclear power and cold baths and candles' in a fatuous journalistic display: '(nuclear power is) ...the only form of energy capable of even making a dent in the world's appetite for increased energy.' *Sydney Morning Herald*, July 11, 1988.



For the moment let's suspend many of the myriad of possible objections to this statement and the mode of thinking behind it and just look at the notion that nuclear power can adequately substitute for fossil fuel use. This notion is complete nonsense and is based on at least five myths.

Myth One: Nuclear power can provide for a majority of our energy needs.

This myth relates to real consumer need; often called end use demand. Nuclear power provides expensive electricity, however 90 per cent of our country's end use energy demand is non-electrical and half of the remaining 10 per cent can be met by cheaper non-electrical sources. Nuclear power can, in principle, supply thermal needs as well, but we know of no one seriously considering the required direct hookup to a nuclear plant. The present oversupply of electricity in the industrialised world is due in large to the single minded over-investment in large centralised electricity generation systems.

Even more cogently, nuclear power neglects the real energy needs of the majority of the world's population who live in developing countries. Their needs are primarily thermal, such as heat for cooking, or low temperature applications. In these countries, technologically inappropriate nuclear power provides a cure which might be considered worse than disease, and the benefits flow to the few wealthy who can afford the electricity. Basically the same capital invested in renewable energy would benefit these people much more.

Myth Two: Nuclear power is cheap.

Half of France's large external debt is attributable to its nuclear programme. How then can we expect Australia's debt ridden utilities to afford a rapid development of nuclear power? Most countries that use nuclear power have a cross subsidy from nuclear weapons programmes, but this would not be the case in Australia.

If nuclear power were to have a significant effect on greenhouse gas emissions, it would have to be expanded at an even greater rate than that estimated by the United Kingdom Flowers Royal Commission as necessary to fill half of the 'energy gap' resulting from fossil fuel depletion.

This growth rate would require the commissioning of three 1,000MW reactors per week on average. Such a huge expansion would quickly deplete uranium reserves and require an accelerated transition to plutonium fuelled breeder reactors, which are unproven and even more costly than existing reactors.

Myth three: Use of nuclear power will reduce greenhouse emissions.

According to some scientists, the energy inputs necessitated by a rapidly expanding nuclear fuel cycle would result in an increase in fossil fuel requirements. The Flowers Royal Commission also noted that 'the high demands of industrialised countries for fossil fuels will continue for many years, not least to sustain the economic growth which would be required to support large and costly nuclear programmes.' For example, the much touted proposal of Senator Button's for a uranium enrichment plant in the Northern Territory would require a significant expansion of the existing fossil fuel electricity sector.

Myth Four: Our choices of energy future are limited.

In energy terms, nuclear power is unnecessary. The real question is how do we make the necessary transition from a fossil fuel economy to a solar economy. As it happens, a significant portion of our energy needs could be met in the near term by energy efficiency improvements and renewable energy. For example as the diagram shows forty per cent of Australia's end use energy is in the form of industrial process heat and another 10 per cent in low grade heat, about half of which is accessible to existing or recently developed technology. It will be possible later to supply even larger percentages by super heating with other renewable sources such as biomass and future high temperature solar collectors.

By way of contrast, nuclear power provides about three per cent of the United States end use demand, which is comparable to that supplied by firewood, and this after forty years of subsidised development.

Mature renewable energy technologies are not limited by the energy required for their construction. For example a solar thermal collector repays the energy invested in its construction in six months to two years. This allows for rapid substitution to occur without a penalty in increased fossil fuel use.

Further Information

FOE Sydney will be publishing the proceedings of the successful symposium 'Energy Strategies for Australia and New Zealand: Kicking the Fossil Fuel Habit' held in Sydney in May. It is intended to have the them ready by the November 'Greenhouse 88' conference.

To pre-order your copy of the proceedings, which will also include a paper on transport issues and general information on the greenhouse effect and a FOE perspective on solutions, send \$5 to:

Friends of the Earth Sydney
4th Floor, 56 Foster St
Surry Hills 2010
Ph: (02) 211 3953

GREENHOUSE 88

A network of conferences around Australia. Venues: Perth, Adelaide, Hobart, Melbourne, Sydney, Canberra, Brisbane, Cairns, Darwin.

Join with thousands of people across Australia over November 3-5 to:

- Hear what scientists are saying about global warming
- Find out about projected impacts on a wide range of areas including farming, coastal management, public works, water resources, natural disasters, flora and fauna, housing and insurance.
- Discuss ideas for adapting to a changing climate
- Consider and develop strategies for limitation of the greenhouse effect

Offers of sponsorship, ideas and organisational assistance are welcome and should be directed to:

Melbourne: Mr Phil Noyce, Manager, Greenhouse Project, Commission for the Future, 98 Drummond St, Carlton, VIC 3053. Ph: (03) 663 3281.

Canberra: Mr Nelson Quinn, Environment Contaminants & Co-ordination Div., DASETT, GPO Box 787, Canberra, ACT 2601. Ph: (062) 46 7288.

Adelaide: Ms Nadia McLaren, Director, Social and Ecological Assessment Pty Ltd, 23 Rundle Street, Kent Town SA 5067. Ph: (08) 362 8836.

Hobart: Dr John Todd, Department of Environmental Studies, University of Tasmania, PO Box 252c, Hobart, TAS 7001. Ph: (002) 20 2642.

Brisbane: Dr Iraphne Childs, Department of Geographical Sciences, University of Qld, St. Lucia QLD 4067. Ph: (07) 377 2060.

Perth: Mr Godfrey Lowe, Executive Officer, Western Australian Water Resources Council, PO Box 100, Leederville, WA 6007. Ph: (09) 420 2928.

Cairns: Ms Jan Gorrie, Cairns and Far North Environment Centre, Cairns Mail Centre, Box 5918 Cairns, QLD. Ph: (070) 51 1204.

Sydney: Mr Tony Mitchell, State Pollution Control Committee, 157 Liverpool Street, Sydney, NSW 2000. Ph: (02) 265 8883.

Renewable electricity generating technologies such as wind energy, photovoltaics and solar thermal electricity are estimated by the United States Department of Energy to be capable of producing at less than five cents, (US), per kilowatt-hour in large scale production.

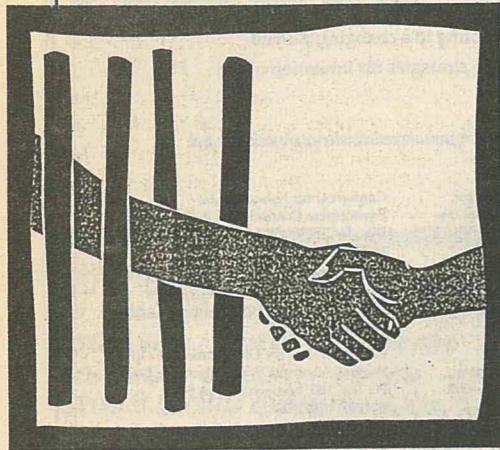
Myth Five: That a 'technical fix' is called for.

Nothing better exposes this myth than the fact that if everyone on the planet were to attempt to use energy, whatever its source, at the rate which we in the industrialised world do, then the ecological limits (not only the greenhouse effect) which we are reaching and the social ill effects would actually prevent this, perhaps catastrophically. We first have to abandon the crude notion that material growth is the only indicator of human welfare. Then perhaps we can develop a new approach to our world where there is a priority placed on sustainability and co-operation, starting at the individual level and working out to the community.

It would be nice to think that the 'Greenhouse 88' conferences to be held in November will involve discussion of the issues raised here. Up to now, a large part of the debate has revolved around the abject acceptance of continued increases in greenhouse gas emissions. Rather we should aspire to analysis and action in which the 'greenhouse problem' is seen as but one manifestation of a more general problem, and where we aim to replace the industrial priority of maximising production with one of satisfying needs within the bounds of ecological limits.

Stuart White teaches in the School of Design at the University of Technology, Sydney and is the Energy Spokesperson for Friends of the Earth Australia.

Women behind bars



Prisoners have recently received increased attention in Australia and it has been revealed that the number of women prisoners has increased by over 200 per cent in the last ten years while the number of male prisoners has increased by only 12 per cent.

Amanda George looks at women prisoners in Victoria and sees a relationship between poverty and prison. She also finds a lack of facilities to keep women out of prison and little institutional support for those that are inside. Child care is inaccessible, drug rehabilitation is non-existent and even medical facilities are often unavailable.

Politicians have responded to the crisis by building more jails but Amanda points to an approach which addresses social issues such as poverty and attitudes to women.

This year has seen unprecedented exposure of the prison system in Australia. In Western Australia flames could be seen over the walls of the medieval Fremantle jail; the notorious underground cells at Queensland's Boggo Road were reopened provoking prisoners to demonstrate on the roof; evidence was given at the Royal Commission into Aboriginal Deaths in Custody that dead prisoners are handcuffed; warders in Victoria went on strike when a warder was transferred to non-contact duties after the Director of Prisons witnessed an assault by baton on a naked prisoner; in New South Wales peaceful prison demonstrators were shot with streamer gas (a nastier version of tear gas); and women prisoners in Victoria were part of a demonstration that surrounded Fairlea women's prison.

Women prisoners have been invisible and ignored by the media and by prison authorities. Yet the disclosure that the number of women in prison in Victoria has increased 450 per cent in the past ten years compared to 12 per cent for men brought the issue to the fore. This increase for women is twice the Australian average.

The question 'why?' is met with deafening silence from researchers and government bodies. But by simply looking at the women in jail, the scenario emerges. Poverty screams at us.

The law and order lobby would have us believe there is an exploding crime wave, leading to an increase in the prison population. But across Australia murders are no more likely to happen in 1986 than 1974 and burglary is starting to decline. Serious assaults and rape are increasing but it is not women committing these offences, it is men.

Over the last six years in Victoria the number of women inside for serious assault has declined to 2 per cent compared with 15 per cent for men.

A profile of women in Victoria's jails shows that 66 per cent of women (50 per cent of men) were unemployed prior to imprisonment, yet officially women are 9 per cent of registered unemployed.

NSW research shows that 80 per cent

of women are incest survivors. Five per cent of women enter jail with an alcohol or drug addiction. There is a strong correlation between incest and child sexual assault and addiction.

Almost 30 per cent of young women in jail in Victoria are there because they have been identified as victims of domestic violence, incest, neglect or family conflict. For young men it is 6 per cent. These young women are being jailed for their 'care and protection.'

It has been generally thought that women are treated more leniently by the police and courts than men. But that is not the case now and never has been. The paternalism of the courts towards young women puts them in jails for being victims — usually of men. The sexism of police leads to women being charged with prostitution offences. Women who work as prostitutes are getting three month sentences whereas guttercrawlers, the other side of the bargain, are walking away (although less often if they are non-Anglo). Women work in this job because of economic necessity.

The expectation that women will be law abiding citizens who will conform to socially constructed role models leads to them getting greater sanctions when they step out of this role.

There has always been an acknowledged, feared and respected male subculture of crime. For a male to join this subculture is accepted, though perhaps not acceptable. For women there is no such subculture of acceptance and support. She is seen as an individually bad woman, perhaps an appendage to the male subculture. She is neither feared nor respected though, paradoxically, the reason she is more ostracised and punished by the system is because she is a threat in a way that the male subculture is not. She is not conforming to any acceptable role.

Most women are in jail for non-violent offences. Ten per cent of women inside are there for offences against the person compared with 28 per cent for men. Of these women 80 per cent are in for murder and 80 per cent of these murders committed by women are domestic.

Research has shown that women who kill husbands generally do so after years of abuse and domestic violence against them. Thirty-six per cent of murders by men are domestic. These are generally ultimate acts of violence committed by men who have beaten and bashed their partners for years — often in the knowledge of police and others.

This goes on in the context that 25 per cent of Australians approve of wife bashing, a statistic released in Canberra on International Women's Day this year.

Even though women are inside for less serious offences, they are more likely than men to be in maximum security jails. A woman with no prior conviction is also more likely to be imprisoned than a man (35 per cent compared to 27 per cent).

The prison system is a cauldron of violence. The NSW Royal Commission into prisons maintained that violence is an inevitable outcome of such an oppressive institution.

Women in jail in Victoria are committing suicide nearly five times

more than in the outside community. Men suicide three times less than on the outside. If a woman slashes up or attempts suicide she is punished. She is placed in solitary confinement. She sleeps in a canvas nightie on a canvas mat under canvas blankets on a bare concrete floor. She eats her dinner off a plastic plate on the floor.

Deaths in custody often occur because of the appalling facilities in jail. At the Royal Commission enquiry into the death of Kingsley Dixon in Adelaide, evidence was given that neither of the two oxygen tanks at the prison worked. At Fairlea prison in mid 1988 a woman almost died of an asthma attack because there were no drugs at the jail. Prior to that she had been given Largactyl (a psychiatric drug) to inhale instead of the correct drug. It was only because the colour of the syrup was wrong that she didn't take it. The next day the nurse told her that she would have died if she'd inhaled that quantity.

The Office of Corrections acknowledge that 85 per cent of women

go to Fairlea as addicts, yet there are no detoxification facilities, or even a 24 hour hospital or doctor or nurse. The nurse who is there Monday to Friday is authorised to give nothing stronger than Disprin.

A woman who goes to prison does cold turkey. This is particularly dangerous for women withdrawing from tranquilizers. Palpitations, convulsions and fits are common with instant withdrawal. Doctors and health workers recommend a slow come down from tranquilizers.

For women it is a particularly serious situation. Women are twice as likely as men to get prescribed tranquilizers for the same symptoms. In 1986, not including prescriptions in hospitals and nursing homes, 8.6 million prescriptions for tranquilizers were written. Twenty-five per cent of all Australians use tranquilizers daily.

In a cynical move the Victorian Office of Corrections recently gave women the choice of drug rehabilitation inside K



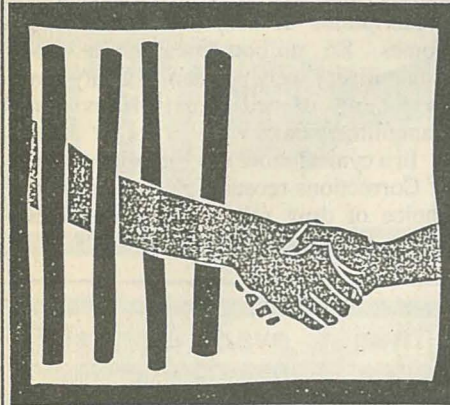
Women encircling Fairlea women's prison, Melbourne, July 1988 calling for better conditions for prisoners.

RUTH MADDISON

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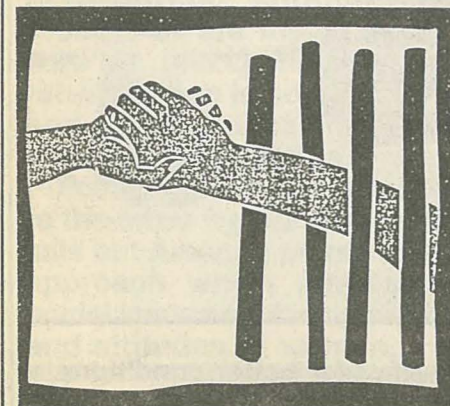
WOMEN & IMPRISONMENT IN VICTORIA

• A REPORT •



1988

*Women and Imprisonment
in Victoria is
available from the
Fitzroy Legal Service
181 Brunswick St.
Fitzroy 3065. Victoria.*



division (formerly Jika Jika) in Pentridge men's jail. This division was closed in November 1987 after five men died in a fire whilst protesting conditions at the jail. In an emotional speech to Parliament the then Minister for Corrections claimed it was an electronic zoo and that it would be morally irresponsible to leave it open.

One month later with the smell of death still strong he said perhaps women would be moved there. They went there in June 1988. It is called a lifestyles unit drug program. The cameras and electronic equipment are gone but the exercise area is still only a slab of concrete covered by a cage on the sides and roof. No windows can be opened so it has 24 hour air conditioning. This occurred in the same week that the NSW Government spoke about reopening the cage cells at Katingal.

Sources inside the Office of Corrections admitted that calling K Division a drug rehabilitation unit was only a front for creating more bed space for women.

As well as women being jailed for victimless crimes and crimes of poverty they are being jailed for social security offences committed for need not greed. Of the 55 per cent of single parent families living beneath the poverty line 86 per cent are headed by women. Many women face the decision to cheat or starve. However the Director of Public Prosecutions has directed magistrates to ignore social and economic needs that have led to social security offences.

After women are released they are punished again — their benefits are reduced to pay back the Department, thereby forcing them into even greater poverty and punishing the women and their children.

Whilst in jail a prisoner can have only one visit per week. The choice can be to either see her children or see adult family or friends. For a child the imprisoning of a parent can be like the experience of parental death. Visits are taken away as punishment so the children get punished too. There is no acknowledgment that visits belong as much to the children as the prisoner.

Children of prisoners get no assistance from agencies — except the watchful eye looking to see whether the State should assume custody and control of them. Many children are made wards of the State at this time and prisoners are powerless and without resources to stop this. Such early institutionalization starts a cycle difficult to break — some 30 per cent of prisoners were wards of the State

as children.

There is much talk about creating alternatives to prison, such as Community Based Corrections. This involves offenders doing their time in community work — some do voluntary work such as painting community centres and pensioners houses, others do courses or rehabilitation programs. Last year in Victoria \$70,000 worth of this voluntary work was done a week.

There were 500 offenders on this program but there is no child care offered. Women who can't turn up because they can't leave their kids for some reason are being breached. If you can't find or afford childcare then the kids go and do time with their parents. This is totally unacceptable. Children have no place at all in these centres and the Office of Corrections should have nothing to do with the children of offenders. But in the twenty-two Community Based Correction centres in Victoria, warders are supposed to look after the kids with no facilities. Since when have warders had the skills, patience and tolerance to look after children whilst simultaneously supervising prisoners?

Indeed some magistrates are not even giving women the option of a Community Based Correction sentence because of the childcare difficulties. They have said to a woman with four kids that she obviously would have difficulty finding childcare, so she was jailed instead.

The Office of Corrections says that jails never have and never will deliver rehabilitated prisoners, and that prisons seem to have little deterrent effect for most offenders, yet it keeps building prisons. A construction program of \$200m has been undertaken in Victoria. And in the same breath as saying that Community Based Corrections are cheaper and more constructive than jail, they have reduced the Community Based Correction budget.

The women in our jails are not a threat to the community. They are generally working class women denied opportunities and options in a racist and sexist system. The vast majority are addicts and incest survivors. Jail only further brutalises and alienates them and sets in motion the roller coaster of institutionalization of their children. The \$33,000 a year spent on keeping each prisoner in jail should be spent addressing unemployment and poverty. This is crime prevention.

Amanda George is a project officer with the Fitzroy Legal Service.

NH & MRC slips on lanolin

A routine study by the Victorian Department of Health into pesticide levels in breast milk, showed that while human breast milk is still contaminated the levels are dropping. However the study led to the discovery of a new contamination in breast milk. It was found that through the use of lanolin many mothers and babies have been exposed to several potentially harmful organophosphate pesticides.

Further studies by the National Health and Medical Regulatory Council (NH & MRC) indicated that one of the pesticides found in lanolin, diazinon, is detected in breast milk, but concluded that the use of products containing lanolin did not pose a hazard to human health.

Some scientists however are concerned that the issue hasn't been adequately handled by the Federal Health authorities.

Watching Brief reports on the issue.

In 1985/86 the Victorian Department of Health undertook a study of organochlorine pesticide residues in breast milk. The results showed a drop in the residue levels of most pesticides since 1970 and 1978 when previous studies were conducted. However, the survey indicated that in spite of the

reduction the levels of pesticides are generally still above those determined by the World Health Organisation as being acceptable for adults on a continuous daily basis.

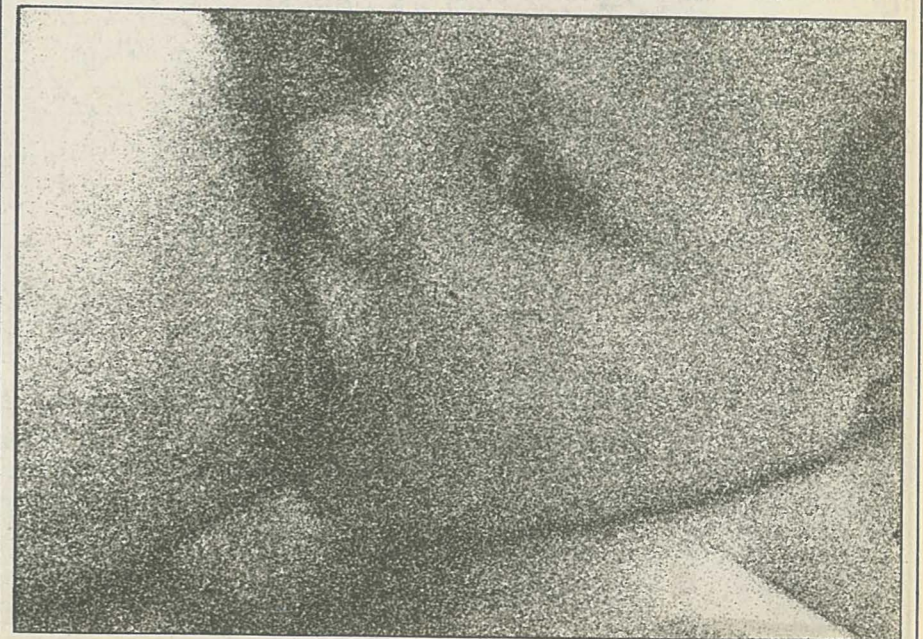
The acceptable daily intake levels are the usual criteria for measuring these contaminants. Put simply that means that a person can, theoretically, ingest the chemical at this level daily, over a lifetime, without suffering ill-effects. These limits usually include a built in safety factor of a hundred fold. A few samples of milk had up to ten times the acceptable levels. Although this may be within the safety limits very little is known about the subtle effects of low doses of most pesticides.

The dieldrin results were of particular concern, as it was present in 97 per cent of samples and 17 per cent of these were more than ten times the acceptable daily intake (ADI) levels. The results were ambiguous because more sensitive testing

methods allow for detection of lower levels than previously and the breast milk surveys are only a rough indication of the situation regarding contamination of breast milk. Usually milk from only two or three dozen women is sampled, too small a number to produce statistically valid conclusions. However the results are significant enough to promote major efforts to discover and minimise further human exposure to these and other pesticides.

The 1986 breast milk survey revealed another contamination problem which has led to a more detailed investigation.

During the study scientists involved became concerned about the identity of some of the chemicals they were not able to label. It became clear that there was a reasonable possibility that some were organophosphate pesticides. As a result levels of these pesticides were investigated in lanolins sold commercially in Victoria. Lanolin is commonly used by mothers to



apply to their nipples during the early stages of breast feeding and is also used on babies for nappy rash.

The results from the six samples showed quite significant levels of diazinon, an organophosphate pesticide used for treatment of sheep with blow-fly strike. Diazinon does not last in the body to the same extent as deildrin, but is around ten times more toxic making it more dangerous for short term exposure.

These findings were brought to the attention of the Victorian Health Department which referred it to the National Health and Medical Regulatory Council (NH & MRC). An expert committee was convened and a report issued which concluded that even at levels of 40 parts per million, the presence of the pesticide diazinon did not represent 'an immediate hazard to human health'. This level of exposure was claimed to include a 25 fold safety factor according to the working party's calculated model.

However, an examination of the report by the scientists involved in the initial Victorian study into lanolin revealed some questionable criteria used by the NH & MRC. For instance, in setting an exposure level for babies, the baby weight used was 10kg. A 10kg baby is 12 months or older and studies reveal that only 10 per cent of babies in Australia are breastfeeding at that age. The criteria used did not apply to the majority likely to be breastfeeding where a figure of 3kg would be more representative.

Another issue was that although the committee agreed that infants were potentially at more risk than adults from exposure to pesticides they did not include an appropriate safety factor. It is generally recognised that young animals, and likewise young humans, are generally more susceptible to the effects of chemicals, particularly long term effects.

The NH & MRC committee said this was satisfactory because infants were only exposed for a limited period of time. This argument might apply for determining acceptable daily intake levels because a time consideration is involved. Acceptable daily intake by definition is that amount which if ingested over a lifetime causes no problems.

But the same criteria can not be used when talking about no effect levels on which the NH & MRC studies were based. No effect levels are normally used in reference to the effect of a substance for a one-off dose rather than a series of exposures, therefore making it inappropriate for babies being exposed to months of daily contaminated milk intake.

Next, even assuming that the no-effect level is the most appropriate standard, the working party chose the text-book figure given for rats, a figure five times higher than the figure in the same text for humans.

The working party took the references from a book called, *Pesticides in Man*, and the figure they chose was 0.1mg per kg of body weight of rat. Several pages

over from that particular reference, there was a no-effect level quoted for man (sic) at 0.02mg per kg which is five times lower. For some reason the expert committee chose to ignore that particular figure.

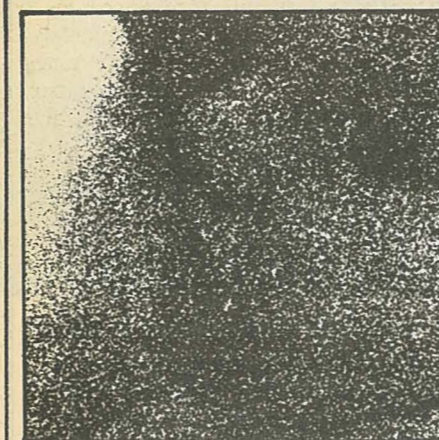
The available human figure ought to be used, bearing in mind that the exposure was for babies and this should be accommodated.

No account was taken of variation between species or within species. There is evidence to suggest that even within species there can be a 10 to 15 fold variability in the ability to de-toxify. On top of all this is the variation in the ability of humans to metabolize organophosphates like diazinon. For a child with a slow de-toxification and excretion rate the diazinon may accumulate if the daily milk intake concentrates the pesticide faster than it can be removed from the body.

Another criticism of the NHMRC report on lanolin was that the working party only took outside evidence from the chemical industry, in fact the manager of Croda Chemicals, the sole manufacturer of lanolin in Australia.

Response of NH & MRC

When contacted by *Watching Brief* to respond to criticism of the report head of the NHMRC Food and Environment Protection branch, Dr Gerry Murphy, was prepared to be quoted but he felt that



many of the questions were too technical and specific and should be referred to the appropriate experts in the working party. Dr Murphy pointed out that the report could appear superficial to some because at least in the areas of toxicity and absorption very little data was available either in Australia or overseas, but he did claim that organophosphates like diazinon were metabolized fairly quickly in the body compared to some other pesticides, a matter of hours rather than days.

In terms of the statement in the report that, 'members agree that infants were at potentially greater risk than adults from exposure to pesticides', Dr Murphy maintained that this meant children were at greater risk because they were the ones likely to swallow the lanolin rather than the mothers, not that the infants had a greater sensitivity to pesticides than adults. Dr Murphy also felt that the whole issue was less of a problem now because more and more nursing mothers were being advised not to use lanolin-based products.

Government Response

Despite NH & MRC assurances that the use of lanolin products presents no immediate health risks the Victorian Department of Health continued to advise its Infant Welfare Centres and nursing hospitals that lanolin should not be used by nursing mothers until it could be demonstrated that there are much lower levels of pesticides in the lanolin. But Victoria is the only state that has not finally gone along with the NH & MRC recommendation that lanolin products on the market are safe for nursing mothers to use.

The report of the national working party recommended that the levels of lanolin be assessed over a three year period, after which they would review the situation. In Victoria, however, there have

been no samples analysed since November 1987. At that time one sample was presented by officers of the Victorian Department of Health which had 300 parts per million of four different organophosphates. The samples had up to 25 parts per million of diazinon. Samples in other states had 99 parts per million of diazinon.

The Alternatives

Apparently it is very difficult to remove this particular pesticide from lanolin. It appears that this difficulty is the main consideration, that its not practical to remove it without greatly increasing the cost lanolin. The NH & MRC report said that:

the working party was advised that experimental methods were available for significant reduction of this material during the manufacture of lanolin and one such method had been applied on a large scale overseas, however introduction of such technology would require further development and time.

The working party did add that steps should be taken to reduce the source of unnecessary human exposure and added that progress in this area should be reviewed in three years.

Barry Luke, a scientist who worked on the Victorian study believes that the NH & MRC has displayed serious errors of scientific assessment in their finding that these particular exposures are within the limits of toxicological safety, and such decisions cast doubt on the scientific credibility of this important health authority.

However it would seem that this case is just a reflection of the Australian regulatory system on chemicals which has an institutional bias which tends to be very sympathetic towards not only industry but also the concept of maximising agricultural production.

Australia like other countries, does not have any real understanding of the effects generally of pesticides on a population at large. Simply because we do not know what is used where, how much is used, and therefore in situations where people would appear to be suffering from the effects of a substance being used, there is really no evidence one way or another.

Watching Brief produces a weekly radio show for public radio on peace and environmental issues. This report was transcribed by Kelly Connor and edited by Chain Reaction.

WATCHING BRIEF

KEEPING AN EYE ON THE ENVIRONMENT

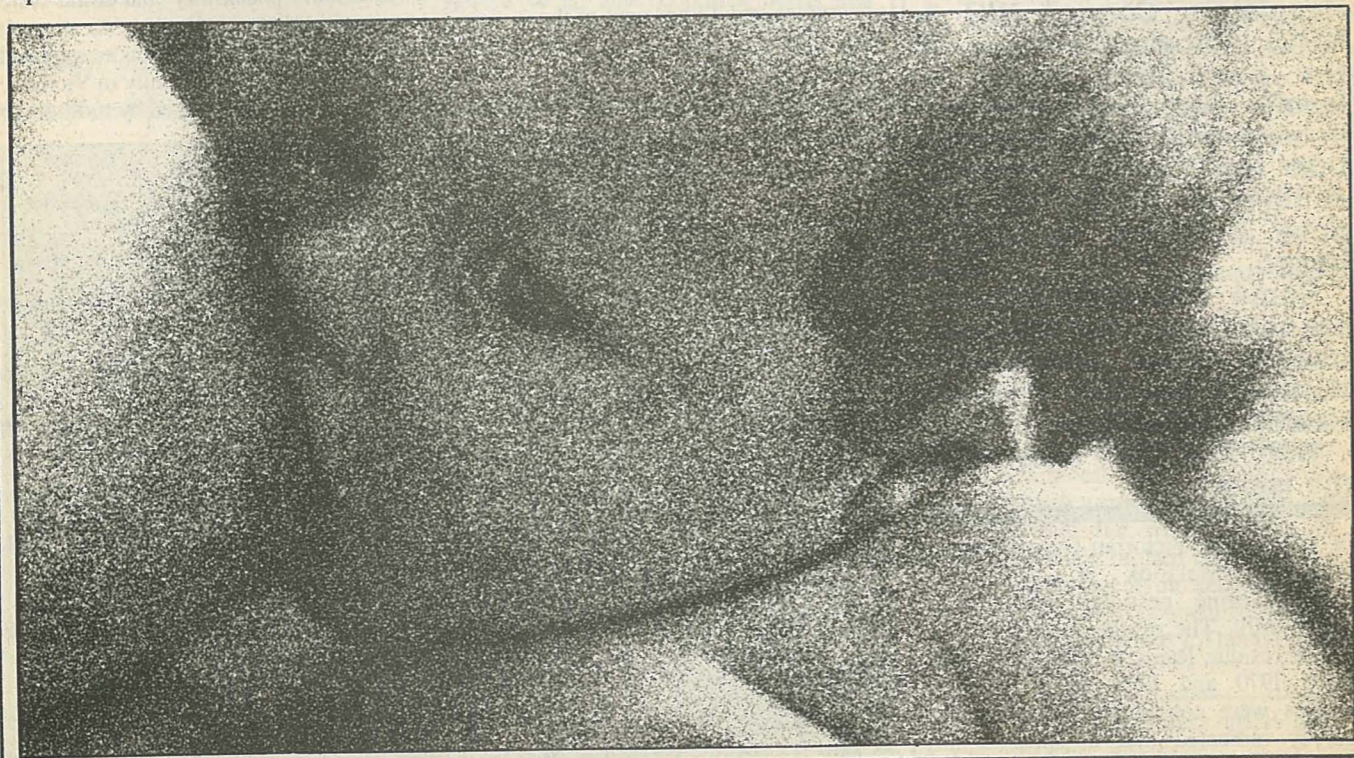
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BROADCAST TIMES

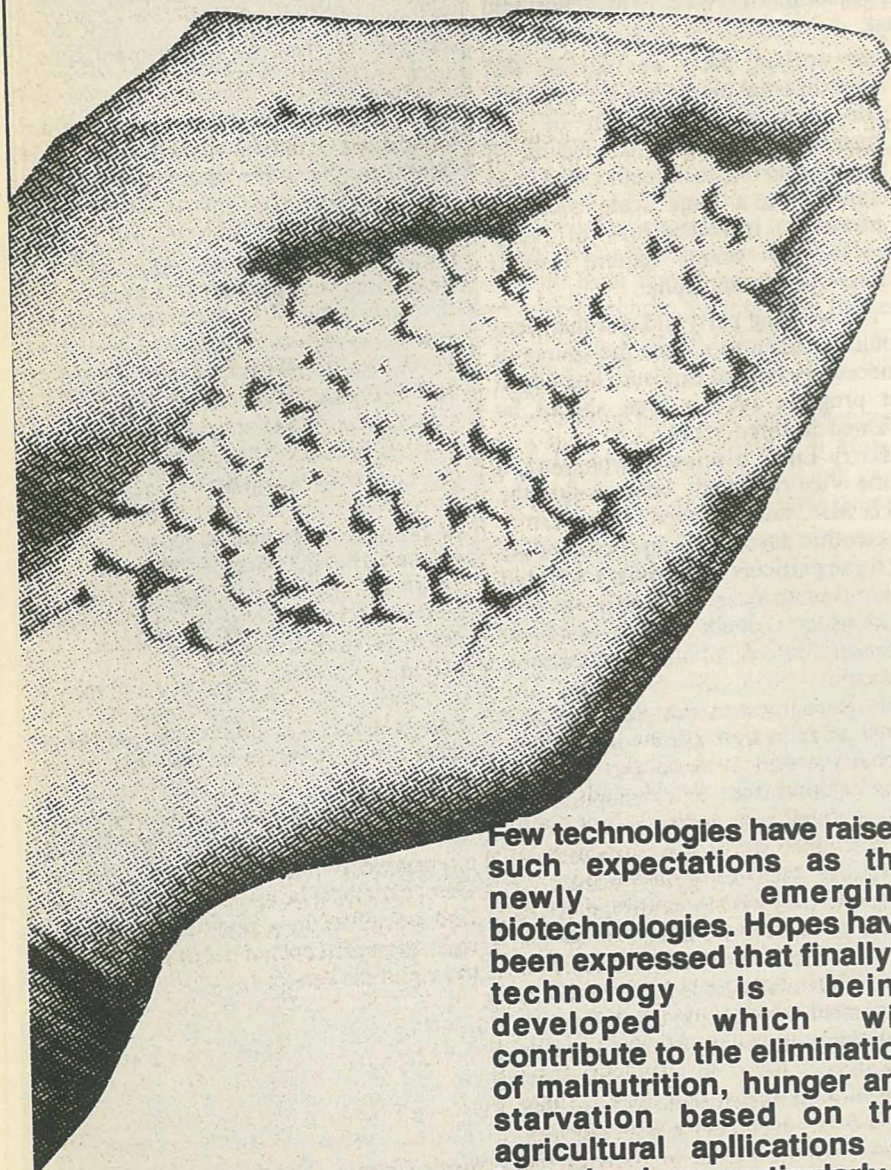
Canberra	2XX	Thu 10am
Sydney	2SER-FM	Tue 1pm, (2)Fri 9.30pm(r)
Albury-Wodonga	2REM-FM	Fri 12am, Sun 2pm (r)
Bathurst	2MCE-FM	Sun 6 pm
Bellingen	2BBB-FM	Tue 12am, Fri 6pm (r)
Lismore	2NCR-FM	Thu 9-10am*
Moruya	2EAR-FM	Tue 12am
Newcastle	2NUR-FM	(1)Tue 12.30pm Tue 9pm (r), (2)Wed 12.30pm Sun 5.30pm(r)
Taree	2BOB-FM	(1)Tue 8.30pm (2)Fri 1.30pm
Wagga Wagga	2AAA-FM	TBA
Melbourne	3RRR-FM 3CR	Mon 6pm (1)Mon 7am (2)Mon 5.30pm
Bellarat	2BBB-FM	Sun 10am
Bendigo- Castlemaine	3CCC-FM	(1)Fri 10.30am (2) Fri 7pm
Inverloch	3MFM	Wed 6pm-8pm*
Melton	3RIM-FM	Sun 9am Wed 9pm(r)
Morwell	3GCR-FM	Fri 12.30pm
Portland	3RPC-FM	(1)Tue 1-2pm* (2)Fri 4-5pm*
Adelaide	5MMM-FM SUV	Fri 12am
Mount Gambier	5GTR-FM	Thur 3pm
Perth	6NR 6UVS-FM 100-FM	TBA TBA TBA
Derwin	5TOP-F	(1)Mon 8.30am
Alice Springs	8KIN-FM 8CCC-FM	Sun 2pm Sun 7-9pm*

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Biotechnology and the Third World



Few technologies have raised such expectations as the newly emerging biotechnologies. Hopes have been expressed that finally a technology is being developed which will contribute to the elimination of malnutrition, hunger and starvation based on the agricultural applications of biotechnology, particularly in the Third World. Susan George looks at the possible effects.

Biotechnology has been broadly defined as any technique that uses a living organism (or part of an organism) to make or modify products, to improve plants or animals, or to develop micro-organisms for specific uses.

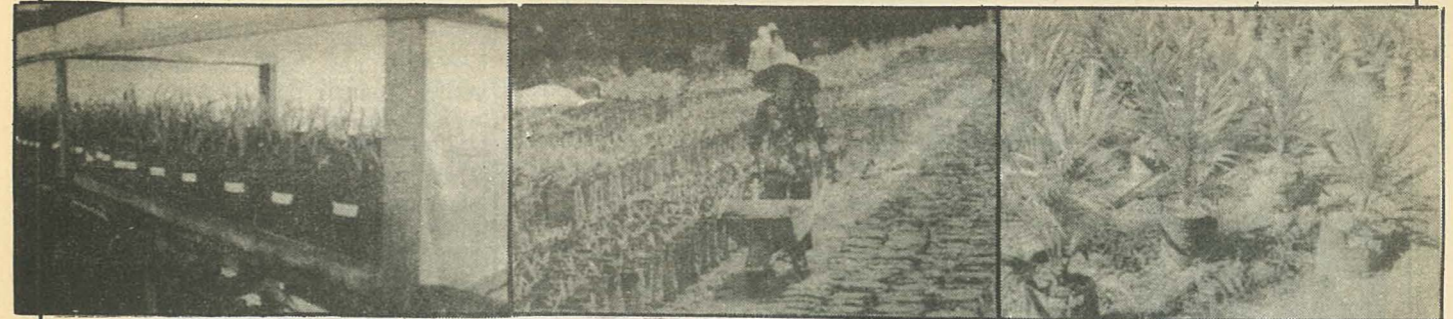
By giving this definition, proponents would like to assure the general public that there is nothing essentially new or different about the novel forms of biotechnology that have emerged during the last decade. For these proponents, the new biotechnologies, including cell fusion and genetic engineering, are simply a continuation of a long historical process of continued manipulation of the living world.

In the early 1970's, Stanley Cohen of Stanford University and Robert Boyer of the University of California discovered a new technique called recombinant DNA (rDNA). Generally referred to as genetic engineering, rDNA enables the isolation of desired genetic characteristics from one cell to be incorporated into another. The 'Eighth Day' of creation has begun. We can now play God, rearranging and recombining gene fragments of unrelated species at will.

Biotechnology allows for the sifting through of the plant kingdom, looking for profitable substances to be made in vats of green goulash, or by tubs of microbes living in industrial fermenters.

Biotechnology is expected to have its most profound impact on agriculture. For what is hurtling towards us — and the age old occupation of farming — is an unprecedented revolution in agricultural genetics; a revolution that began slowly thousands of years ago with the first domestication of plants and animals, progressing ever since with attempts at controlled cross-breeding.

According to Henk Hobbelink, author of *New Hope or False Promise?* 'Genetically engineered plants or animals have yet to reach the market, basically the higher organisms have a far more complex structure than micro-organisms' but 'significant progress has already been made in changing the genetic code of higher plants and animals'.



From the lab to the land — Palm trees for Columbia. Photo: Unilever

Biotechnology has an ancient lineage, with beer brewing, cheese making and bread baking. The principle is the same — a micro-organism is added to a material transforming it into the desired product. The difference between then and now is the extent to which the processes can be influenced and directed.

Some Third World governments see biotechnology as a way out of the fertilizer and pesticide dependencies that came with the first Green Revolution. According to former Indian agricultural official Dr M S Swaminathan, now director of the International Rice Research Institute, 'nearly every developing country has plans or programmes for harnessing the tools of biotechnology for national development'.

In the Philippines, the National Institute for Biotechnology and Applied Microbiology has set a high research priority for nitrogen fixation and microbial insecticides. In India, the National Biotechnology Board has targeted genetic engineering, photosynthesis and tissue culture work among its research priorities. Both these countries are competing with multinational corporations and the governments of developed nations looking to sell their products.

Despite the emerging pressures from corporations and industrialised nations to push the new ingredients of biotechnology into the agricultural systems of the less developed lands, there are signs that some of these countries' governments want to turn away from the treadmill of high cost modern agriculture. In the Philippines, a seed collecting and banking programme has been initiated to find traditional varieties of rice, corn and vegetables that have become scarce because of the Green Revolution. In Tanzania, a new national agricultural policy emphasises crop rotation, composting and village-based agriculture over the high-tech practices of the Green Revolution.

The social problems generated by the Green Revolution continue today. The

advent of biotechnology will worsen these problems and create new ones. The creators of the new biotechnologies have not learned from the past. Like their predecessors, they do not design their genetically engineered crops and livestock with social justice and environmental criteria in mind.

The first signs on the horizon are ominous. Chemical and pharmaceutical companies are stepping up their purchases of seed companies. Shell has control of over seventy seed firms in the United Kingdom, Spain, the Netherlands, Japan, West Germany and the United States. Ciba-Geigy of Switzerland has control of over thirty-one seed companies in the United States and Canada while Sandoz, a Swiss chemical company, has control of over thirty-six companies.

This consolidation of seed companies with chemical companies breeds a conflict of interest which has the propensity of working against farmers. It is clear that the new biotechnologies are not aimed at making farmers in rural areas develop self-supporting and sustainable agricultural systems. If external control of the agricultural production processes dominated the Green Revolution in the past, the new biorevolution in agriculture will similarly be characterised by new and stronger forms of dominance and manipulation.

As a global community we are facing a critical juncture. We have two paths to the future. We can either pursue an ecological partnership with the living systems of our fragile planet or we can assert out total control over the forces of Nature and totally redesign our living environment through biotechnology.

The moment we forget we have an alternative to biotechnological intervention in agriculture, then, at that point, we may well perish with our lack of vision. But the sooner we move on the track of deep stewardship of the resources of the Earth and the sooner we acknowledge our profound indebtedness and relationship with nature, the quicker

we create a world of hope and promise. It could even be that there will be facets of biotechnology that we will take with our journey onward. However, it will be one embedded in the context of ecological vision and wisdom.

Science merely gives us the knowledge to measure possibilities. The aims that are raised through the study of science are concluded by individuals with motives. If these motives are controlled by the transnational corporations, then the endeavours of their achievements will be beneficial in terms of their primary motive — profit. Any social improvement in these terms will be at best coincidental and at worst non-existent.

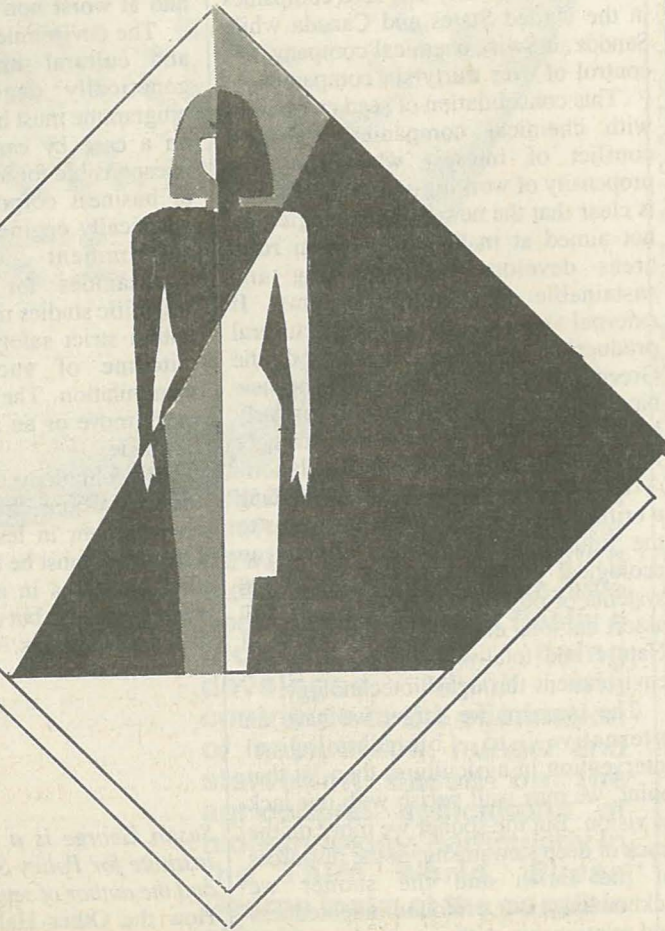
The environmental, economic, social and cultural impacts of each new genetically engineered product or programme must be taken and scrutinised on a case by case basis. It would be irresponsible for any government agency or business corporation to release any genetically engineered product into the environment with the ensuing uncertainties for future generations. Scientific studies must be able to predict, within strict safety margins, the likely outcome of such biotechnological manipulation. The difference between a brave move or an act of stupidity, must be made.

Biotechnology can change our lives, the lives of our children and the natural environment in less than two decades. Great care must be taken because we may find ourselves in a position to ask the right questions, but not necessarily to give the right answers.

Susan George is a researcher with the Institute for Policy Studies (Washington) and the author of several books, including How the Other Half Dies and A Fate Worse Than Debt.

Women and AIDS

At a time when the Commonwealth Government has finally launched an AIDS campaign which includes references to women, it is a good opportunity to take stock of the issues that women face in relation to the disease. Sheril Berkovitch examines the situation.



Very little has been done about women and AIDS. Last year the South Australian AIDS Council published a pamphlet which received widespread distribution: *The AIDS Puzzle: Where Do Women Fit?*. There have been sporadic attempts by other organisations, but there has been little co-ordination. The Victorian IV Drug and AIDS Group (VIVAIDS) recently employed a Women and AIDS worker, the first in Australia.

It is hard to know what individual organisations are doing or if they are doing anything. If Victoria is anything to go by, women are receiving no education on AIDS and very little funding is being directed towards women, although there are moves afoot to correct this.

This is not necessarily the fault of AIDS organisations. The majority of them developed from the gay community and serviced gay and bisexual men in direct response to their very real needs. The continual representation of AIDS as a gay male disease by the media and the Right has taken up much of the focus in AIDS organisations which continually seek to tell the truth about AIDS and to manoeuvre themselves out of the backlash directed against the gay community. The recent outburst by Liberal Shadow Health Minister, Wilson Tuckey at the National AIDS Conference in Hobart, shows this opinion has not yet been laid to rest.

However, some organisations are finally addressing the issue of women and AIDS, as are many feminist health workers and women working in the AIDS field.

AIDS affects women in many different ways. They may have come into contact with the AIDS virus (HIV) and be antibody positive; they may have developed AIDS Related Complex (ARC or Category B AIDS), or they may have AIDS (Category A or 'full blown' AIDS). No-one knows exactly how many women in Australia have been diagnosed because statistics are not kept in relation to women. Women will appear under categories such as recipients of blood or blood products, as IV drug users or through heterosexual sexual transmission. A March 1988 estimate in Victoria was 25 — a small but significant percentage of total cases. As the virus becomes more prevalent amongst IV drug users and heterosexuals, the number of women with HIV will increase. (In August a new group of HIV positive women formed and is now meeting regularly.)

Women may be the partner, mother or sister of a person with HIV. They may be an AIDS worker or a health worker who

has clients or patients with AIDS. They may have lost friends to AIDS related illnesses. They may be lesbians suffering the backlash against sexual minorities, under the guise of AIDS prevention. There is no limit to the ways in which AIDS affects women.

This article seeks to clarify some of the issues for women and hopefully to provide some relevant information for women and men facing the reality of AIDS for women. I will look at the situation in Australia and overseas and investigate some of the precautions women can take to avoid contracting HIV. What does safe sex mean for women; what does IV drug use mean? How can women get involved in the struggle against AIDS?

It is also important to know exactly what AIDS is. Most of the material produced in Australia has been directed towards the so-called 'high risk' groups; gay and bisexual men, IV drug users, people who receive blood or blood products, and the sexual partners of these groups.

What is AIDS?

AIDS stands for Acquired Immune Deficiency Syndrome. 'Acquired' because you are not born with AIDS. 'Immune' refers to the body's defence system against disease. 'Deficiency' meaning that this is not working properly, and 'Syndrome', the group of signs or symptoms characteristic of ARC and AIDS; opportunistic infections which the immune system would normally fight off but which invade the body when the defences are low.

AIDS is caused by a virus called HIV which attacks parts of the immune system, damaging it, and preventing it from effectively fighting off infections. Some common infections of people with AIDS are Kaposi's Sarcoma (KS), a rare cancer, and pneumocystis carinii pneumonia (PCP), as well as a range of more common infections which become 'out of hand', such as candida (yeast infection).

Who has AIDS?

At present in Australia the majority with HIV are gay and bisexual men (around 90 per cent). Some of these men are also IV drug users. However, there are women with HIV and no-one is immune to the virus because of their sexuality.

In parts of the world such as Africa, where the incidence of HIV infection is enormous, the mode of transmission is almost exclusively heterosexual sex and women and men are infected in equal

numbers. This has paved the way for racist assumptions to be made about people in Africa. One US doctor, for example, in the April *Cosmopolitan* suggested that the high incidence of AIDS in African women is because of 'poor genital health' and that African men are rougher sexual partners. It is important to note that those African countries with a high incidence of AIDS also have extremely poor health facilities.

How can you contract HIV?

HIV is spread through blood, semen, vaginal secretions, urine or faeces. Anal or vaginal sex with someone who has HIV can pass the virus. It is also possible that HIV can be spread through oral sex, although there have been few recorded incidences. Sharing IV needles (fits or works) with a person with HIV is probably the most efficient way of passing on the virus because small amounts of blood remain in the syringe.

People who received blood transfusions or blood products prior to 1984, when screening of blood and blood products began, may have contracted the virus through this avenue. Using semen for artificial insemination from an infected donor can also be a mode of transmission. Babies born to women with HIV have about a 50 per cent chance of contracting HIV. Breast milk has also been shown to contain the virus.

Most people in Australia who have HIV are gay or bisexual men, IV drug users or both. Haemophiliacs are also at risk if they received blood products before 1985. In the US over half of the women who have HIV have been IV drug users, whilst others have contracted the virus through sex with male partners. Some women received it from blood transfusions before 1984.

What happens to people with HIV?

Most people with HIV show no symptoms and are in good health. A proportion have ARC, the symptoms of which are swollen lymph glands, diarrhea, fatigue, rapid weight loss, night sweats, fevers, chills and infections.

A smaller group will go on to develop AIDS. The symptoms of AIDS include the symptoms of ARC plus shortness of breath, dry coughs, and pink or purple spots on the skin. These additional symptoms are caused by KS and PCP.

Testing for HIV

If you feel you may have HIV, you can

have a test to detect the antibodies to the virus in your blood. However, you have to carefully weigh up the consequences of knowing your antibody status. You have to consider the stress related to knowing you are HIV positive and how this will affect your life. You have to think about the consequences for your job prospects, insurance, housing and relationships. Women have to carefully consider the possibility that they may pass the virus to their child during childbirth.

My personal advice is not to have the test. Should you decide to do so, work in consultation with an experienced counsellor who will help you to consider all of these issues and will stay with you should your test be positive.

What can women do to avoid contracting HIV?

Women are most at risk for HIV if they share IV needles or have unsafe sex with a person with HIV. Women who have shared works, had sex since 1977 with IV drug users, gay or bisexual men or people with haemophilia may have been exposed. A woman may also be at risk if her sexual partner has had unsafe sex with someone in these categories.

A woman using donor insemination to become pregnant is only at risk if the donor has HIV. Women who have received blood transfusions or blood products before 1985 may have come into contact with the virus. If you are considering artificial insemination for pregnancy it is important to make certain that your donor or partner is not antibody positive. This is possibly the only time when an HIV test is recommended, for both the woman and her potential donor or partner.

A woman who only has sex with other women faces the lowest risk for infection, although there are now reported cases of woman to woman transmission. There are many cases of women, including lesbians; passing HIV through sharing IV needles.

HIV prevention for women

Unless you know for sure that your sexual partner does not carry the virus, you must take precautions:

- Don't allow their blood (including menstrual blood), semen, urine, vaginal secretions or faeces to enter your anus or vagina. Oral sex, where semen or vaginal secretions enter your mouth are less risky but still carry some risk. Steer clear of blood altogether.

- Use condoms for vaginal, anal or oral sex. HIV cannot travel through a condom if it is used properly and does not break. Use only latex condoms as those made from membranes allow the virus to pass through. If you haven't used condoms before, practice.
- Never share sex toys such as vibrators unless you wash them thoroughly before passing them to your partner, or use a condom.
- Lesbians who consider themselves to be at risk can also practice safe sex. In the US, AIDS organisations and women's health groups recommend use of a dental dam for oral sex, a small sheet of rubber used by dentists to isolate the part of the mouth they are working on. (Apparently they come in several flavours.) They are not easy to get in Australia and women have suggested to me that cling wrap is just as effective!

If you are practising digital penetration (vaginal or anal), use a disposable latex glove or finger cot (a glove for one finger).

- All women should use a barrier for anal/oral contact.
- All women who practice sado-masochistic sex should take special care that blood is not exchanged.

All these precautions are important and although some are things we don't generally talk about, it is vital that women know about them.

There are lots of safe sex practices that don't require 'protection'. (This applies to lesbians and heterosexual women). They include kissing, massage, body-to-body rubbing, using (but not sharing) sex toys. You can practice all of the sorts of sex mentioned above but with protection.

The other important issue that women need to remember is never share needles. This is the most efficient way to pass on HIV.

Effects of the AIDS crisis on women

Many women have been affected by losing friends, lovers and family to AIDS related illnesses. Lesbians have suffered increased anti-gay hostility from a society which refuses to recognise AIDS as a health issue, rather than a gay issue. The AIDS crisis also emphasises the need to address problems of substance abuse amongst women, especially IV drug use.

There is also the danger that health care will be pushed back onto the community, something which is already happening in Britain. When this occurs,

it is almost always women who bear the burden of care for children, elderly and sick people. It is vital that women take up this issue now, before it's too late and join the fight for adequate funding and realistic policies for the treatment and care of people with AIDS.

IV drug use

A lot of educational material and media 'information' about AIDS has focussed on gay and bisexual men. Programs and campaigns to halt the prevalence of AIDS in the IV drug community are new, at least in Australia.

In other parts of the world, the Netherlands for example, high level educational and outreach campaigns and needle exchange programs for IV drug users has limited AIDS. In New York, however, where no such programs exist, the incidence of HIV infection amongst IV drug users is around 86 per cent. In Australia it is now estimated at around 5 per cent and organisations such as VIVAIDS are formulating strategies to ensure that the proportion decreases.

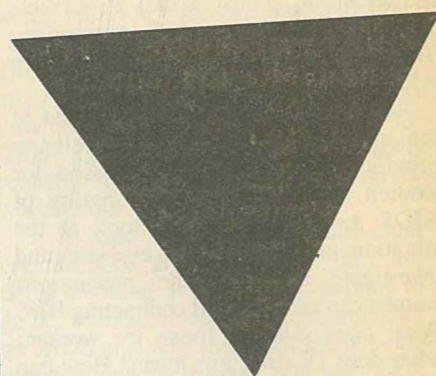
IV drug use is another of those taboo subjects. No-one likes to admit that they shoot up or know people who do. If you use IV drugs, get clean needles through a needle exchange program. If you know someone else who shoots up, encourage them to take part in needle exchange or get their needles for them. AIDS organisations in your state should be able to help you with information on where to go.

If you are HIV positive

AIDS organisations will be able to inform you of the services available and operate under strict confidentiality. Most States have support groups. There are also family programs and groups for partners of people with HIV. Some States have alcohol and drug support programs, accommodation programs, and support services where care teams will come into your home and help you with household needs.

One important thing to remember is that you are not alone. There are thousands of people with HIV in Australia and many of them meet for mutual support.

Sheril Berkovitch is Co-ordinator/Community Development Worker with AIDS Resources Contact at the Gay Men's Community Health Centre in Melbourne (now as a volunteer since funding expired), Secretary of the People Living With AIDS Project, and is active in the lesbian and gay movement.



Information

For further information or advice don't hesitate to phone:

Australian Capital Territory

AIDS Action Council	(062)	57 2855
AIDS Clinic	(062)	84 2184
		84 2200

Australian Federation of AIDS Organisation (AFAO) (062) 47 3993

New South Wales

AIDS Hotline	(02)	332 4000
AIDS Council of NSW	(02)	211 0499
Ethnic Line	(02)	662 6677
Albion Street Centre	(02)	332 4000

Northern Territory

Communicable Diseases Centre	(089)	26 8007
NT AIDS Council	(089)	41 1711
Crisisline	(089)	81 2040

Queensland

Queensland AIDS Council	(07)	844 1990
	(008)	17 7434
Townsville AIDS Council	(077)	21 1384
AIDS Medical Unit	(07)	224 5526

South Australia

AIDS Council of SA	(08)	223 6322
AIDS Programme	(08)	218 3668

Victoria

Victorian AIDS Council	(03)	417 1759
AIDS Line	(03)	419 3166
Communicable Diseases Centre	(03)	602 4900

Western Australia

WA AIDS Council	(09)	227 8355
Special Clinic	(09)	220 1122
AIDS Helpline	(09)	227 8619

Tasmania

Tasmania AIDS Council	(002)	31 1930
AIDS Unit	(002)	30 2872
AIDS Phone Link	(008)	00 5188
Launceston AIDS Council	(003)	34 2000

or contact your local Family Planning Office, Women's Community Health Centre or Telephone Interpreter Service.

REVIEWS

BOOKS

New Hope or False Promise? Biotechnology and Third World Agriculture by Henk Hobbelenk. International Coalition for Development Action Belgium, 1987 US\$5.00

Reviewed by **Greg Kemp**

The term 'biotechnology' has become one of the 'Catch Cries' or 'Buzz Words' of the eighties. It interests me to see how few people are informed about the new developments in this old technology.

In Henk Hobbelenk's book, *New Hope or False Promise? Biotechnology and Third World Agriculture* I was relieved to see that he kept to his subject while acknowledging developments in other areas of biotechnology.

He highlights three areas of importance which have changed and will continue to change with advances in biotechnology.

The first area is plant breeding which aims at making better, more productive plants. This sounds good but Hobbelenk points out that this will ultimately depress prices. Larger plantations will then have to shift to less labour intensive land use management with the loss of jobs. Inefficient farmers will be forced off the land. Unfortunately, these inefficient farmers will be the borderline subsistence farmers who rely on a cash crop to pay their debts.

Application of enzymes which use traditional crops as a substrate is another area. Here crops are grown as a source of either oils, starch or carbohydrate and these are converted into other high value products. For example, sweeteners can now be derived from about twenty different sources, again depressing the

price of the traditional crop which in this case is sugar. This has forced upheavals in both the Third World and developed countries. One has only to look at the cane growers of Queensland to see this.

The third area of concern is the use of herbicides. He examines the dubious practice of large companies selling agrochemicals in conjunction with resistant seeds. This practice leaves little incentive for the development of pest resistant crops and the design of herbicide free weed control strategies. Both of these could be achieved by the use of biotechnology and would benefit the poor of the world.

Another point that Henk Hobbelenk makes is that of the control of genetic resources in the world. He is quick to point out that large companies are collecting resources in the forms of wild seeds for storage and research. However these are not freely available. What is needed is a repository for this resource that is available to everyone.

Underdeveloped countries will not be the only ones affected. He estimates that by the turn of the century half the farmers in America and Europe will be forced off the land due to increased production. Excess will be dumped in developing countries causing havoc on both the agriculture and the economies of these countries.

Henk Hobbelenk is not advocating a direct stoppage in biotechnological research as the need still exists for biotechnology to solve the problems of developing countries. He points out that biotechnology need not be high technology, such as genetic engineering and its applications. The biological approach to solving local agricultural problems should be an adjunct to good

land management practices. This is a more sensible approach to solving problems both in the Third World and other so-called high tech agricultural societies.

To provide answers for any question, one must first perceive the problem. Here Henk Hobbelenk's book provides some insight into the technology and politics of biotechnology. The book is short, easy to read and referenced for those requiring further information. I recommend it to those who wish for a basic introduction into agricultural biotechnology and the politics associated with it.

Greg Kemp is a research assistant with the CSIRO working with Biotechnology.

A Handbook of Nuclear Weapons Accidents by Shaun Gregory and Allister Edwards, School of Peace Studies, University of Bradford, 1988. \$7.50 plus postage.

Reviewed by **Peter Springell**

As many as 75 per cent of nuclear weapons accidents may be hidden from public view. The 188 accidents described in this excellent publication represent only the very tip of the iceberg. Indeed, the US Navy alone admits to 563 nuclear weapons 'incidents' between 1965 and 1983. There is also a total lack of information on French or Chinese accidents, and yet there is no reason to believe their weapons are any safer. While America has more nuclear weapons than anybody else, because of the Freedom of Information legislation, the US could, perhaps unjustly, be seen as having by far the worst accident record.

The history of weapons safety from the 1940s to the present day is traced. Initially, the somewhat crude and slow

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safety precautions caused concern to the military in case weapons could not be activated in time for use in a crisis situation. Indeed, as Cold War tensions mounted, precautions were relaxed, sometimes to quite dangerously low levels.

By the 1960s integral electronic 'locks' or Permissive Action Links (PAL's) greatly improved the safety of land based weapons, while speeding up the arming procedure. Regrettably, Britain has chosen to forego PAL's as well as many physical safety devices. The US Navy too, has successfully argued against the adoption of PAL's for sea launched nuclear weaponry on the grounds of greater security from external threats at sea, and because of inherent difficulties of communicating with submarines. Later generations of PAL's were improved, while other safety features, such as the Insensitive High Explosives (IHE's) greatly enhanced weapons safety.

Despite much progress however,

military readiness considerations will always mean that nuclear weapons will not be as safe as human ingenuity could make them. Costs also impose limits on safety levels, since a modern PAL system amounts to as much as \$50,000 per weapon.

Between 50 and 70 per cent of accidents can be ascribed to human 'goofs', while those with a lower IQ (from which the military draw their recruits) are also more accident-prone. But negative ingenuity can also result in circumvention of sophisticated PAL systems by such simple methods as a 'string and spoon'. Boredom induced irrationality and drug or alcohol related problems also contributed to over 50,000 decertifications, or 4-5 per cent of those employed, during 1975-84 in the US alone. The Russians are no better off, with possibly around one third of their service personnel alcohol dependent.

Consequently, safety of nuclear weapons is regarded more in terms of technical safeguards. But humans design and control such devices, so that technical malfunctions are possible, which can bypass authenticating code systems and all negative controls, thus allowing

unintentional or unauthorised launch. While the possibility of computer failure is well established, a lesser known new potential cause of accidents is the Hazard of Electromagnetic Radiation to Ordnance, or HERO. Accidental detonation due to HERO can be induced by TV, radio, radar, electricity generation and transmission as well as high tension power cables and lightning. Humans can even act as antennae to conduct electricity into weapons simply by handling them.

Accidents involving nuclear weapons fall into nine categories, or four main groups. Entries are in chronological order and summarised at the end. Since the list includes accidents involving misdirected or unintended fall-out from some nuclear tests, the omission of the British tests in Australia will need to be remedied in future editions. The shortcomings of the British, French and US testing in the Pacific too, is also sufficiently documented, to have rated a mention.

The dangers of nuclear weapons accidents occur at three levels: (1) damage or destruction of inert weapons, (2) accidental nuclear detonations and (3) accidental nuclear conflict triggered by a nuclear weapons accident. It is wrong to assume, as most authorities do, that nuclear weapons accidents do not constitute a danger because so far nuclear detonation has been prevented.

Of interest is the possible plutonium dispersal following fires, which could occur following the crash of a nuclear armed aircraft, or some accident on board a nuclear armed ship. US Department of Energy experiments reveal that a credible accident could cause a cigar shaped radiological cloud twenty-eight miles long and two and a half miles wide.

Potential conflict between the US and a host nation is well illustrated by what occurred during a fire at the US nuclear weapons depot at the RAF base St Mawgan. When British fire and accident personnel arrived to deal with the fire they were kept at bay by the US military with loaded firearms. In brief, the Americans reserve the right to declare a National Defence Area (NDA), even outside the USA. A manual states categorically that military necessity would dictate the location, shape and size of the NDA.

Copies may be obtained by writing to the School of Peace Studies, Bradford University, West York BD7 1DP UK. It is certainly well worth getting.

Peter Springell is a peace activist and a retired scientist.

FILM

Cane Toads — An unnatural history by Mark Lewis A Film Australia Production Released by Ronin Films

Reviewed by Roger Kemp

Something is eating Queensland and it's not the National Party but rather *Bufo marinus*, the cane toad. Originally introduced in 1935 to control the cane beetle which was devastating Queensland's sugar crop the toad is now devastating the native wildlife... and spreading through New South Wales and towards the Northern Territory.

Mark Lewis originally set out to make a 'natural' history of the very serious problem that the cane toad is. What he ended up with is virtually a comedy, as much about the people of Queensland and how the folk in the southern states view them, as about the toad.

The film details the toads life cycle and history — the damage it is doing and why control is difficult. Interspersed are interviews with people who love and hate the toads. There are toads in dolls clothing, the benefits of Whiskettes as toad food, the joys of watching them

mate! And there is the 'Mullimbimby head' who tells us of how one can 'see life through the eyes of a toad' by smoking the dried skin.

There are also the problems. The death of native birds and animals, and pets and the potential disaster should the toad make it — as seems almost inevitable — to the Kakadu wetlands. Plus some of the local solutions like a kombi zig-zagging all over the road in an attempt to squash as many as possible.

The tales of love and hate for these basically innocent critters (after all, they didn't ask to come here) are all quite bizarre. It can also be quite disconcerting to be laughing at those people who are so deadly serious, yet so blatantly comic, as they discuss these fundamentally ugly and environmentally extremely dangerous beasts — but then, that is how many people view Queenslanders.

The film is very entertaining and hopefully that will ensure bums on seats. It also shows the problem and so hopefully the audience will think about the toads as well as laugh at them.

Roger Kemp is a cane toad living in Brunswick.

Punishment by Anna Mitgutsch. Virago Press, London, 1987 \$16.95

Reviewed by Margaret Burrage-Coburn

Punishment is a gripping tale of cause and effect, the story of a lonely, battered and bewildered child, seen through the eyes of her daughter, the unfortunate recipient of her brutal beatings. Even more crippling was the legacy of hatred and paranoia.

The stage is set a generation before. We catch a glimpse of her mother in infancy, the nine month old Marie with a frozen diaper, and the children's maid's reaction — Oh well, no mess at least — the paralysis of her legs which followed, and her delayed walking. Friday's child — unwanted by her mother and a disappointment to her father, who wanted a son.

Her self-esteem began low and sank lower. Life as a small child with her parents unreal expectations of her school behaviour and work at home on the farm is a litany of horror. Savage beatings, a callous disregard of her person, a loveless existence, and the preferential treatment received by her sisters, this was her life.

Heart Politics by Fran Peavy with Myra Myra Levy and Charles Varon. New Society Publishers, Philadelphia

Reviewed by Helen van Eyk

Heart Politics is an immensely positive account of Fran Peavey's search for social justice and change. It is thought-provoking, challenging and often funny. In her simple accounts of various episodes in her life where she has chosen to be different and to reach out to those who are oppressed or suffering, she shows us ways that we can also find courage in ourselves to make choices for change in our lives.

Fran Peavey continually emphasises 'connectedness' — the importance of feeling the humanity of those who differ from us. Fear and ignorance of others prevents this sense of a common bond between individuals and groups. She suggests that fear can lead to numbness and inactivity and that, to overcome this, we need to find our connectedness with others.

She grew up in shame and humiliation, desperately desiring love and approval, never receiving it and never learning how to give it.

Were these perceptions accurate, of events recalled so differently by her sisters? Or were they the magnifications of a brooding paranoid woman about her unhappy childhood?

If the equally brutal beatings she inflicted on her own child Vera is anything to go by, it appears they were true perceptions.

Vera is the narrator of this story. She too is the helpless victim of her mother, constantly loaded with guilt for her lack of gratitude to the one her gave her life, wretched and joyless as it was. One wonders how Vera is able to smash the vicious cycle of child abuse, dependency and hostility, the distorted emotions of fear and frigidity. The answer comes well before the end of the book. In spite of her efforts to break the cycle she has remained her mother's daughter.

The lives of three generations of women are woven together. The tormentor becomes the tormented in inexorable progression. This book is to be recommended as a novel of clarity.

She writes from her experiences with the anti-nuclear campaign. She uses 'nuclear comedy' to overcome the fear which is brought on by the massive scale of the odds against which she struggles. Through laughter she can bring back the humanity of the struggle for those overwhelmed by it.

Her stance is one of peaceful non-violence. She tries to find the connection with those she confronts, seeing them as fellow human beings struggling with the same dilemmas that she faces. In this way, she can relate to them, not as a threatening enemy, but as an understanding friend who can offer an alternative approach.

This is an important book. Despite its humble tone, it offers some powerful ideas. It does not offer solutions, but shows a way to begin, to take risks and follow what we believe to be true. Its main emphasis is on the importance of connectedness, the importance of caring for our fellow human beings and of standing up for what we believe. It is an inspiring book, well worth the enjoyable effort of reading.

Lyn: A story of prostitution by June Levine and Lyn Madden. The Women's Press Ltd, London 1988. 267pp. \$18.95

Reviewed by Jo

In the early pages *Lyn: A story of prostitution* makes the connection between marriage and prostitution by quoting the Russian-American anarchist Emma Goldman, but neglects to observe that declining to make a life contract for sex and housework with one man for no money and instead making short verbal contracts for sex with cash in hand gives women a distinct financial advantage.

This book has a distasteful moral tone, coming from a country where religion clouds every social issue. It is not easy for me to define, but I think it comes from the unproven assumption that *all* women who work in prostitution suffer horribly *all* the time.

If perhaps we had been allowed to read Lyn's story written in her own tongue, instead of the doctored, social worker filtered third person, I may have found this book worth finishing. Only the last chapter is in first person — I can't tell if it has been sanitized — but it has more vitality than all that has gone before; which is like hearing someone tell a long and horrible, yet strangely dull, dream.

It has been described as shocking, and it is. Violence, rape, murder abound, but it is as lifelike as pornography. There is no explication, no involvement. We feel nothing for the characters in the story because they are like crash test dummies. We are detached from the violence and feel nothing but shock, which is a poor



substitute for anger, sorrow, grief, agony, fear, pathos or understanding. No understanding and we do not change. Shock is too familiar and only produces inertia.

I may be rabid but I don't need this book. I don't think you do either. Those who know something of the lives of women working in prostitution don't need it, there are plenty of better books on the subject*. Those whose opinions have been formed by popular media rather than experience will indeed be shocked by this book, and reinforced in their determination to 'clean up' prostitution — the oldest profession known to Patriarchal Capitalism — so 'decent' people can mow their lawns in peace.

Lyn: A story of prostitution contributes nothing to our understanding of the lives of women working in prostitution. Therefore it is not an empowering book. Even though I'd not wish anyone to read it, I am going to sell my copy to a second hand bookshop.

*Other books to read on the subject suggested to me by a friend from the Prostitutes Collective of Victoria; *Prostitutes; Our Lives*, Claude Jaget. *Sex Work ed*, Priscilla Alexander. *So Much Hard Work* Kay Daniels.

The Blue Donkey Fables by Suniti Namjoshi. The Women's Press London 1988.

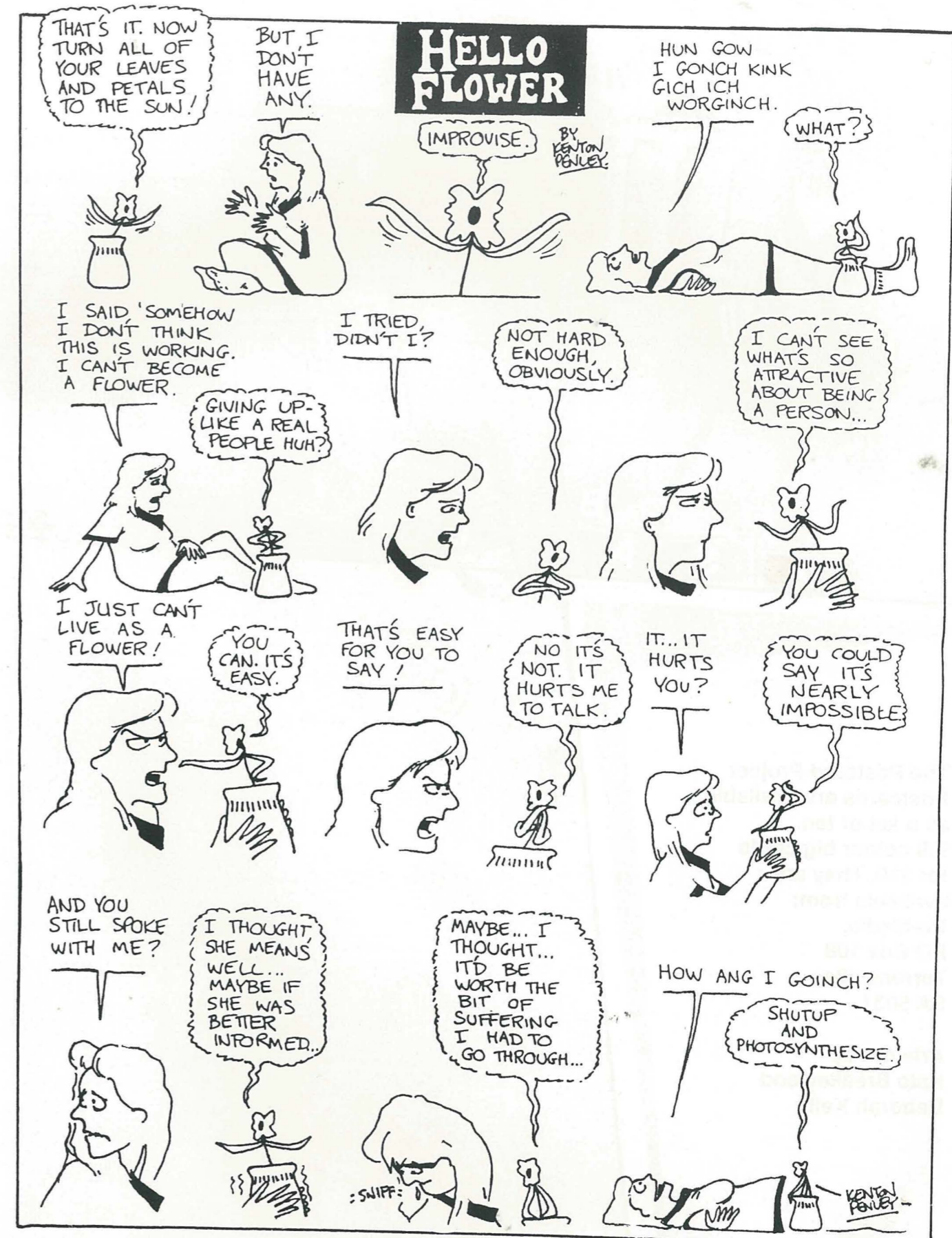
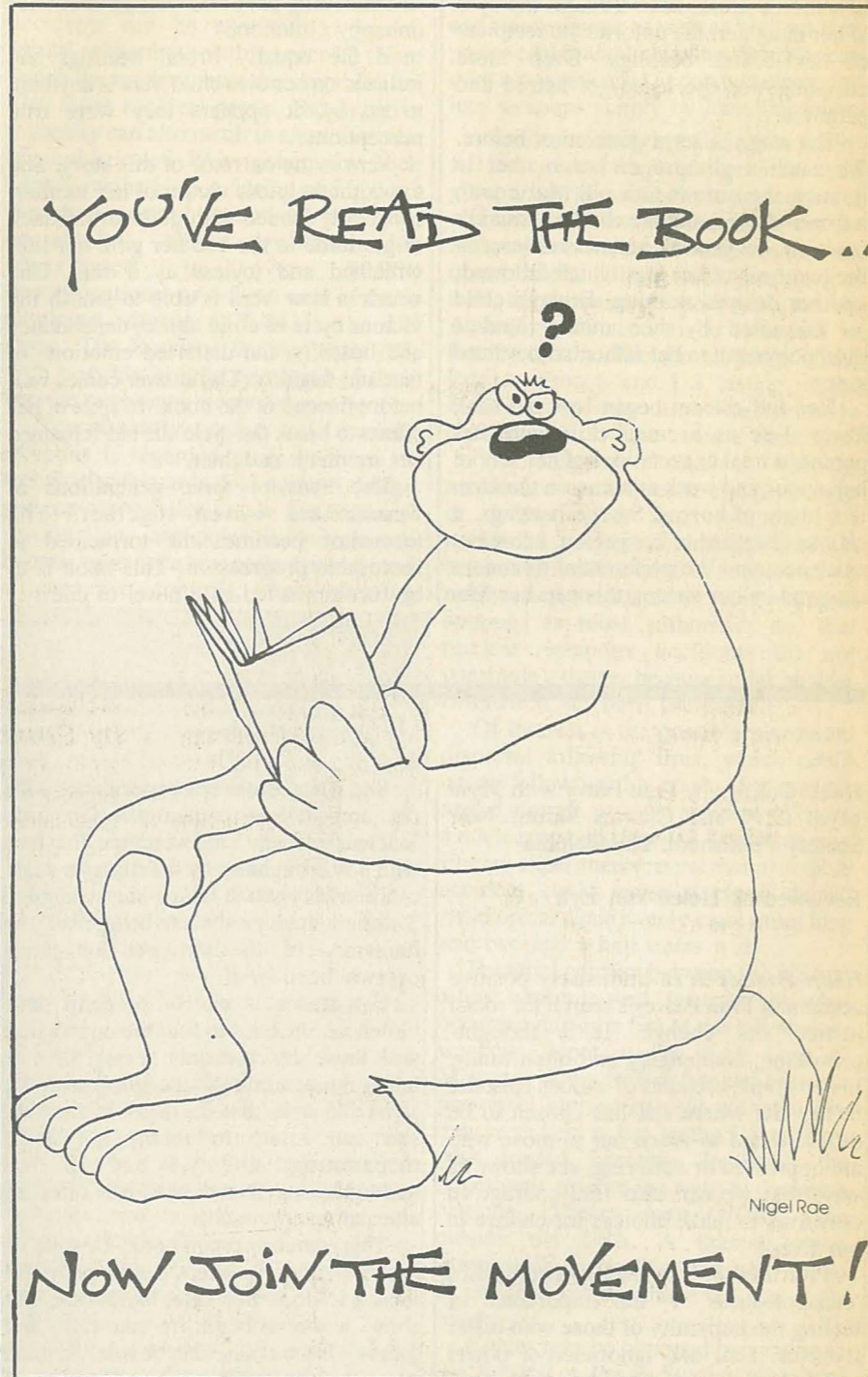
Reviewed by Jo

What can I say? *The Blue Donkey* is great. It has everything I could want in a book except that I can't read it in one session in the bath.

Her tales are politically incisive and wickedly wryly funny — but they contain too much for me not to pause after every tale to laugh, to think, then I must start reading again.

Suniti Namjoshi also wrote *Feminist Fables* which I read with relish but those fables were harder and sharper and contained none of the quasi-whimsy of the *Blue Donkey*. The message is no less sharp but these reach into the unconscious like a stone dropped into water, reverberating like a Zen koan, but much funnier. If you can't buy a copy, steal someone else's.

Jo is an Anarchist/Feminist/Ratbag who does a volunteer roster in the Friends of the Earth (Fitzroy) bookshop.



INFORMATION

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CHILD CARE



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Postcards are available
as a set of ten
full colour big cards
for \$10. They are
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Torrensville
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Artwork by
Kate Breakey and
Deborah Kelly