Chain Reaction

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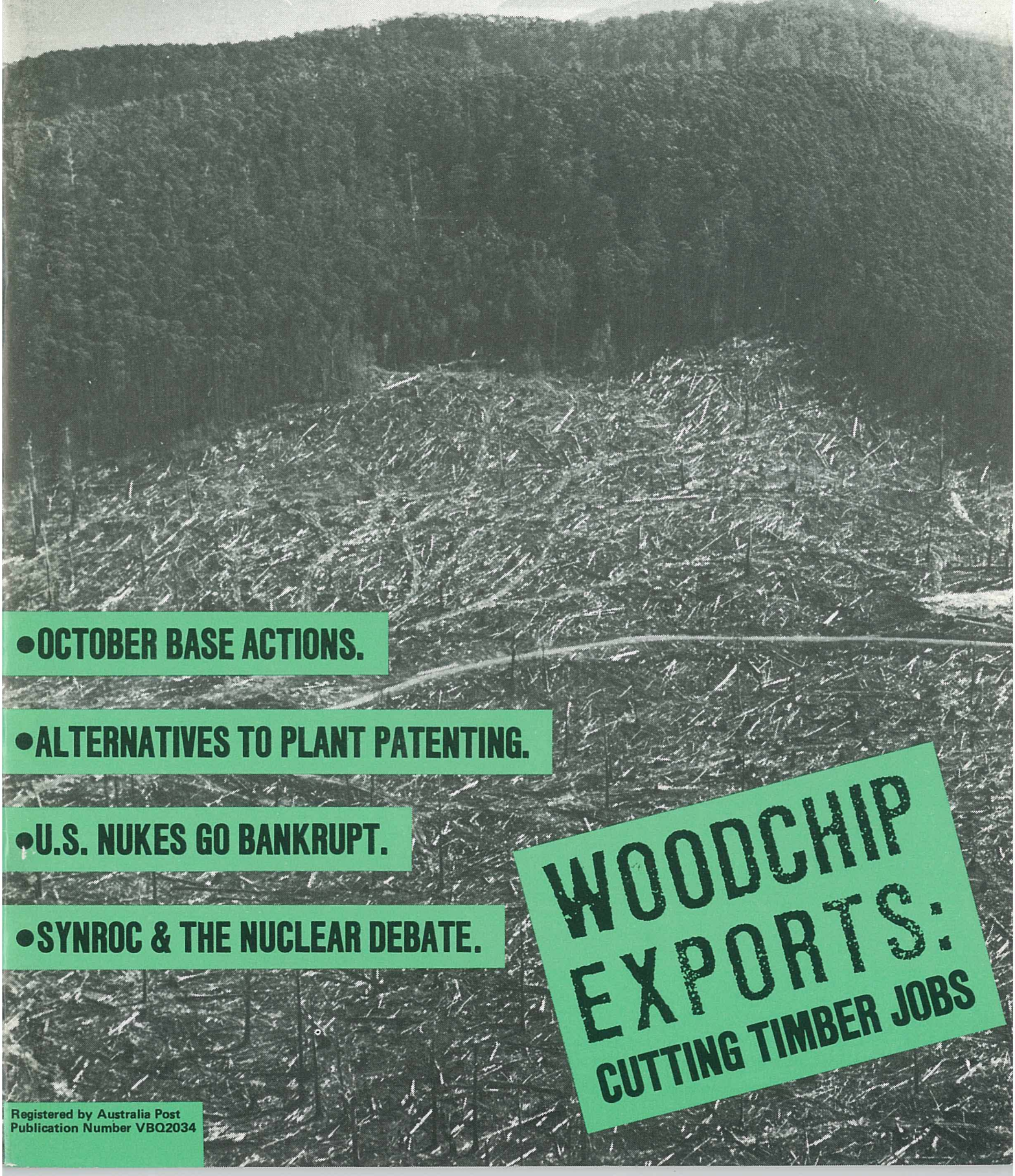

- OCTOBER BASE ACTIONS.
- ALTERNATIVES TO PLANT PATENTING.
- U.S. NUKES GO BANKRUPT.
- SYNROC & THE NUCLEAR DEBATE.

WOODCHIP EXPORTS: CUTTING TIMBER JOBS

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CONTENTS

Cover: Lin Tobias
Photo: Clearfelling in southern Tasmania (Martin Hawes)

Contributions to *Chain Reaction* are invited. Please try to send items typed, on one side of the page, double spaced and with wide margins. Keep a copy. We do not have sufficient resources and people to return manuscripts. These few guidelines help in bringing out the magazine better and faster. The first edition of *Chain Reaction* for 1985 will be published in February. Please send contributions to us by late January.

LETTERS

Franklin battle

What is a review?

Is it a discussion and criticism of a work on its own merits or a list of complaints about a work not being conceived or approached the way the reviewer would have it? Should Indiana Jones provide a document on the archaelogical significance of Nepal? Should Jack Kerovac have written a cross-referenced and footnoted history of the social changes of post World War II America?

Alas! Linda Parlane and John Stone have erred again in their review approach when considering Roger Green's book *Battle for the Franklin* as they did in the review of the Wilderness Society's *Franklin Blockade* in *Chain Reaction* 36. A review should be about what a book is rather than what it is not.

Their point of view is made quite clear in their opening line 'as we prefer to think of it "The Franklin — the battle for analysis" . . .' They desire analysis, as most of us do, yet seem to believe that one approach will suffice and any other publication isn't really worthwhile.

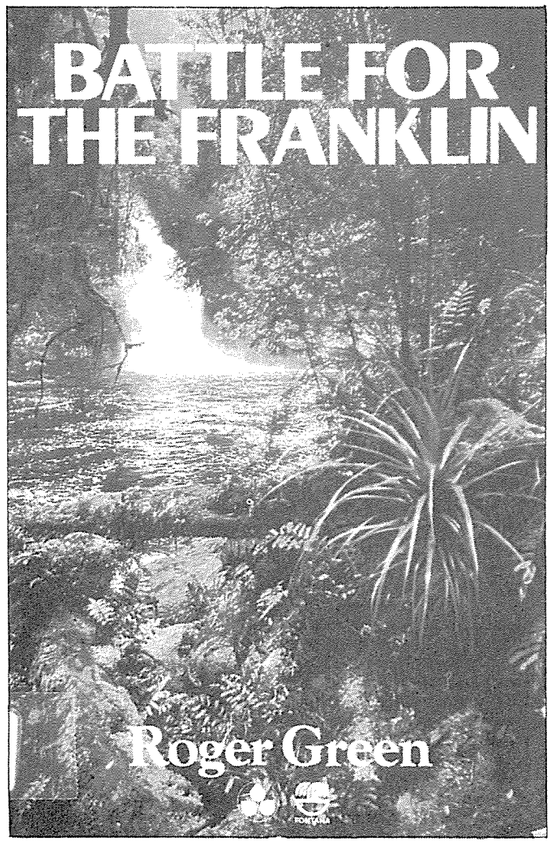
Neither *Battle for the Franklin*' nor '*The Franklin Blockade* was intended, or has claimed to be an analysis of the campaign. Linda and John's criticism is therefore irrelevant. But consider just for a moment, as indeed Linda and John must do, the ghastly proportion of 'the definitive analysis'. Perhaps it will take several publications approaching the subject from different angles, to build up a composite before such analysis can even begin.

The events were still fresh (in fact still happening) when both these books were commenced so the true perspective of time has not been gained. The value of the books is in their presentation of what is more or less a collage of images and recollections to evoke the spirit of the campaign. Their assistance to the eventual perspective should not be dismissed.

Although *Battle for the Franklin* is dangerously selective in appearing to present the elite of the campaign, it is a reasonable presentation of the variety of people from a variety of disciplines involved. That activists from the 'conservative' sectors of the movement (ACF, ANU) and the opposition (Fraser, Gray) have their say in a calmer forum than the daily press is also valuable.

I'd like to take issue on the apparent sexism of the book which Linda and John find at fault. Here was their chance for analysis. The reason for the dominant number of males interviewed is a direct result of the fields in which these people operate. The legal professions, politics, a significant part of the academic world and much of the environment movement remain male dominated. The Wilderness Society itself, at a decision making level is masculine, directed by women or men filling male roles. *Battle for the Franklin* is a reflection and this part of the image is shown with frightening clarity.

Ian Skinner
Sandy Bay, Tas



Roger Green's new book *Battle for the Franklin* and its review in *Chain Reaction* 38 miss one very important point. The campaign to save the Franklin River culminating in the blockade was the largest non-violent direct action in Australia's history. It was not a military campaign and certainly not a war.

Roger Green's book is based on a number of false but commonly held viewpoints. The first is that power as vested in the Hydro Electric Commission (HEC) is monolithic and must be confronted head on. The Franklin campaign showed that when enough people withdrew their support for the dam and the Fraser government, the incoming government had no choice but to stop the project. The perceived monolithic power just evaporated when people who hold the genuine power (electoral in this case) withdraw their support.

The second idea is that the monolithic power must be engaged in battle which, from the numbers of activists jailed, the HEC appeared to win. It suited the Tasmanian government and press to see the peaceful blockade as a war. This is always an excuse for more oppression and their way of resolving the conflict —violently.

The blockaders were firm in their resolve for non-violent resolution of the conflict. Eventually, through federal intervention the conflict was resolved by a process of accommodation. An agreed arbiter (between Tasmanian and federal government) the High Court of Australia ruled the dam invalid.

We won! Because it was a peaceful non-violent campaign — I don't believe lasting social change can be achieved any other way.

Geoff Wilson
Chrysalis non-violence collective
Sydney

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*, Room 14, Floor 4, 37 Swanston St, Melbourne, Vic 3000, Australia.

EARTH NEWS

GREENPEACE

More unroyal treatment

Negotiations with the Australian government for funds for research into Aboriginal evidence to be presented before the McClellend Royal Commission have been continuing for some time, (see *Chain Reaction* 39, Earth News).

Unfortunately, it appears that the government has abandoned its committment (as outlined in the terms of reference of the Royal Commission) to investigate the effects of the British atomic tests on Aboriginal people. Four months have passed since Resources and Energy Minister, Senator Walsh, announced the Royal Commission, but none of the three Aboriginal Legal Services involved have yet received any government assistance to start preparing their evidence.

Although $80 000 has been promised it has not yet been cleared. Regardless, Senator Walsh has blocked all funding to the Pilbara and Kimberleys areas (affected by the Monte Bello tests) on the grounds that no 'prima facie' case exists to justify the research. This is in spite of the fact that the largest British atomic bomb (60 kilotonnes which is six times the magnitude of the Hiroshima bomb) was dropped on Monte Bello in June 1956, and the fallout spread across the entire top third of Australia. Dangerously high radiation levels were reported as far away as Townsville.

The Minister's decision was also contrary to the advice of the Minister for Aboriginal Affairs, Clyde Holding, who gave the submission for funding his full support.

As a result of Senator Walsh's intervention, the Aboriginal Legal Services are now in a dire situation where the administrative workload of preparing their case is draining already over-stretched resources. Meanwhile, deadlines for Aboriginal evidence (scheduled for hearing in March 1985) draw nearer, with no resources to carry out essential field work to gather the necessary information. The vast distances to be covered by the research teams, which must traverse an area greater than New South Wales and Victoria combined, demands that the government provide the necessary assistance immediately.

In answer to protests, Senator Walsh's office will only say that the matter is 'under consideration'. The only money that has been received is by way of donations. These have come from peace and anti-nuclear groups, the women's movement, trade unions and scores of individuals. So far $6 000 has been raised and hundreds of letters of support have been sent to the Pitjantjatjara Council.

Further support could be provided in the following ways:

- pressuring local members to convince Senator Walsh and the Prime Minister of the urgency of the funding situation;
- sending letters directly to Senator Walsh and Prime Minister Hawke stressing the urgent need to release the full amount of $350 000 being sought by the Western Australian, South Australian and Pitjantjatjara Aboriginal Legal Services.

Contact: Alexis Omond, National Aboriginal Conference Secretariat, PO Box 2712, Alice Springs, NT 5750. Tel: (089) 52 6236 or (089) 52 6900; and Maralinga Group, Pitjantjatjara Council, PO Box 2189, Alice Springs, NT 5750. Tel: (089) 52 5783 or (089) 52 3655.

Maralinga information

Over the past five years the Pitjantjatjara Council has built up a large amount of filed material relating to the British nuclear testing at Maralinga and Emu in South Australia. The Alice Springs Aboriginal Support Group (ASASG) is compiling an index of the available material in conjunction with the Pitjantjatjara Council. Material available upon request includes;

- press releases from Pitjantjatjara Council calling for an inquiry into the testing (dating back to June 1980);
- a memorandum of agreement between Britain and Australia regarding atomic testing;
- an index of press clippings dating back to 1950's;
- a transcript of a speech by Yami Lester at a Maralinga information night organised by Alice Springs Peace Group on 15 October, 1984. The speech deals with his recollections of the black cloud at Walatinna Station, and his involvement in the campaign for a full inquiry. This speech is also available on tape from the National Program Service;
- a chronology of tests and lead-up to the Royal Commission as prepared by Pitjantjatjara Council;
- assorted press statements by the Australian government on the lead-up to the inquiry;
- the poem 'The Black Cloud' by Almerta Lander who was at 'Never Never' on Welbourne hill station (next to Walatinna) when the Totem One bomb exploded on October 1953.

Contact: To obtain copies (enclose $2.00 for photocopying and return postage) write to, Alice Springs Aboriginal Support Group, Maralinga Campaign, PO Box 2061, Alice Springs, NT 5750. The National Program Service of the Public Broadcasting Association of Australia is found at: 1st floor, 256 Flinders St, Melbourne, Vic 3000.

EARTH NEWS

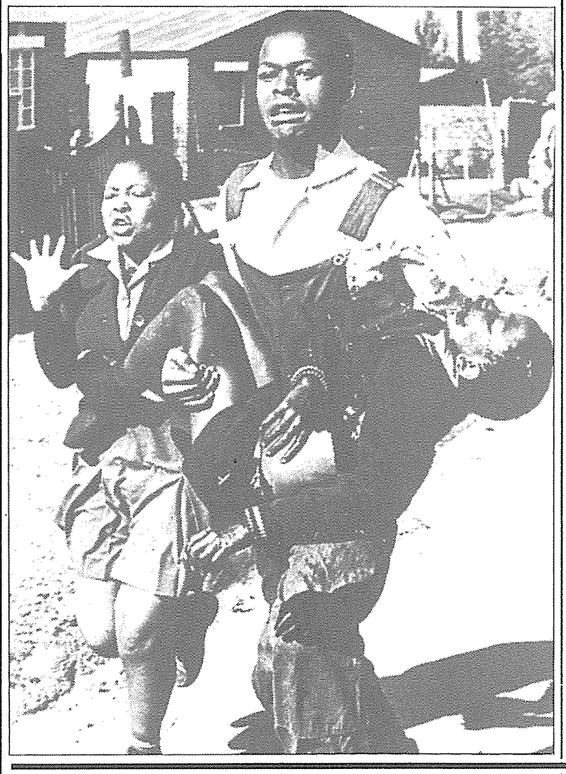
Rolf OK? No way!

In violation of the United Nations cultural boycott on South Africa by leading world performers, because of that country's racist apartheid policies, our very own Dinkum Aussie Star, Rolf Harris, is undertaking a concert tour of South Africa. On 16 September, 1984 the Johannesburg newspaper *Sunday Express* reported on page one of its review section that Rolf Harris was to begin a concert tour of South Africa in early October.

The South Australian United Trades and Labor Council (SAUTLC) has condemned this action by Harris and has called upon the federal government to publicly dissociate Australia from Harris because of his tour of racist South Africa. In a telex sent to the Prime Minister on 24 November the SAUTLC stated that Harris should be prohibited from participation in any official ceremony — in particular our 1988 bicentennial celebrations and that Australia should completely dissociate itself from Harris until such time that he publicly renounces his actions.

Campaign Against Racial Exploitation (CARE), amongst others, has been lobbying for retaliatory action to be taken against Harris and has threatened to picket his future performances in Australia. CARE has stated that Harris in the past has claimed an interest in human rights and racial equality. It seems now that his high standing principles are nothing more than papermache facsimiles readily exchangable for the blood stained South African krugerand.

Source: *CARE Newsletter:* number 63, September 1984; and number 64, October 1984.



SAM NZIMA/UNCAA

A child shot dead in a Soweto protest, June 1976.

A conference in Denmark

The international meeting on the status of the antinuclear movement was held in Kolding, Denmark in early September. The conference was attended by 80 activists from 17 countries, mostly European. There was an absence of representatives from less-developed countries or indigenous people affected by the nuclear industry.

The four Australians attending, with several videos and their excellent participation, impressed people by the level and quality of direct action going on in Australia.

In spite of many accounts of depressing developments and uphill battles, there were some success stories like the turnaround of the social democrats in Denmark. The overall feeling was that the antinuclear movement is very much alive, with imaginative and determined resistance taking place.

Other sessions dealt with environmental, technical and economic arguments. It was decided that the area of transportation should be focussed on because it is a weak link in all stages of the nuclear chain. It was resolved that long-term information and research on this topic be gathered by contact people in their respective countries and fed into the World Information Service on Energy through the Greenpeace telex network. In Australia it will involve us in an international network where we will be able to facilitate actions against Australian uranium exports in foreign ports and customer countries.

Nuclear Free and Independent Pacific groups have been established in a number of European countries. These groups have two main issues of concern. One is Japanese nuclear waste dumping. The London Dumping Convention will meet early next year to decide if a moratorium on dumping will continue. The other is the referendum scheduled to take place in Palau regarding their nuclear free constitution. It is the fifth referendum the United States has forced on the Palauan people and there is concern that the vote may change due to insurmountable US pressure.

Papan update

Papan, a small agricultural town in north-west Malaysia, returned to normal after eighteen days of activity by demonstrators protesting against the siting of a radioactive waste dump there (see 'Papan says no to Thorium', *Chain Reaction* 39).

In the latest developments, a three-hour discussion was held on 20 August between interested parties. A technical committee was subsequently formed by the State Secretary to assess the construction of the dump.

The government has meanwhile engaged the assistance of an expert from the British National Radiological Protection Board to evaluate the dump. Papan residents, however, were not pleased when they were denied the opportunity to discuss their fears over the dump with him. Commenting on the visit, the State Secretary Mohammad Wali said: 'He is here to conduct a purely technical survey. The code of ethics does not allow him to be influenced by emotions'.

However, assurances had been given earlier that residents would be involved in all meetings and gatherings held on an official level. Residents have thus found this about face during the 'independent' expert's visit very disheartening. Three nuclear experts from the International Atomic Energy Agency have in the meantime arrived for a study of the waste dump. Under the terms of reference given to them by the government, they are to investigate the dump site, its construction and the radioactive waste disposal by the company. It will be about a month before they submit their report to the Prime Minister's Department.

Earlier, in August, the department stated that the government was prepared to close the dump if its foreign experts found that it posed a threat to public health. It is important that Papan residents be given a chance to air their views, otherwise the credibility of the 'independent' experts will be jeopardised.

Contact: Sahabat Alam Malaysia, 37 Lorong Birch, Penang, Malaysia.

Antarctic update

The French government is continuing the construction of its Antarctic airstrip in defiance of international regulations outlined in the Antarctic Treaty and of pleas by outraged environmentalists from around the world.

France can gain sea access to its Antarctic base, Dumont d'Urville, for only two months of the year. Air access will extend the length of the season available for scientific research to five months.

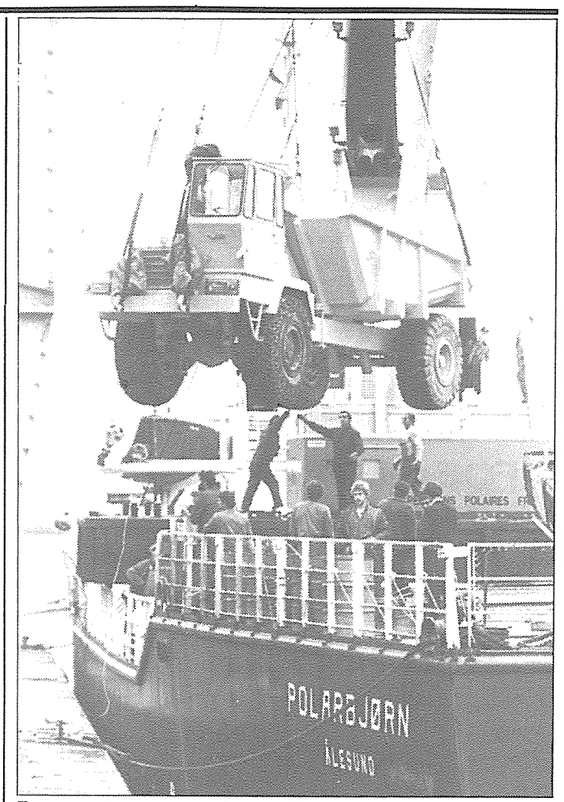
In 1982 they chose a site based on five small islands planning to blast them to level their surfaces and produce spoil to fill in the channels between them. This would create a strip of 1100 metres. Construction started in January-February 1983.

The project is causing incalculable harm to the fauna of this area. Adelie Penguins, Antarctic Skuas, Cape Pigeons, Snow Petrels all live and breed on these islands. Under the Agreed Measures for the Conservation of Antarctic Fauna and Flora, obligatory recommendations to the Antarctic Treaty (of which France is a signatory) it is not permissible to kill any native mammal without a permit. The construction has so far involved the 'accidental' death of at least 20 Adelie Penguins and the deliberate destruction of thousands of Adelie eggs. (This attempt to encourage the adults to leave their breeding areas failed because Adelies will adopt stones to replace a 'lost' egg.)

The interference will not finish upon the completion of construction. A nearby colony of Emperor Penguins, already proven to be susceptible to human presence, will have their access to the sea cut off by the airstrip. This is the only Emperor Penguin colony in Antarctica readily accessible to scientists.

That there has been a breach of the Agreed Measures is not contested, even by the French government who state that the breach is so minor as to be inconsequential. The other Antarctic Treaty nations, with the notable exception of New Zealand, seem unwilling to take any action, presumably for fear of rocking the "Antarctic Club" boat.

Action: You can help stop this appalling project. Please write letters of protest to the French Embassy, the French President and to the Australian Prime Minister. If you'd like more information, please don't hesitate to contact: Fund for Animals, PO Box 371, Manly, NSW 2095. Tel: (02) 977 1557.



SOLARA/GREENPEACE

Equipment being shipped to the French base, Dumont d'Urville.

Park on a limb

The decision by the Victorian state government to allow logging to continue in Compartment 3 on the Errinundra plateau in East Gippsland brought a wave of scathing criticism from Victoria's five main conservation groups. The Conservation Council of Victoria, the Australian Conservation Foundation, Native Forest Action Council, the Tasmanian Wilderness Society and the Victorian National Parks Association, have all denounced this decision and accused the Victorian government of completely lacking an environmental conscience, and of making a mockery out of two major governmental investigations.

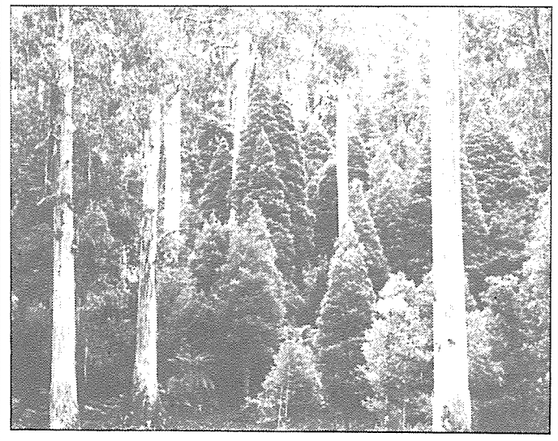
The State Government had repeatedly pledged that areas of known environmental significance would remain unlogged until the Timber Industry Inquiry and the Land Conservation Council had finished their investigations into future land use in East Gippsland. This decision by the Victorian government pre-empts both inquiries.

The 650ha Compartment 3 is widely regarded as an area of great ecological significance and despite being described as containing the best example of mixed forest remaining on the Errinundra Plateau, 10% of its area has already been logged.

Errinundra Plateau, containing Compartment 3, has long been recognised as a region of immense environmental significance. It has often been spoken of as the prime candidate in an ALP policy currently working towards the creation of a national park in East Gippsland. Many scientists as well as Victoria's main conservation groups have recommended that because of the significant biological and zoological assets of the plateau, that an Errinundra national park be created.

A government document released last April entitled 'Errinundra Plateau Resolution of Conflict' stated: '... the ecological significance of the plateau cannot be denied, and more research must be (and has been) initiated'; and '... the controversy over Compartment 3 in (1983/84) may well have been avoided the significance of the site had been brought to the government's attention in advance ...'.

Contact: Environment Centre, 285 Little Lonsdale Street, Melbourne, Vic 3000. Tel: (03) 663 1561.



ERN MAINKA

Compartment 3, Errinundra Plateau

EARTH NEWS

A FOE rebirth

The outcome of a series of meetings over the past two years has been the re-birth of Friends of the Earth in Adelaide. The driving motivations have been: the desire for greater co-ordination between the people, groups and projects involved in the general area of environmental work; the need for an organisation which will convene good quality conferences to facilitate discussion and development of environmental strategies and politics; and a desire to initiate and support projects and campaigns which are able to promote a positive vision of a socially just and ecologically sound society.

For a long time Friends of the Earth in Adelaide has been operating at a very low level of activity and was being kept alive by a handful of dedicated members. The 'new' FOE has an office collective, a renewable energy group and a group exploring the concept of an Earthbank — a credit union for financing environmentally sound projects. The renewable energy group has begun the ambitious job of preparing an energy policy for South Australia based on conservation measures and a substantial shift from fossil fuels to wind and solar technologies.

FOE is still at 120 Wakefield Street, Adelaide and the constitution has been altered to allow other organisations to join as well as individuals. The new subscription rate is $20 for organisations, $10 for individuals and $5 concession.

Contact: Friends of the Earth (Adelaide), 120 Wakefield Street, Adelaide, SA 5000.

National meeting

A farm house at Busselton, 3 hours drive south of Perth, has been booked from 18 January to 25 January for the FOE National Meeting. The property is owned by two FOE members, Ross and Dee White, and is close to both beach and forest.

It is hoped that in the next few weeks a national ballot will be conducted on a proposal for transport subsidies. In the meantime it is suggested that groups consult with each other on the possibility of hiring a mini-bus or other transport.

To assist in the organisation of the meeting, FOE Perth is conducting a national phone around. It is requested that details of a contact person and the best time to phone be sent to Lorraine Grayson, as soon as possible.

Contact: Lorraine Grayson, National Liaison Officer, Friends of the Earth 794 Hay Street, Perth, WA 6000. Tel: (09) 321 2269.

What is APHEDA?

Australia's first and only trade union based overseas aid organisation was established back in January this year. Australian People for Health, Education and Development Abroad or APHEDA has the endorsement of the ACTU.

ACTU president, Cliff Dolan, is the organisation's first chairperson. The establishment of APHEDA has brought Australia into line with progressive Scandinavian and European countries that have similar trade union based aid organisations.

APHEDA's main objectives, in part, are to encourage the Australian community, through the Australian trade union movement, in assisting people in developing countries and people in refugee situations throughout the world in becoming self-sufficient in a number of areas through programs.

DAILY TELEGRAPH

Palestinian nurses at a civic reception.

APHEDA's 'skills for work' Such programs include:

- sponsoring Palestinian and Lebanese nurses to gain hospital and community health experience in Australia;
- health worker teacher training in Eritrea.

Action: You can assist APHEDA's programs by supporting your union to join APHEDA or join as a personal member. For further information contact the Program Director, or the Public Relations Officer at: APHEDA, Box 3, Trades Hall (Room 66), 4 Goulburn St, Sydney 2000. Tel: (02) 264 9343.

Timber industry termites

Downey Creek, 25km west of Innisfail in northern Queensland, is about to be savaged by what one could aptly term the timber industry termites of Queensland. The state Forestry Minister, Bill Glasson, after a short visit to Innisfail on 3 July, gave the go ahead for logging operations to proceed on this important area of lowland tropical rainforest.

The Wildlife Preservation Society and the Rainforest Conservation Society of Queensland have been fighting an endless battle to preserve the lower Downey Creek basin and are calling for the whole of the Downey Creek catchment to be included in the current additions to the Palmerston National Park adjoining it to the north. The Downey Creek basin is characterised by an ecological diversity rarely found now in northern Queensland. Fourteen rainforest types have been recognised in the catchment.

The Queensland government, not exactly known for its high standing environmental conscience, have made somewhat unsubstantiated remarks designed to mislead and appease a concerned public as to effects of logging on Downey Creek. A typical statement made by the platitudinarian Bill Glasson illustrates the disregard the Queensland government holds for its own state's forests. Glasson stated to the *Innisfail Advocate* on 6 July 1984 that:

> Selective logging is more like a culling exercise which opens up leaf canopy and with more food on the forest floor, makes for a healthy growth.

The fact of the matter is that the 'selective logging' Glasson describes will destroy the ancient trees of Downey Creek, some of which are over 3 500 years old. CSIRO scientists AW Graham and MS Hopkins have shown that a valley floor ecology such as Downey Creek does not recover totally after logging. Leaf canopy can be destroyed, with an actual loss of nutrients, resulting in an invasion by grasses and weeds which leads to an unnatural 'commercial forest'.

The sensitive ecosystem of Downey Creek will be upset by 'selective logging' which will require at least 200 years for complete recovery to take place. The Queensland government plans to log every 30 to 40 years.

Contact: Innisfail Branch, Wildlife Preservation Society, PO Box 750, Innisfail, Qld 4870.

Downey Creek,
North Queensland.

A crucial rainforest conservation issue.

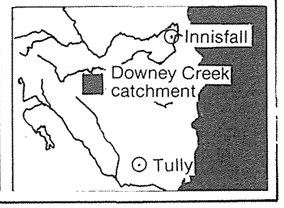
Downey Creek rainforests are widely acclaimed for their beauty and their scientific importance.

They deserve the best possible protection.

Yet, they are threatened by logging.

RCSQ

Campaign leaflet



MAP BY TONY ATLEY

Peace bus

Under the soaring sails of the Opera House and a low overcast sky, the Peace Bus began its unique journey. Sunday, 21 October, was the culmination of three months of frenetic activity to renovate what was an ordinary double decker bus into a mobile peace education resource for NSW People for Nuclear Disarmament (PND).

The bus was officially launched by Grant Dodwell (from the T.V. series *A Country Practice)* and Robyn Gordon (artist and sculptor). The first passenger was Jack Ferguson — the former Deputy Premier of NSW who signed The Peace Bus Community Employment Program grant into existence.

All the internal fittings have been removed and the outside painted in as an eye catching mural by Jan Short and over 60 volunteers. The upper deck has been transformed into a video theatre seating 30 people and the lower deck into a walk-through display area for free information and sale of peace goods.

The bus was purchased through a loan from PND. It is being paid back as individuals and organisations sponsor the project. Already politicians from all three major parties have sponsored the project or donated to it.

The high running costs of the bus will be offset by groups paying a hire charge for their use of the bus (this works out at about the same cost as hiring a single 16mm film). It is hoped to make the project self-supporting by the time the grant runs out.

The bus contains over 20 videos as well as two 16mm films. It will travel throughout metropolitan and country areas of NSW until June next year. In Sydney it will visit major shopping centres, schools, work places and beaches. Agreement has been reached with radio station 2MMM FM for the bus to attend their rock concerts and summer promotions.

Another innovation of the project are two free information kits for the public, one containing information from some of the organisations that make up the peace movement in NSW. The other kit contains outlines of policies of the major political parties on peace and nuclear disarmament issues.

The Peace Bus was the focal point for activities in Canberra during the presentation of the Disarmament Declaration to the government. It has already been invited to appear at the Cambelltown Fair, a peace conference at Wentworth Falls, a Teachers Federation peace seminar and a fair at the Gosford shopping centre. After its launch, it drove down to Garden Island to protest against the arrival of the nuclear-capable *USS Cushing.*

The Peace Bus aims to reach people in NSW who are worried about the threat of nuclear war and help them act on these fears. For others the bus will be their first contact with the peace movement and the United Nation's world disarmament campaign.

We hope that the bright, positive image projected by the venture will convince concerned people to *grab a ticket for peace* and join the drive for disarmament.

Contact: David Worth, PND, 7th floor, 245 Castlereagh St, Sydney, NSW 2000. Tel: (02) 264 6846 or (02) 264 6831.

M NEY/PND

The Peace Bus vs *USS Cushing.*

Cracking up

France detonated another nuclear device at Moruroa Atoll on 3 November, 1984. The explosion was of a 40 kilotonne bomb (the bomb dropped on Hiroshima was 10 kilotonnes) and was preceded by a 6 kilotonne explosion on 27 October. These were the fifth and sixth nuclear bombs exploded this year at the atoll. They were detected by the New Zealand seismic station at Cook Island.

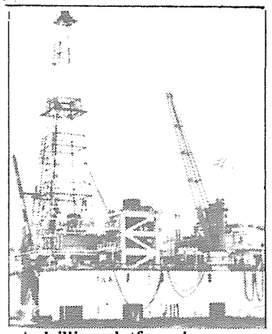
In 1961 a former French Minister for Overseas Territories said that 'No nuclear tests will ever by made by France in the Pacific Ocean'. Since 1966 over 100 French nuclear devices have been exploded on Moruroa Atoll in the largest Pacific testing program of any nation.

The first French atmospheric test took place at Moruroa Atoll on 2 July, 1966 — in full knowledge of the deadly aftermath of American testing which had ceased four years previously. Shortly after the first test the monitoring of health statistics was transferred from the French Ministry of Health officials to army doctors employed by the French Atomic Energy Commission (FAEC). Since the testing began there has been a stream of statements from FAEC, the French government and French diplomats denying any harmful effects on the people or the environment.

However, French Polynesians have been suffering increasing incidences of cancer. Evacuations overseas for cancer treatment have increased threefold since 1975, lung and stomach cancers are on the increase and Polynesian women are showing high rates of breast cancer. The full effects of the fallout will not be felt until the mid-eighties and later.

The struggle to stop French testing has been a long one. In 1973 an international campaign began when French fallout was detected in food and water supplies all over the Pacific. The French government responded by switching their program from atmospheric to underground testing. But the change to underground testing of nuclear weapons in 1973 has created a new threat. The concerns are:

- the porous nature of the coral/basalt atoll makes the risk of seepage extremely high;
- that Moruroa Atoll is steadily subsiding under the impact of underground explosions and that large cracks and fissures have appeared;
- radioactive plutonium is leaking not only from underwater fissures, but also from negligently stored nuclear waste. Twenty kilograms of lethal plutonium had been dumped on the reef north of Moruroa. When the island was washed over by waves stirred up by cyclones in 1980 and 1981 much of the waste was spread over Moruroa or carried off to distant shores.



GREENPEACE

A drilling platform in Moruroa's lagoon allows explosions to be made in the core of the atoll.

A new attempt to pressure the French government to stop testing has been started in New Zealand by a peace group called Le Groupe. The New Zealanders were angered by a comment made by the French Minister for External Relations earlier this year, when he said: 'The Moruroa testing does not worry the countries in the region'.

In response Le Groupe decided to launch a letter writing campaign encouraging thousands of New Zealanders to write to their French occupational counterparts. The letter writing campaign is to be accompanied by a boycott of French products and the picketting of French embassies and consulates.

A support group has been set up in Canberra, Le Groupe Canberra has launched a similar campaign in Australia, and has available the kit produced by the New Zealand group for people interested in writing to French occupational counterparts.

Contact: Canberra Peace Centre. Tel: (062) 95 9532.

BACKSTAGE

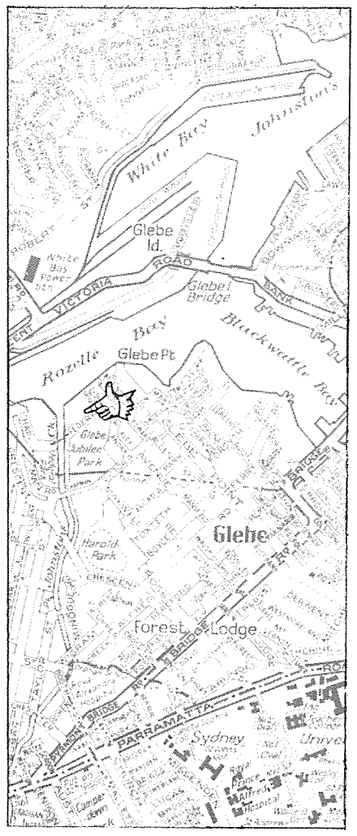
If Backstage of the last issue of *Chain Reaction* expressed a marginal gloom about finance, this has lifted somewhat in the last couple of months. The Sydney collective received a grant under the Community Employment Scheme in New South Wales which pays the wages of two workers for nine months. We have opened a Sydney office at Glebe Point and the new coordinators are Dale Kift and Rosemary Nichols. The new office is already a hub of activity and visitors and volunteers are assured of a welcome.

The Melbourne collective will continue to be the main coordinators in the publishing of the magazine with part-time workers and volunteers. With all the effort of organising *Chain Reaction* as an incorporated co-operative over, the Melbourne collective will have more time to charm new volunteers with the promise of lots of hard work. Meanwhile the Sydney collective will be taking on an increasing role in the production of the magazine and the long established tradition of providing the opportunity for volunteers to learn a wide variety of new skills, and for those with skills the opportunity to use them and share them.

Richard Shelton, who for many years had a lot to do with the quality of presentation of the magazine, came out of retirement for a couple of weeks in November to pass on his skills in design and layout. A volunteer team of interested people has already begun to form so please give us a call if you would like to help.

You have noticed the hard work that has gone into the Earth News in these last two issues. This has been the inspiration of two new collective members, Sue Armstrong and Tony Atley. We invite readers to make this an increasingly important communication and information section by sending items of interest or copies of your newsletter, and early notice of conferences and seminars to Tony in Sydney.

Another Sydney initiative, shared with Jan Ardil of Sydney Friends of the Earth have been several successful environmental politics and philosophy discussion groups. These have been held fortnightly at the Sydney office address and are planned to recommence in February 1985. The discussion groups have been very interesting in continuing and extending debates that concern activists from a wide range of groups and backgrounds and which have been reflected in articles and the letter column of *Chain Reaction* to a large degree. Two faithful contributors to our magazine, Val Plumwood and Ariel Sellah, have acted as facilitators in the sessions so far and we would like to thank them. These groups are open to all and the subjects for discussion are suggested by the group.



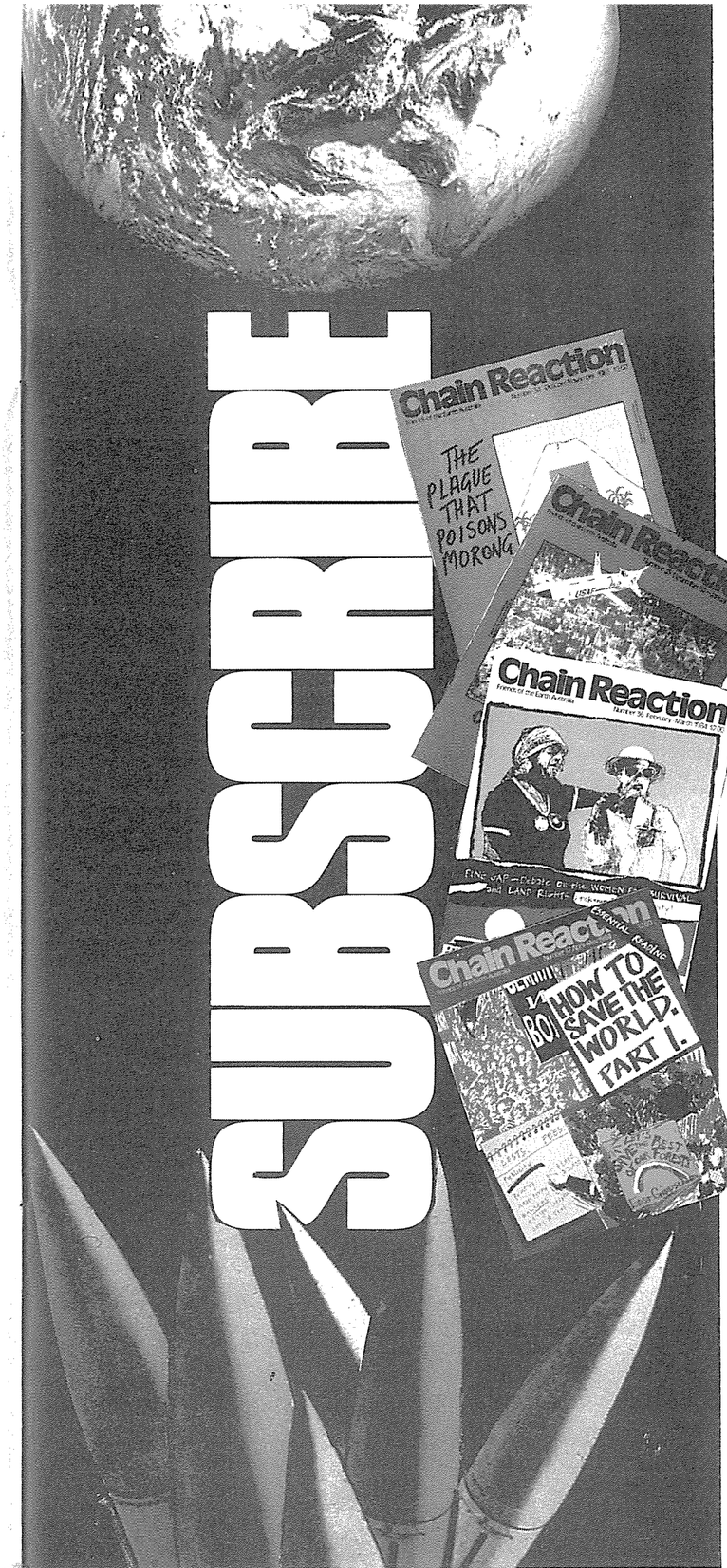
GREGORYS

Pointing the way from Glebe

Producing a magazine like *Chain Reaction* takes a lot of time, effort, and of course money. A lot of the effort is fun and we try to make it so but always there are the quiet and careful toilers in the night. If you feel your contribution is small and unappreciated, it's not. The lift a letter of praise and encouragement, and we do get them sometimes, keeps us going for days. We feel we make a valuable contribution to the initiatives for change that are reflected in the content of the magazine.

Those we criticize have, at times accused us of a degree of fiction. Perhaps we should test out this hypothesis with an application for a grant to the Literature Board. We suspect we would be unsuccessful. With this source of assistance to small magazines unavailable to us we depend even more on the support of our readers and contributors. So we would like to take the opportunity to thank past friends and hope we meet or hear from many more of you in the coming year.

Rosemary Nichols



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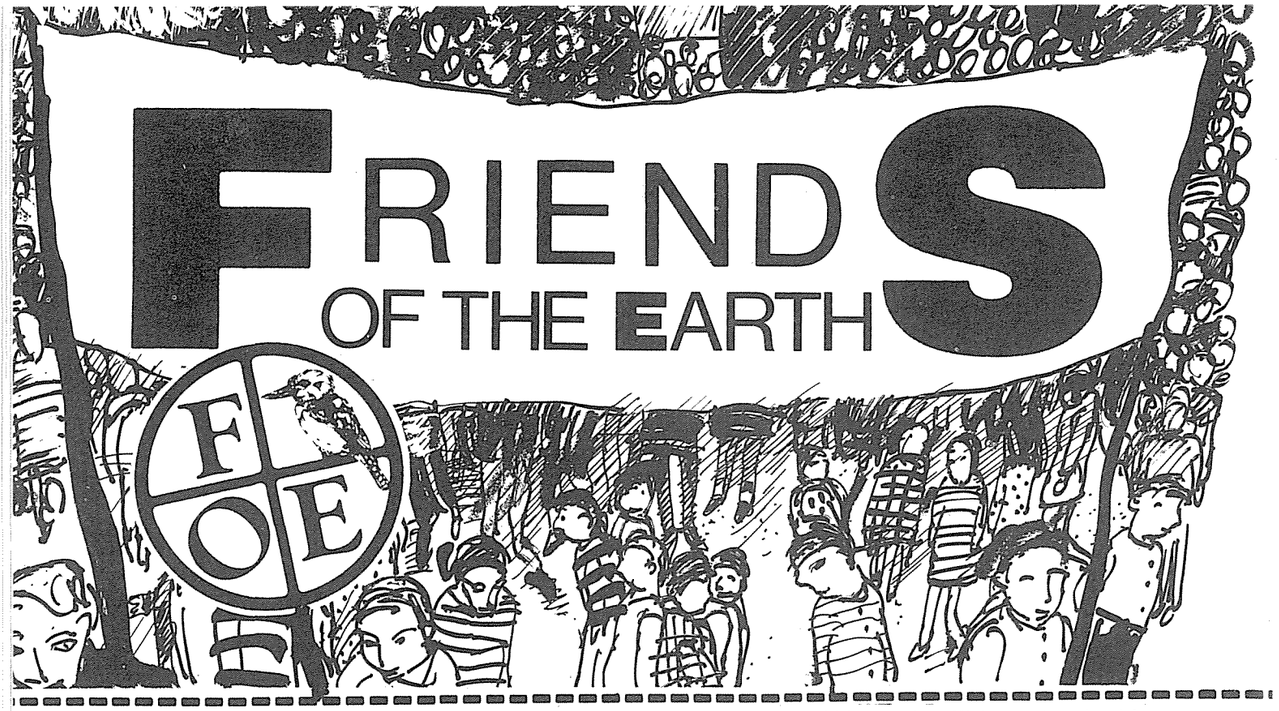

We've got lead out of petrol and whales will probably still be around for our kids to enjoy. We're working hard for a fairer distribution of the world's food and an end to nuclear madness, and we've started a recycling campaign. Friends of the Earth is a radical activist group - and that means we don't avoid controversy. We are raising issues today to make a better world tomorrow. We need your support now to continue our work. Join us.

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Chain Reaction is sent free to all members of some Friends of the Earth groups. Some groups also send members newsletters and provide discounts at their bookshops. Check with your local group for details. Make cheques payable to Friends of the Earth and post to the group nearest you. Donations are very welcome.

Friends of the Earth groups

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BLUE MOUNTAINS 9 Harvey St, Katoomba, NSW 2780. *(047) 82 2701*

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UNIVERSITY OF NEW ENGLAND c/- SRC, University of New England, Armidale, NSW 2350

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MEMBERSHIP

Taking Roxby to town

Members of the Coalition for a Nuclear-Free Australia (CNFA) held an Australia-wide day of action on 31 October 1984. Opposition to Roxby Downs did not end with the blockade of the mine in August and September but carries on in each capital city **Tom Worsnop** and **Maz Kerin** report.

Actions involved people from six states hindering work in the offices of the two partners in the giant Roxby Downs uranium mine — British Petroleum (BP) and Western Mining Corporation (WMC). Each group delivered some radioactive material collected from the Roxby tailings dam (evaporation pond) during the blockade, so giving management the task of disposing of their mine by-products personally.

According to the Draft Environmental Impact statement for the mine, the tailings liquid contains significant amounts of toxic substances such as arsenic, chromium, cadmium, mercury, lead, selenium, uranium and radioactive isotopes. The liquid is very acidic, with a pH of 1.5, about one million times more acidic than water, and equivalent to adding one part battery acid to seventy parts water.

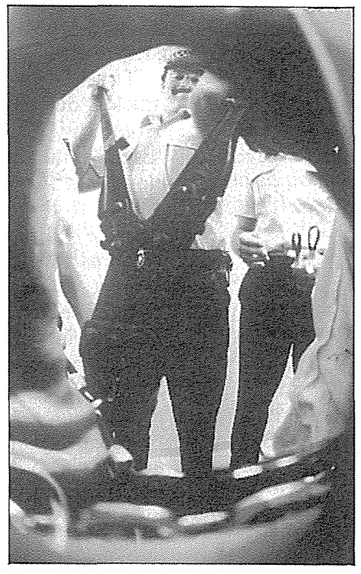
BP and WMC persist with the mining of uranium but take no responsibility for the environmental and social consequences of uranium mining. The groups demanded that Roxby Management Services (who are operating the mine for BP and WMC):

- Establish a system to monitor the health of Roxby Downs workers and their offspring for the rest of their lives.
- Monitor airborne radioactive particles and gas, both in the mine and in surrounding areas, and make these records available for public inspection.
- Carry out a complete investigation of the effects of the mine on the Great Artesian Basin.
- Accept responsibility and be publicly accountable for the transport of ore both in this country and overseas.
- Keep records of nuclear reactors using its uranium and ensure that these reactors are operating under effective safeguards programs.
- Accept responsibility for the disposal of both low and high level waste.

Tom Worsnop and Maz Kerin were participants in the Melbourne action.

In **Adelaide** the protestors entered RMS's office and delivered the radioactive sample with the intention of staying by being locked in the building but they were quickly kicked out. There was a gathering of supporters outside. All the Adelaide media were present but there was no press coverage.

In **Canberra,** protesters went into the BP office, where only two people work, and delivered tailings. Activists regularly visit this office and effectively frustrate BP's operations.



Thoughtful police free Melbournian demonstrators from bondage, 1984 style.

In **Sydney,** two people managed to get on to the roof of BP house, dropped a banner over the side which read 'BP — the Quiet Deceiver'. They delivered and left tailings. Six were arrested in the office, others leafleted the street outside.

Ten people entered WMC's office in **Perth** and left tailings. Seven people were arrested after chaining themselves to the doors.

In **Brisbane** six people entered BP house and superglued tailings to the desk. They were arrested straightaway. Four of them were carried across the street to the police station. When the media turned up the remaining two protectors were taken out the back and delivered across the road in a police van.

In **Melbourne** nine people entered WMC's offices in Collins Street posing as student teachers doing an assignment. Seven chained themselves to the office doors and superglued the locks. They sang protest songs and disrupted the office. Sixteen police were called in wielding 90 cm bolt-cutters. They succeeded in cutting through all the padlocks but couldn't break a 'kryptonite' bike lock which remained on one of the doors. Seven of the protestors were arrested and charged with wilful trespass.

Two days later, members of Shareholders for Social Responsibility and Friends of the Earth attended WMC's annual general meeting in Melbourne. A sample of tailings liquid was presented to Arvi Parbo, the company's chairperson. When asked what he would do with the tailings he told the press, 'I will take them home and put them by my bed and sleep with them because they are so safe.'

Contact:
South Australia: Coalition for a Nuclear Free Australia, 291 Morphett St, Adelaide SA 5000. Tel: (08) 51 3821
Victoria: Anti-Uranium Coalition c/- Friends of the Earth, 366 Smith St, Collingwood, Vic 3066. Tel: (03) 419 8700

AGE

FALL-OUT FALL-OUT

By Ivan B Grossmith

For three months the circuits never stopped. Four hour watches, eight hours off. Headphones in place, reading alongside the man you were relieving, before he took his fingers from the typewriter keys. You sliding into it, fingers on the keys of the machine, already working, automatically.

'Synops', five-figure groups of high speed morse broadcast from Coonawarra. Bells broadcast, reputed to be the fastest on Earth. Figures, never ending, never repeated, always figures. They represented, when decoded, a singularly accurate weather forecast, and they had to be accurate.

The ship — *HMAS Campania.* Its location — roughly 50 miles off the north-west Australian coast. Its purpose, our purpose — the detonation of Britain's first nuclear device.

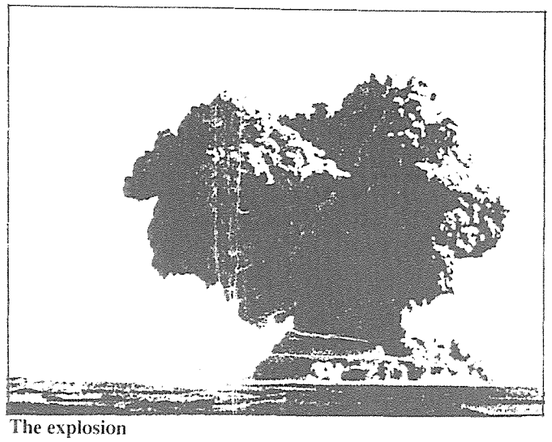
At about midnight, the synops ceased. Headphones still in place. Fingers ready over typewriter keys. Silence. The odd crackle of static. Nothing! The date — just turned into 3rd October 1952. Calm sea, brilliant starlit Australian night, warm, muggy. Sweating, trickles from the forehead, rivulets down the naked back, running from the armpits. Still silence. 0400, relieved. Nothing to turn over, tension in the air. Ship as still as a rock, no noise at all.

To the north lay another ship, a small ship, a frigate. Four anchors, two from each bow, two from each stern. Black and white stripes covered the entire port side. *HMAS Plym. Campania* rode silently at anchor, bows towards *Plym's* port side, just under ten miles distant.

0800. Campania's crew about their business, noise and bustle, breakfast. Tension strong on the mess decks. At about 0830 the tannoy system: 'All men, off watch, who wish to see the atomic blast, muster on the flight deck.'

In the main radio office, Petty Officer Telegraphist Parncott made adjustments to his type 602 hi-freqency transmitter. He called Coonawarra. He raised Colombo. He was satisfied.

Ivan B Grossmith spent 13 years in the Royal Navy from 1949 to 1961, reaching the rank of leading radion operator. He was eighteen at the time of the detonation, and was serving on the Campania. *He is now a member of the British Nuclear Veterans Association and has been requested to give evidence to the Australian government's royal commission into the British atomic tests.*



The explosion

He waited. Two signals in front of him. One meant failure, the other success.

0845. 0900. About two or three hundred men on *Campania's* flight deck. Admiral Torelesse on the bridge. Dr William Penney in a forward gun turret. Long range binoculars on a stand, for his benefit. Flight deck bows littered with dozens of automatic cameras, all homed in on the black and white stripes on Plym's port side.

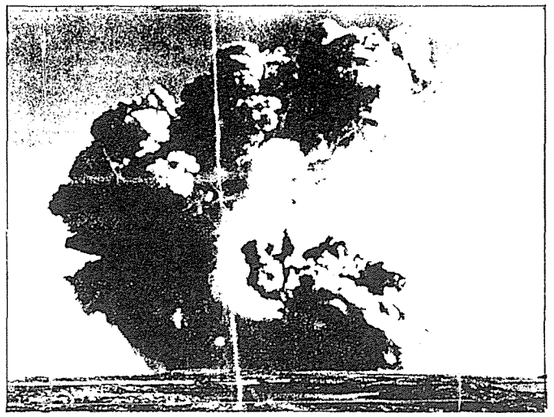
Time 0920 and 30 seconds. The tannoy: 'The nuclear device will be detonated in eight minutes from now.' Every thirty seconds, the reminder: 'Eight minutes now.' 'Seven minutes, thirty seconds now.' 'Two minutes now. Everyone face aft.'

Two to three hundred men — officers, scientists, ratings — all turned their backs towards *Plym.* The cameras whirred. Other than that, total silence. 'Thirty seconds now.' 'Twenty-five seconds, twenty-four, twenty-three . . . three, two, one, now.'

A searing flash. The bright Australian morning blotted out. Eyes closed, redness getting through. Silence. 'You may turn round now.' The mushroom, its stem, its base, seemed carved out of rock. Colours, black and red predominant. Water and muck pouring out of the mushroom head. The horizontal spread of the base rapidly expanding outwards. The vertical hardly seemed to move, but it did. Through the atmosphere, into the troposphere. Upwards, always upwards.

About 45 to 50 seconds later, sweeping across the

FALL-OUT FALL-OUT



Ten minutes later

water, the blast. Water churned up. Could see it sweeping in towards us. The crushing sensation. The two loud booms. It passed. The cloud continued to rise.

Below in the radio room, six feet two inches of Petty Officer Parncutt crouched over his morse key. 'Success.' So quick was his transmission and so quick the routers, via the stations chosen, from *Campania* to Admiralty, from Admiralty to Churchill, from Churchill to the BBC. (It was broadcast at the end of the midnight London news). Even today, over thirty years later, even with computers and space satellites, it is doubtful whether that speed could be eclipsed.

The cloud spread. Direction, west by north-west, out over the Indian Ocean. That's what all the synops were for.

Forty-eight hours or so later, tropospheric wind change. Panic. The bloody fall-out was enroute back over the Australian mainland. Again, hours later, another wind change. 'Thank Christ', said one and all. The cloud, the fall-out, the muck and the filth were 'safely' going the 'right' way.

A few weeks went by, *Campania* and her choppers always busy, always moving. Tidal drift, radioactive currents. Keep checking, keep moving. Round and round and round.

The signals on hi-frequency: 25J, 25L (Capetown) — ole GKFG (*Campania*) — 0 (emergency) — K (over). VHM (Colombo) — ole GKFG (*Campania*) — 0 (emergency) — K (over). And so on. Always, but always, encrypted. Always a transmission, always a reply.

Three weeks later, *Campania,* stern towards where *Plym* was vapourised. Course, due south. Destination, Fremantle, 800 miles southward. Twelve Curtis Diesels thumped into action. *Campania's* task finished.

A couple of desertions in Fremantle. A patrol bringing a few drunks back. A week later, homeward bound, course, north-westerly. Aden, non-stop, sixteen days. Through the Red Sea, Suez, the Mediterranean, the Straits of Gibralter, the Bay of Biscay, the Channel, and into Portsmouth, 15th December 1952. Dockside crowded. Fathers, mothers, wives, kids and girlfriends.

Eighteenth of December, into the Thames Estuary. Blowing force 9, gusting 10 or 11. Can't get into Chatham Basin, gales too strong. Anchor out at Sheerness. Inform relatives waiting at Chatham. Transport bringing relatives from Chatham to Sheerness. Amongst them my mother, father and brother.

And so a very bronzed son stepped ashore, to be welcomed by his family. One amongst many. A cold, cheerless and rough day, but nobody seemed to notice. After all we were the 'heroes', weren't we? We'd caught up with our allies and our enemies, hadn't we? We had the Bomb, didn't we?

Seven years earlier our 'Allies' had destroyed, vapourised, Hiroshima and Nagasaki. Today, nearly forty years later, Hiroshima and Nagasaki are 'rebuilt', in material terms. The people, their offspring still die, from 'mysterious' causes in many cases.

Today, 32 years later, the islands of Monte Bello — *Campania's* Bomb' — lie dormant uninhabited, low in the water. The Timor Sea edges into their northern perimeter, from the west the vast expanse of the Indian Ocean; from the southern tidal drift the waters of Antartica; to the east the Australian mainland. Nobody goes to Monte Bello anymore. Monte Bello is never mentioned. It does not exist, faceless, remote, forgotten and 'sick'.

Perhaps it will remain that way, dormant, silent, for ever. Perhaps it is just as well.

Insulting American intelligence

In October 1984 peace activists in Australia and New Zealand began a series of protests at US Signals Intelligence (SIGNIT) communications installations. These included a two-week peace camp in Melbourne's suburbs, a women's action in New Zealand, a vigil in Queensland, 'Observe the Base' in Perth, and a 'mystery tour' in Darwin. The purpose of these demonstrations was to point out the role of these spy bases in US global military strategy.

The USA has a network of approximately 2000 SIGNIT facilities scattered around the NATO countries and the Asia-Pacific region. They are operated by the super secret National Security Agency (NSA) with the cooperation of the host countries. An integral part of the NSA's monitoring of military manoeurves on the world's seas, and especially of its ability to monitor the location and transit of Soviet nuclear warships and submarines, is the SIGNIT program known as the Ocean Surveillance Intelligence System (OSIS). By picking up the radio emissions of Soviet vessels via sophisticated strategically spaced antenna arrays, the SIGNIT installations which are part of the OSIS program locate Soviet vessels.

There are SIGNIT bases in Australia at **Pearce** Air Force base in Western Australia, at **Carbalah** near Toowoomba in Queensland, at **Shoal Bay** in Darwin, and at **Watsonia** Barracks in Melbourne. With other SIGNIT installations at **Tangimoana** in New Zealand, in Japan and Hawaii, they make up the Pacific OSIS network, an increasingly important group of stations given the changing focus of US global ambitions.

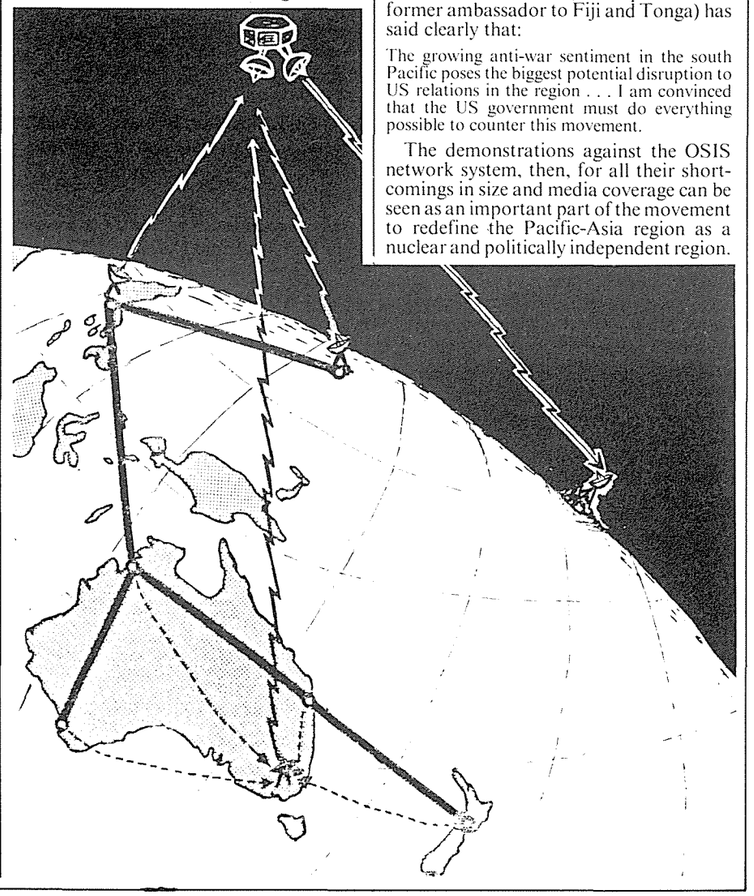
While the US military build-up is mainly focussed in Asia, with Korea becoming a highly militarised centre for Cold War conflict, and in the Philippines, where the strength of the anti-Marcos, anti-USA movement puts both US bases and economic investments at risk, the Pacific is also considered an important region. The USA would see any independent stance coming from countries in the Pacific, for example Vanuatu or New Zealand, as a weakening of its security; as this may potentially indicate a move to the Soviet bloc, however unrealistic and unlikely this seems.

The OSIS network is specifically designed to meet the needs of US nuclear submarine warfare against the Soviet Union, and to fortress off the region from potential Soviet interests in the Pacific area. US allies like Australia and New Zealand are then implicated in any changes in US military policy including their attempts to destabilise the balance of nuclear power, with the deployment of first-strike nuclear weapons and the development of Star Wars technology, and the increasing presence of US forces in conventional warfare around the globe.

Any change in Australia's relation to the USA would be of critical importance. William Bodde Jnr (US diplomat and former ambassador to Fiji and Tonga) has said clearly that:

> The growing anti-war sentiment in the south Pacific poses the biggest potential disruption to US relations in the region . . . I am convinced that the US government must do everything possible to counter this movement.

The demonstrations against the OSIS network system, then, for all their shortcomings in size and media coverage can be seen as an important part of the movement to redefine the Pacific-Asia region as a nuclear and politically independent region.



This report was compiled by Sylvie Rogers and Susan Armstrong, members of the Chain Reaction *collective in Melbourne.*

Watsonia

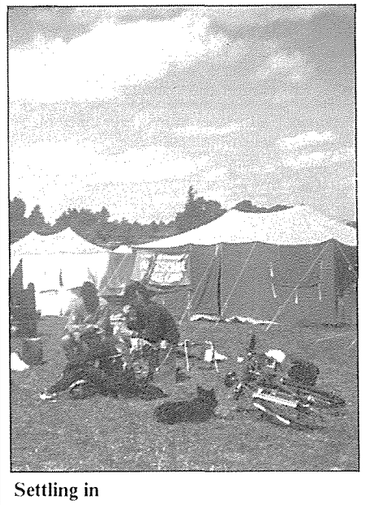
By Watsonia peace campers

Project Sparrow, so innocuously named, is the radar dish in the Watsonia Army Barracks, right in the heart of Melbourne's north-east suburbs. The dish, twenty metres in diameter, is the terminal point for a network known as OSIS — Ocean Surveillance Intelligence System — operated by the US National Security Agency, with the cooperation of the Australian intelligence gathering agency, the Defence Signals Directorate.

On 21 October 1984 the Watsonia Organising Collective (initiated by People for Nuclear Disarmament) established a peace camp in the Elder Street Reserve in Watsonia. Coinciding with United Nations Disarmament Week, the protest aimed to inform the public of the uses and implications of the US base and eventually, through public pressure, have it removed. There were about 150 campers at the peace camp on the weekends, and about twenty on weeknights, although this sometimes dropped to as few as six during the weekdays.

An Ecumenical Church Service was held on the first Sunday by Pax Christi. They distributed blue ribbons to the 'congregation' of about one hundred, asking everyone to write on their ribbons the names of those they would like to preserve from nuclear annihilation. The crowd then took a short walk to Project Sparrow, and tied the ribbons onto the fence. The action was an attempt to remind people of the personal tragedy a nuclear war would involve, something the military-technological language of both critics and defenders of nuclear arms tend to obscure. By next morning, all the ribbons had been removed.

On the same day the peace campers staged a 'Die In' at the main gate of the barracks, simulating the results of an atomic bomb attack. Stretcher-bearers carried away the 'bodies', followed by communal singing in a circle around the gate. Television coverage of this was quite good. Back at the camp, people made aluminium foil kites to fly in the wind and interfere with Sparrow's transmission.



SHELAGH MAY

Settling in

SHELAGH MAY

Guardian of Truth

Several of the Peace Camp women travelled to the city on 25 October — International Women's Peace Day — with banners and a large colourful web into which they invited women passing by to attach flowers.

Young People For Nuclear Disarmament (YPND), held an imaginative protest entitled 'Books not Bombs'. They marched from the Watsonia railway station to the Barracks' front gate, forming a human chain across Greensborough Road. A 'cheque' for six million dollars was symbolically passed from the Barracks to Macleod Primary School, opposite. They were stressing that resources should be used for peaceful pursuits like education, rather than for war. Then they layed down a pile of books across the Barracks entrance. The authorities, in their wisdom, just redirected the army traffic down through alternative gates. Peter Garrett spoke to the group earlier at the peace camp, and with their singing, lively banners and chanting, the YPND attracted good media coverage.

The Sunday Rally on 28 October was perhaps the zenith of public participation. Over a thousand people gathered on the Elder Street Reserve, wandering around the dozens of colourful tents of the campers. Some people picnicked, listened to music and the speeches of local politicians and people from the peace movement. Holding banners against the wind, they marched a short distance to Project Sparrow. One thousand black helium balloons, each with an aluminium foil tail, were released in front of the radar dish to momentarily disturb transmission. Music, provided by Children's Campaign for Nuclear Disarmament was heartwarmingly received. People then drifted back to the peace camp to talk with its residents.

There had been a lot of letterboxing to acquaint local residents with the reasons for the peace camp. A well attended public meeting was held prior to the camp for about one hundred and fifty locals. The letterboxing continued during the camp and local shopping centres were leafleted as well.

A few individual soldiers, ranging from the critical to the sympathetic came privately to the camp to talk about the dish. A class of students from a local high school visited and a student from Loyola College came to invite a peace camp speaker to address his class.

There was one group of local teenage boys who became frequent visitors. One confided in another local visitor, 'The dish shouldn't be here where we all live — these people here are dead right!' The other rejoined with the remark, 'Yeh, but don't say dead'. 'OK', replied the first youth, 'They're live right then!'

Tangimoana

By Alison McCulloch

Tangimoana, a small, previously unheard of village on the west coast of New Zealand's North Island, has recently become a major focus of the peace movement in New Zealand. Just west of Palmerston North city, Tangimoana (Maori for weeping sea) is home base for New Zealand's newest and most sophisticated listening station — the Tangimoana Defence Communications Unit.

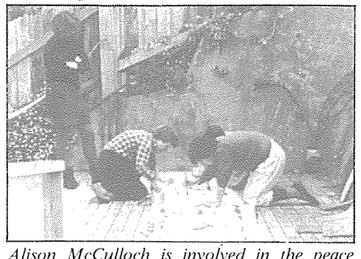
The base was officially opened in 1982 by the then Prime Minister Robert Muldoon, but wasn't 'discovered' by the public until early in 1984. In April, peace researcher Owen Wilkes published an article in Peace Movement New Zealand's (PMNZ) magazine *Peacelink*, which bared Tangimoana's role.

Owen Wilkes asserts that there's more to the base than the officially stated role of monitoring diplomatic messages and helping in search and rescue operations. His argument is based partly on the type and configuration of the antenna masts, described by Wilkes as 'grossly oversized backyard rotary clotheslines'. Then, about 200 metres past the smart office style buildings (the 'brain') and closer to the beach, is a jungle-like array of smaller antennas. They're grouped in a circle, and it is this which Wilkes says 'gives them away'. It's a Circularly Disposed Antenna Array, known as the Plessey Pusher, and it's standard NATO equipment.

The first large action at Tangimoana, and the first all women action at a military base in New Zealand was held in late September 1984, organised by a group of women, calling itself 'Bullseye'. Bullseye is the name of the US Navy's global spy network and, ironically, the town nearest Tangimoana is called Bulls.

The group began in May, organising a rally at Tangimoana. The aim then was, simply, to make more New Zealanders aware of the base's existence. At that time, the ANZUS military alliance was topic of some debate, with many claiming Tangimoana linked New Zealand to the arms race more tightly than any military alliance

Working on the banner



ALISON McCULLOCH

Alison McCulloch is involved in the peace movement in New Zealand, in between university studies and part-time journalism work.

ALISON McCULLOCH

Marching to the base

ever could.

The action being planned then fell through when the National government called a snap election scheduled for 14 July. The Tangimoana rally was put on hold. The Labour party swept into power, with its policy banning nuclear armed and powered vessels from New Zealand ports intact. Euphoria aside, the group met again and, encouraged by messages from Greenham Common women promoting a worldwide action for September, Bullseye set the date, 23 September, for the first Tangimoana action.

Gathering often twice a week, in living rooms around Wellington, the women worked out their plan of action. Because of the new government's strong anti-nuclear stand, Bullseye was keen to keep the action low key so as not to diminish support for the Labour Party. Hence the emphasis remained on education and questioning, even entertainment, rather than protest.

Bullseye had no money, and not much hope of raising any. So, it borrowed from a Wellington women's peace group, and proceeded to stretch the resources of its members. Advertising was left largely to the informal women's network. However, several hundred glossy posters and a few hundred cheaper leaflets were printed, and the women put together an hour-long radio program about the base on Wellington's people's radio, Radio Access. They also ran ads in alternative media such as student, unemployed and union press.

The biggest physical problem to overcome was lack of transport. The base is more than two hour's drive from Wellington and over half an hour from Palmerston North. A car pool was planned to leave Wellington railway station and in Palmerston North and New Plymouth, women hired buses.

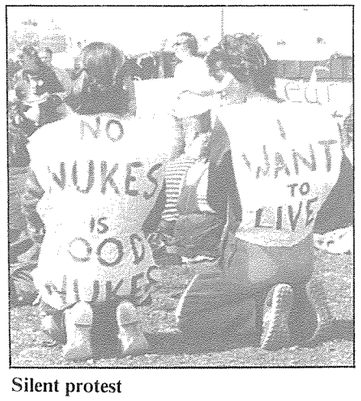
The core group, meantime, feared the action would become a picnic for themselves, a few friends and an annoyed press corps. But, fingernails bitten to the quick, Bullseye watched as more than 400 women gathered at the gateway of the road leading to the base at 11.30am on Sunday 23 September. Ignoring the 'tresspasser will be prosecuted' signs, the 400 marched the two kilometres to the base together, raising both their voices and banners.

It was fine and hot, and at the base only a handful of sweaty-looking police waited. Inside the tall green mesh fence, the police watched while the women covered the obstacle with their imaginations — poems, clothing, flowers, wool, a huge parachute .

The atmosphere was like a picnic. There were no attempts at getting into the compound or cutting the fence.

The women left the base at 2.30 pm. Bullseye described the action as, for want of a better word, 'successful'. The all important press coverage was good. Among the few negative responses, was Wellington's major newspaper, *The Evening Post* which carried an editorial condemning the women's action and saying they were 'anti-American not anti-nuclear'. Letters attacking that editorial flooded in.

Members of parliament talked about the base, and the issue moved again into the domestic political arena. But, the government continues to claim there is nothing covert in the function of the Tangimoana base, while PMNZ continues to ferret out evidence that there is more to this spy base than meets the eye. We await the next round of claims and counter claims.



ALISON McCULLOCH

Silent protest

Carbalah

By Mark D Hayes

'I've got to be nuts to be doing this', I thought to myself as I set off up the road near the head of the motley 30 person demonstration making its way along the red-soil dirt Barracks Road, alongside the 7th Signals Division Royal Australian Army base at Carbalah, about 12 kilometres north of Toowoomba.

It's just after 2.30pm on Sunday, 21 October, 1984.

Not that I have anything against going to demos, even motley ones if the cause seems right. It was the lowering clouds, the spitting rain, the cold wind. Yuuurch! Memories of Menwith Hill flooded back.

Easter 1981. A sudden cold snap shattered the balmy North European spring and brought heavy snow, sleet, blasting winds, rain, and cold. There we were, freezing, passing the Canadian vodka bottle around, peering into the sleet at the Pine Gap of Europe, Menwith Hill, on the top of a moor in North Yorkshire, huge radomes obscured by the rotten weather. In front of us was the razor wire fence and just behind it, the heavily armed troops, glaring at us, freezing, but not sipping the vodka. Our banners flapped wildly in the howling wind. I was wearing the same boots, the same large blue jacket with wind cheater underneath today.

Now the circle turns again, and I'm off to a demo outside a Queensland electronic spy base. Not as spectacular as Menwith Hill. But, in its own way, just as dangerous.

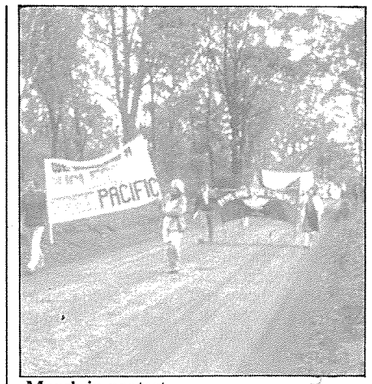
I take great comfort from the knowledge that there are activists at Darwin, Perth, Melbourne, and Tangimoana in New Zealand doing exactly what we are doing today. These are the places in our region where similar spy bases are working. God knows what the weather is like at Tangimoana today, stuck out near a windswept beach on New Zealand's North Island.

Carbalah is fast becoming a Queensand peace movement tourist attraction. Fair enough, too. The place is a menace to world peace and erodes Australia's security. It's a powerful electronic shortwave vacuum cleaner sucking up everything in the shortwave bands, and funnelling it down to Watsonia, in Victoria, and from there into the nervous system of the US nuclear war and intelligence machines.

'What's up there?' a friend of mine from Brisbane asked me as we walked up the road. Good to see the Brisbane people supporting the locals from Toowoomba. Because I'd been researching Carbalah for some months, I knew enough about it to be asked to speak.

'Bloody hell!' I yelled as I glanced behind us and saw a dark green Ford Falcon sedan

Mark D Hayes is a post-graduate student at Griffith University and is a member of the Peace Research and Education Centre of Queensland.

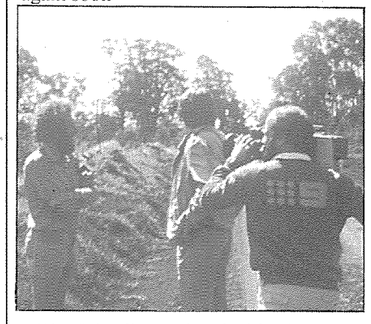


MARK D HAYES

March in protest

coming quickly up the road behind us. We leapt off the road fast. 'Special Branch', somebody explained darkly. Nuff said.

The previous evening, as locals were on an overnight vigil outside the base, Queensland Special Branch officers turned up and had interrogated the vigilers, one of whom was a close friend of mine. No identification was shown, so one was within one's rights to believe, as my friends first did, that here were some local hoods out for an evening's fun harassing the peaceniks. Might as well have been. The Special Branch don't ask questions, they interrogate people; they don't turn up at demonstrations, they harass and intimidate people. They are evil, and enjoy being evil. We'll meet them again soon



'Don't be disappointed with what you'll see up there', I said to my Brisbane friend, 'It's really quite unspectacular.'

As we neared an intersection with another dirt road, we could see the green Falcon stationed inside the base, and army personnel spaced out through the antenna system itself. Never trust peaceniks. Locals had told them everything that we planned to do but they still had the troops out in force.

What Carbalah is and does is a very open secret in Toowoomba. Even the commander of the base admits that it is essentially a spy base. The Defence Department wants to set up concentric developmental buffer zones out to 15 kilometres, the inner zone severely restricting any development likely to generate electrical interference — locals might almost need a permit to install a light bulb — and the outer zone requiring less strict controls on interference generating activity.

There are many hobby farms, battery chook runs, and steadily growing residential development around the base towards Toowoomba to the south and Crows Nest to the north. The local shires aren't keen on the idea at all, local residents are highly suspicious but aren't asking too many questions because, after all, this involves Australia's defence (said in hushed tones, folks), and the Defence Department is being very coy about precisely why they want two buffer zones in the first place.

The peace movement says it's all bullshit.

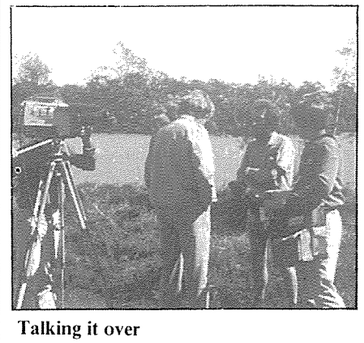
In Japan, there's a much larger spy base antenna system than at Carbalah and there is dense residential development all around the edge of the base. Farmers even till the soil around the antenna towers. If you've got a blank cheque for electronic spying equipment, then you can get state-of-the-art gear which, we assume, can be protected easily from electronic interference. So why the buffer zone?

The Toowoomba peace movement strongly suspects that the buffer zone has to do with Carbalah being a possible nuclear target. A one megaton nuclear explosion at Carbalah would effectively flatten everything out to about 12 kilometres and do serious damage and kill thousands of people at Toowoomba and even Crows Nest. But the buffer zone isn't about keeping people out, it's about stopping them generating interference which could foul up the spying. The Defence Department couldn't care less about the civil defence of locals around the base.

Maybe Carbalah is a nuclear target. Only Soviet targeters would know for sure, and they aren't telling. My guess is that Carbalah isn't the target because it would be an incredible waste of a nuclear weapon to take out such a flimsy structure. Better to take out the major node of the system at Watsonia.

But then in Britain in the spring of 1980 they had this big civil defence exercise called 'Square Leg' during which they assumed that an electronic spy base similar to Carbalah at Cricksands was targeted. Claiming that somewhere is a nuclear target is darn good propaganda, and if the Powers-that-Be aren't telling then, in my War Book, it's safe to assume the worst.

Like the base heavy admits, the local



MARK D HAYES

Talking it over

peace movement knows lots about what Carbalah is and does. If the peace movement knows so much, then the Russians (or the Martians; one is never quite sure who is out to get us) certainly know far more than we do. Like most spy bases in Australia, the secrecy is really designed to obscure these bases' functions from the Australian people as much as from any possible enemy. Foreign Minister Bill Hayden has intimated to Brisbane movement people more than once that Carbalah is essential for Australia's defence, as opposed to anybody else's defence, but that he can't say any more. Security, you understand. Bullshit, say the movement people knowledgeable about these matters. We know when we're being flim-flammed.

I'm psyching myself up to speak outside the facility itself, in a few moments time. I'm no mob orator, and get very nervous when shouting at demos. I'm a lecturer, quite familiar with attentive audiences in university rooms or church halls, used to reasoned discussion and polite questions.

There it is.

About 50 metres over a base perimeter and close mown grass sits the characteristic 72 tower Plessey 'Pusher' Circularly Disposed Antenna Array with its country shithouse-sized goniometer building at the centre of the antenna system. We'll call it 'the thing' for now.

The troops are in position, scattered and inside the thing. The Special Branch are in position off to the left of the thing. They're expecting us to make a bolt for the thing, do something crazy. They'd love us to just try but we're not going to oblige. It's a tough life in the Secret Police. A white Ford pulls up 10 metres down the road. My guts go cold as I spot the chap in the passenger seat.

He's mean. Black baseball cap clamped on his black close cropped hair, set jaw, cropped black moustache, sunglasses. If they weren't Le Specs they'd melt with the heat of his glare at me. He's wearing what looks like a combat flack jacket. I get up to speak, lean away from the car with the PA system, wave at this character, and ask him over to listen closely. He's not amused in the least. The peaceniks giggle and laugh at my bravado. Anytime is a good time to heap it on the real spies.

I do my piece and sit down again. Hope it was OK. The 'leader' of the local movement is smiling at me. Must have been OK. It's going to rain, blast. Jeez, it's cold.

After the demo, I wander over to our friend with the glare. He glares at me and I smile back.

'Australian Army are you?'

'Nope.'

The strong silent type.

'Special Branch, eh? Sorry we didn't misbehave for you.'

I lean closer to the car and spot their radio. Yep, a Queensland police VHF FM system.

'Ya want a lift back to the main road?' says our friend's offsider.

'No thanks, I'll walk.'

The clouds are down heavy and it's spitting rain. I'm concerned for my friend, who is pregnant. A Queensland police car, the one which did traffic control during the march to the thing, pulls alongside, and a grizzled officer asks if we want a lift.

'I'll have a ride with you, but not with your Special Branch mates.'

He winces, and leans over to open the door for us, me with my arms loaded with banners. In we get. He's a nice bloke, the kind of cop you'd like to tell your kids to trust. Remember when we were told that we should trust the police?

That was before the street march campaign in Queensland in the late 1970s; before I saw friends arrested, bashed, framed, arrested again, assaulted, jailed, fined, and harassed by the Queensland police under orders from the Queensland government.

There's this streak of decency deep in my soul, and it's brought out by this nice cop driving us back to the main road. We chat amicably all the way back. He's just doing his job. We say that we understand that.

We stop at the vigil site, say our thanks and goodbyes, and gather at the site for an informal debriefing. I always rate demos or speaking jobs as 'clear wins', 'points wins', or 'bloody failures' and this one was a 'points win'. I felt good about it.

Our opponents were deeply worried about us, scared by us even. Why four Special Branch and at least half a dozen Army troops? We're harmless and they know it.

Or are we?

Shoal Bay

By our Darwin correspondent

Until very recently, little was known of the function of the Shoal Bay Communications Base near Darwin. In August 1984 the Northern Territory Peace Council was able to get some idea with the help of Owen Wilkes, a New Zealand peace campaigner.

As part of the Watsonia intelligence-gathering network, the base acts as a receiving station to monitor transmissions throughout south-east Asia. The station has recently been upgraded and can certainly eavesdrop on all high frequency radio tranmissions in the region — both civilian and military. For example Australia would have known about the Indonesian invasion of East Timor before it happened.

At the Peace Council's October meeting, we decided that some action should be taken. We resolved to hire a bus to take our own members to the base on an exploratory visit — a 'mystery tour'. As none of us knew much about Shoal Bay, we felt that educating ourselves was the first priority.

We were surprised to find the place almost deserted. We could only see one car in the compound itself, and none in the usual staff car park. There was one person in the guard house at the gate.

The general population of Darwin have no idea how dangerous the base may be for them. We believe the issue deserves a lot more public attention.

Woodchip exports

Cutting Tasmania's forests and jobs

Tasmania's forests and forest industry jobs hang in the balance. Decisions will be made by the federal government over the next six months on the renewal of export licences for Tasmania's woodchip industry. These decisions will either allow continued wholesale exploitation of Tasmania's forests for woodchip exports, or lay the basis for a strategy to protect both forests and jobs.

The Tasmanian export licence decisions will set precedents for New South Wales and Western Australia where woodchip licences expire in 1989 and 1991 respectively. If progress is made in Tasmania, improvements in other states will be easier.

Renewal of the licences is conditional on an environmental impact statement being prepared by the industry for the federal government. The companies must demonstrate that there are 'no feasible and prudent alternatives' to exporting woodchips from areas listed on the National Estate.

The **Forest Action Network** (FAN) in Tasmania is arguing that the Commonwealth should place conditions on the export licences to help achieve three environmental and economic objectives:

- Reservation of environmentally significant forest areas from logging.
- Reduction of environmental degradation in areas of wood production through improved environmental practices.
- Maximisation of the employment and economic benefits to all Tasmanians from the wood which is harvested.

This article was prepared for Chain Reaction *by Tim O'laughlin, Sean Cadman, Phil Hoystead, Jonathan Miller and Keith Tarlo, who are all active members of the Forest Action Network.*

One of FAN's objectives is the maximisation of the employment and economic benefits derived from wood which is harvested. Currently these benefits, in most cases, are declining or non-existent.

There are five major activities of forest industries in Tasmania:

- exporting woodchips to Japan;
- making pulp and paper for the Australian market;
- sawmilling and wood products manufacturing, primarily for the Tasmanian and Victorian markets;
- logging and carting, mainly by small contractors;
- forest management, both by the Forestry Commission of Tasmania and by the woodchip and paper companies.

Figures 1 and 2 illustrate some of the dimensions of these activities.

The commonwealth and state governments play major roles in all these sectors, through export licensing, taxation measures, import protection, granting pulpwood concessions and sawlog quotas, charging royalties and providing industry assistance and infrastructure.

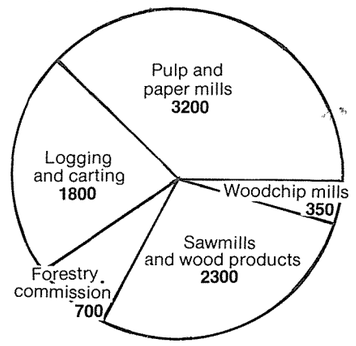
Historically, Tasmania has seen a steady trend away from a rural-based, labour-intestive and locally-owned industry towards a more modern, centralised, mechanised, and outside-owned industry based on clearfelling practices. Sawmilling began in the 1830s. since the 1930s this has been overshadowed by paper manufacturing and since 1971, by the export of woodchips to Japan.

The main economic benefits claimed by the forest industries lobby are jobs and financial contributions to the state's economy through royalties and charges. Certainly, the forest industries are major employers. They directly employ 8400 people or 4.5% of the Tasmanian workforce. This includes 24% of manufacturing jobs in Tasmania. However, despite a 140% increase in wood production since 1970, 3500 jobs have been lost in that period. Why did this happen?

Jobs were lost in all sectors except woodchipping due to reduced sawlog supplies, mechanisation, structural change and declining markets. The establishment and enormous growth of the woodchip exports did not make up for these job losses because woodchipping employs seven times fewer people per volume of wood used than sawmilling or papermaking. In addition, for every $1 million increase in output, woodchipping only employs 78 people directly and indirectly. This compares with 109 for resawn and dressed timber and 99 people for log sawmilling.

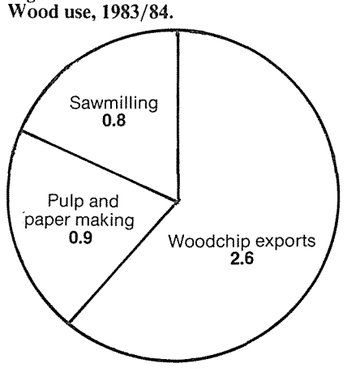
The forest industries emphasise their

Figure 1. Forest industries in Tasmania: Jobs, 1983/84.



Total jobs: 8350

Figure 2. Forest industries in Tasmania: Wood use, 1983/84.



Total wood use: 4.2 million cubic metres

gross contributions to state and commonwealth revenues through royalties, taxes and charges, but they always ignore the public costs they incur. In fact, taxpayers foot the $9 million annual bill for the Forestry Commission's deficit and subsidise transport services for the forest industries by another $7 million per year. Partly because of these subsidies woodchip exporting is very profitable. Little of these profits stay in Tasmania because the woodchip companies are not Tasmanian owned.

Clearly, Tasmanians are not getting a satisfactory return for the exploitation of their forest resources. A forests industry strategy is needed to maintain jobs. This means redirecting production and investment away from woodchipping and into those industries which generate the most jobs per volume of wood used, namely wood products and paper making.

The future of the sawmilling industry lies in design-based wood products using Tasmania's high quality eucalypt and rainforest species. A detailed strategy involving research and development, training and marketing and establishment of a resource centre was spelt out to the state government in 1979 in a consultant's report, very little of which has been implemented.

The volume of woodchip exports is such that there is scope for a pulp and paper mill using a significantly reduced volume of wood, while generating more jobs than the entire woodchip industry. This could serve either domestic or export markets. In conjunction with this proposal, increased paper recycling and improved pollution control would both create jobs and improve environmental standards.

A fuelwood industry could be established by encouraging small industries to convert from oil products. A 25% replacement of oil would create 60-80 jobs in the logging and transport sectors, plus jobs in conversion and maintenance of boilers, as well as diversifying Tasmania's energy sources and reducing waste in logging operations.

These proposals would maintain employment levels in the forest industries. In addition, employment in tourism, recreation and park management would be generated by the areas reserved from logging.

Wood Production

Forest management should provide the necessary raw materials for the restructured forest industries outlined above, but within the environmental constraints of reserving certain areas from harvesting and stricter environmental practices.

In Tasmania 'extensive' forest management predominates: large areas are logged each year, and there are relatively small inputs of labour or capital to improve growth rates or timber quality. The export woodchip industry has facilitated the replacement of 'degenerate' oldgrowth and 'fire-ravaged' stands with healthy young crops. Now the pulpwood industry calls the tune for Tasmanian forestry while sawmillers face a bleak future.

Tasmanian forestry is marked by its inefficient use of the resource. This principally arises from the concession system whereby companies have been granted rights to extract pulpwood from large areas of public land. These exclusive rights extend to timber grades the companies cannot themselves use. In the Australian Newsprint Mills concession, at least 90 tonnes of pulpwood per hectare is left on the ground and burnt. Nor is there any incentive for companies to find markets for the huge quantities of rainforest understorey species currently wasted, up to 400 tonnes per hectare. Wasted wood represents jobs and economic benefits foregone by Tasmanians.

The proposed FAN reserves *can* be established without major disruption to wood production and employment. The logging of some areas outside the reserves would be brought forward and combined with presently wasted pulpwood to bridge the gap until timber from 'intensively managed' stands established closer to mills becomes available.

The focus of Tasmanian timber production should be on eucalypt species rather than radiata pine. Tasmania relies heavily on exports interstate and overseas. By early next century, Australia will have a surplus in softwood timber, but markets for top-grade eucalypt sawn timber should continue. There will be a shortage of hardwood for pulp and paper making in East Asian countries later this century.

Intensive management produces timber more quickly, and more cheaply than 'extensive management' since capital reaps returns sooner. For sawlog production, this involves thinning of aerially sown regeneration at age 20—25 years, with clear-felling at age 50. Eucalypt pulpwood may be grown intensively in plantations on 25—30 year rotations.

Less intensive methods with longer rotations will continue alongside intensive management at least for the medium term. In these areas, wood waste can be reduced through greater use of smallwood for pulpwood and increased harvesting of fuelwood.

There should be greater care in the segregation of sawlogs from pulpwood during logging. The shortage of sawlogs is compounded by the legislated right of ANM to pulp in excess of 70 000 cubic metres of sawlogs each year.

The main impediment to rational forest management in Tasmania, and in particular to the reservation of environmentally sensitive areas is the concession system. It must be replaced immediately with volume rights of relatively short tenure, say 20—25 years.

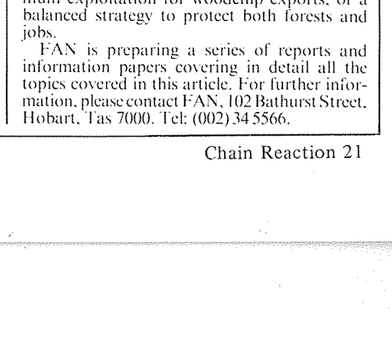
An industry plan

How can these economic proposals be implemented? Renewal of the companies' woodchip export licences should be made conditional on their participation in the development and implementation of an industry plan. The concept of industry plans is well established under the current federal government with steel and car industry plans already in place. The steel industry plan, for example, involved increased import protection in return for commitments by BHP on investment and employment levels. It was a response to sackings by BHP.

The need for an industry plan is equally as strong for the forest industries. Such a plan would have two aims:

- to maintain employment levels in the industries; and
- to transfer all forest harvesting to plantations and areas of native forest outside the reserve proposals.

The plan would be negotiated between the commonwealth and state governments, the companies and unions involved and the environment movement. In return for actions by commonwealth and state governments, the plan would seek commitments from the companies on matters such as employment levels, investment, royalties and public equity in new ventures. Such a plan could be extended to include other states where employment in forest industries is significant.



TASMANIAN FILM CORPORATION

Loading woodchips at Triabunna.

Action

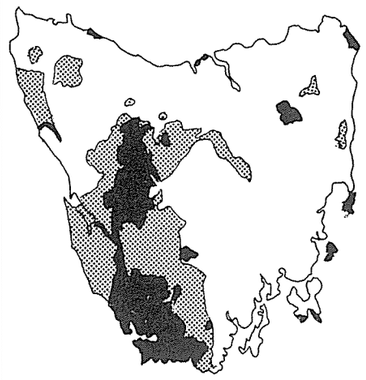
Public participation is essential if the export licence decisions are to reflect more than the woodchip companies' demands. The woodchip companies will attempt to use the process to justify their practices.

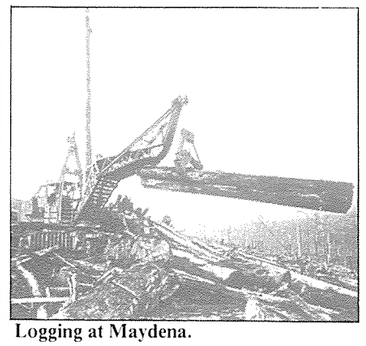
- Read the draft environmental impact statement when it is released this summer. You will have two months to write to the Forestry Commission of Tasmania with your comments, criticisms and proposals.
- Write to the Federal Minister for Primary Industry, Mr Kerin, calling on the government to make the renewal of the export licences conditional on the implementation of the FAN proposals.
- Visit threatened forest areas this summer.
- Get involved at the local level through the Forest Action network in Tasmania or the equivalent group in your state.

Ultimately, the outcome of the commonwealth's decision will be most influenced by the public debate about the two options facing Tasmanians and their forests: continued maximum exploitation for woodchip exports, or a balanced strategy to protect both forests and jobs.

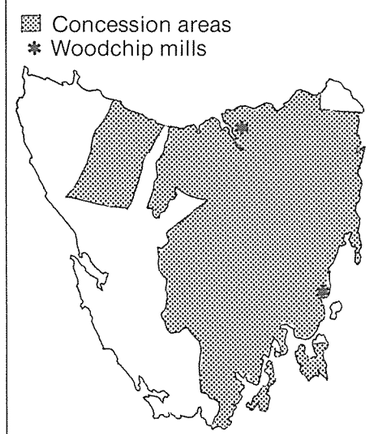
FAN is preparing a series of reports and information papers covering in detail all the topics covered in this article. For further information, please contact FAN, 102 Bathurst Street, Hobart, Tas 7000. Tel: (002) 34 5566.

Map 1. Forest Action Network's proposed reserve areas.





Logging at Maydena.



Map 2. Tasmania. Concession areas and woodchip mills.

Forest reserves

Since white settlement, half of Tasmania's forest cover has been lost. Clearing for woodchips on private land continues at 8500 hectares annually; more than half of this is not regenerated. Much publicly owned native forest is being converted to ecologically simplified 'tree farms' of commercial eucalypt species on 40 to 120 year rotations.

The question is: How much of the state's forest should be given to this type of industry? At present, only 4% of the state's forests are in reserves. Many forest areas of conservation importance are not protected.

Because of the dramatic loss of forest and the drastic alteration of remaining forest, FAN proposes the reservation from harvesting of certain environmentally significant forest areas, outlined below:

Rainforest Reserves Tasmania has the only significant areas of cool temperate rainforest in Australia. Apart from logging and conversion to eucalypts, fire is the major destroyer of rainforest. The rainforest reserves are designed to protect a representative sample of rainforest types in Tasmania.

Western Tasmania Western Tasmania contains Australia's last large area of temperate wilderness as well as diverse and spectacular scenery. The present World Heritage area covers about half the proposed park. Managed and promoted as a national park of world standard, it would enhance the tourism potential of an island already renowned for its beauty and natural heritage. Logging immediately threatens the proposed park in the Huon, Picton and Weld valleys, and the Upper Mersey and Forth valleys.

An adjacent reserve for the Western Tiers will form a buffer to the north of the Western Tasmania park. This proposal also includes one of Australia's best decorated cave systems at Mole Creek.

Douglas-Apsley The catchments of the Douglas and Apsley rivers on Tasmania's East Coast contain the last significant unlogged stands of dry forest in Tasmania. Reservation of these catchments would protect a forest type which contains many of Tasmania's endemic plant species and which is currently underprotected. Also, it would provide year round recreation in a mild climate.

Bioreserves Because of its geographical isolation, Tasmania is richly endowed with unique plant species, many of which are threatened with extinction due to land clearance. These reserves are designed to protect such species.

A number of other areas are also proposed. These include the Norfolk Ranges, Black Bluff and small reserves on the Tasman Peninsula.

Environmental Practices

For the forests outside FAN's reserve proposals, the implementation of environmentally and resource sensitive management practices are essential if their longterm economic values are to be retained.

Present fire management techniques are likely to eliminate the important rainforest components of Tasmania's flora, increase the flammability of the environment, destroy wildlife habitats and reduce populations of plants not adapted to fire-imposed regimes. An example of the inappropriate application of fire for regeneration is the continued use in the dry east coast eucalypt forests of techniques developed in tall wet forest.

Despite a lack of research into the impacts of logging on soil and water, most of Tasmania's domestic supply catchments are destined to be logged. Guidelines for contractors introduced in 1981 do not apply to private forests and elsewhere are easily flouted.

There has been scant regard for the environmental and aesthetic effects of forestry activities by the Forestry Commission and woodchip companies. Visitors to Tasmania often have a depressing image of devastated forest areas. Visual management guidelines were not produced until 1983.

To encourage the wise management of Tasmania's forest resource and to rectify existing deficencies, FAN has prepared a series of proposals on fire and logging practices.

Fire Management A moratorium on blanket fuel reduction burns should be imposed until an ecologically based management plan is produced. In no cases should fire be allowed to degrade rainforest, or used to regenerate dry forest, high altitude forest, or mixed rainforest with a dying eucalypt overstorey. In addition, clearfell and burn techniques should not be used in visually sensitive areas.

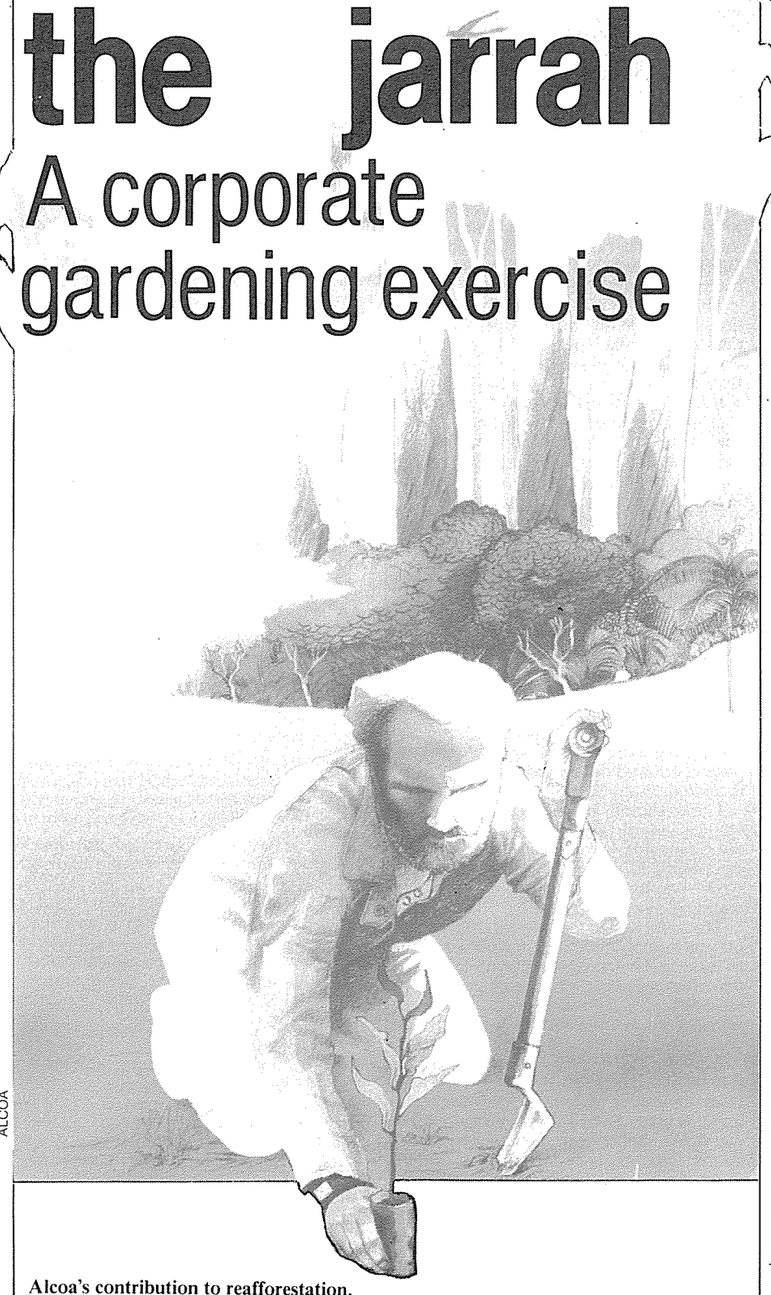
Soil and Water Conservation A research program on logging impacts should be established using studies from at least two paired catchments. Until results from these studies are available all existing guidelines must be strictly enforced.

New guidelines are needed to protect all watercourses by establishing streamside reserves, to limit logging operations on steep slopes, and to stabilise and revegetate major soil disturbance caused by roadworks etc.

Landscape Management The Forestry Commission's visual management system should be implemented immediately. A register of visually sensitive catchments adjacent to wilderness areas should be made, with no evident logging or roadworks allowed in these areas.

Rehabilitating the jarrah

A corporate gardening exercise



ALCOA

Alcoa's contribution to reafforestation.

By Basil Schur

Bauxite mining has been taking place in the jarrah forests of south-west Western Australia since the sixties. In recent years however there has been an unprecedented expansion of the aluminium industry. Five bauxite mines and four alumina refineries are now operating and there are even advanced plans for an aluminium smelter. This expansion has not gone unopposed and there have been extensive efforts by conservationist groups to have bauxite mining phased out of the Darling Range.

In response to concern about the environmental impact of mining, Alcoa, as the major corporation involved, has put considerably more effort into rehabilitation after mining. In the words of one Alcoa employee, 'Although rehabilitation is often seen as a luxury cost associated with mining, it can be the greatest single investment towards ensuring continuity of access to ore reserves.'[1] Rehabilitation may thus be seen as providing a basis for the political security corporate investors so deeply cherish.

Elsewhere in Australia and the world there is ample evidence of socially and environmentally irresponsible behaviour by multinational mining companies. At Weipa in north Queensland, bauxite mining by Comalco has caused massive disruption to both Aboriginal culture and land. In a report published after the first decade of mining there, it was concluded that:

> . . . no other people have ever had their lands taken from them and so utterly despoiled for foreign profit. Comalco's refusal to recognise any need for compensation remains incredible. Comalco's lack of interest in restoring the land is vandalism for profit.[2]

In the forests near Perth, rehabilitation after mining, along with a massive public relations exercise, is done to blunt adverse public opinion, thereby ensuring future access to extensive tracts of native forest. It is important that the corporate assertion that rehabilitation is adequate compensation for the loss of native forest be challenged.

Rehabilitation is unable to restore the landscape qualities of the original forests. It is not only the traumatic operations of bauxite mining which stand in stark visual contrast to the surrounding jarrah forest. Rehabilitation leads to the formation of even-aged plantations that appear artificial and repetitive. Even with a thick understorey these plantations look markedly different from jarrah forest with its distinctive understorey of long-lived cycads, grass, trees and shrubs. The mining envelopes will remain fragmented landscapes because of the edge effects caused by roads, fire tracks and the mosaic of different rehabilitation areas.

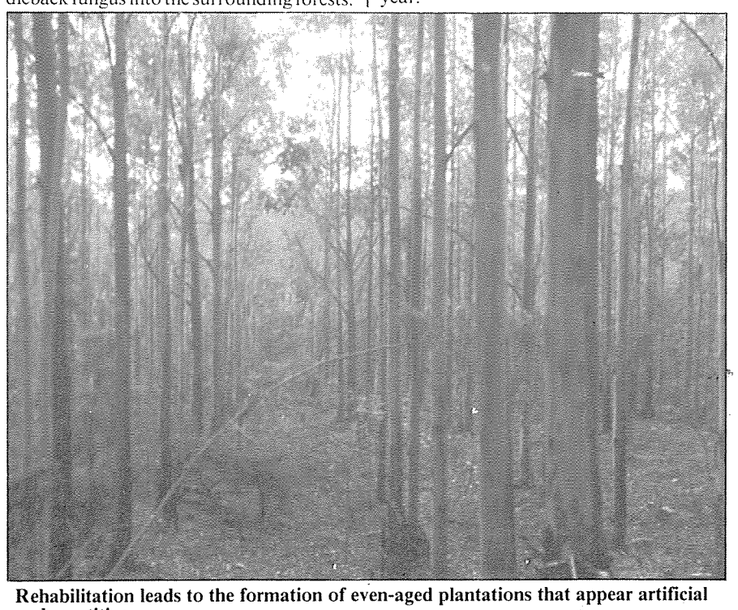
Bauxite mining denies free access to large areas of state forest. The recreational use to which selected rehabilitation sites may be put cannot restore the recreational values of the original forests. The picnic facilities at the old Jarrahdale minesite, for example, duplicate the range of experiences that may be readily obtained in urban parkland. Rehabilitation cannot cater for bushwalking and the tranquil enjoyment of untrampled nature.

Since jarrah is not being actively planted back, there is not even the pretence that the original forest is being restored. Over ten eucalypts, including eastern states' species and karri, are being used. This influx of foreign species means that rehabilitation is fundamentally incompatible with the conservation of the northern jarrah forest ecosystem. This is especially so when it is remembered that exploration and mining for bauxite actively spreads dieback fungus into the surrounding forests.

Recent rehabilitation plantations comprise mixtures of eucalypt species, because no one species has been found to be 'functionally ideal'.[3] The longterm implications of these artificial and arbitrary mixtures will be serious because it is highly unlikely that they represent a stable, self-perpetuating forest ecosystem.

There have been quite a number of studies on various aspects of flora and fauna return to rehabilitation areas. This work has been almost exclusively funded by mining companies. Alcoa has used these studies to assert that rehabilitation areas do not conflict with the conservation of jarrah forest flora and fauna. However it appears that there have been no detailed flora and fauna surveys of the mining areas before clearing commenced. In addition there are serious flaws in the design of the comparative surveys that have been done of healthy jarrah forest and the better rehabilitation sites.

In many respects rehabilitation represents a trial and error corporate gardening exercise. The biological communities that have been established will probably need intensive management to prevent deterioration. One of the major problems is fire. The effect of fire on rehabilitation is unknown, but could be very serious as large fuel loads are being built up. There have already been problems associated with nutrient deficiencies, drought stress and pest attack. It is almost certain that highly manipulative thinning and slashing procedures will be implemented. What the effects will be of extremes of drought, flood, fire, pests and diseases on rehabilitation in the long term is completely unknown. Despite this, clearing for mining is still proceeding at over 300 hectares a year.



BASIL SCHUR

Rehabilitation leads to the formation of even-aged plantations that appear artificial and repetitive.

Adjacent jarrah forests have been greatly affected by the presence of mining. A serious disruption to these forests is taking place under a scheme called 'The Forest Improvement and Rehabilitation Scheme'. This is an attempt to reverse or minimise the effects of dieback. Thousands of hectares of so called 'graveyard forests' have been 'rehabilitated' with local and eastern states' eucalypts. In healthy forests an attempt is being made to eliminate banksia. The silvicultural treatments also employed in the scheme may be adversely affecting the conservation status of these forests, in particular by the removal of old trees with hollows. The scheme has been extensively applied with little direct research to show that it is of any benefit.

Bauxite mining has been compared to a game of environmental roulette and this gamble for doubtful economic rewards is unacceptable to many conservationists. What is needed now is a campaign based on the aim of, in the short term, getting the areas cleared for mining greatly reduced and confined to dieback affected forests, and in the long term, having bauxite mining phased out of the Darling Range. This presents a daunting task.

It is my opinion that an orientation towards grassroots campaigning offers the most promise in the long term. Thousands of visitors, including school children could be taken on tours over selected parts of the mines as part of a campaign to turn the tide against corporate propaganda. Another focus for grassroots campaigning could be the various governmental bureaucracies supposedly regulating bauxite mining. There appears to be a number of individuals at lower echelons who are very concerned about the present and future impact of mining. A campaign for democratic reform in the bureaucracies could result in much stronger anti-bauxite mining sentiments surfacing in reports and policy statements.

Part of such grassroots activism should involve maintaining the longterm vigour of the groups opposed to bauxite mining. In particular there is a need for skills and knowledge gained from past campaigns to be actively shared amongst all involved individuals. Consensus decision making can allow newcomers to such groups to feel welcome and useful. This is important because the departure of activists who have become indispensible to the issue can seriously set back efforts to carry out a sustained campaign.

Basil Schur is a member of the Campaign to Save Native Forests in Perth.

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2. JP Roberts (ed), *The Cape York Aluminium Companies and the Native Peoples*, International Development Agency, Melbourne, 1976, p 90.
3. WA Department of Conservation and Environment, *Bauxite Mining in the Jarrah Forest — Impact and Rehabilitation*, Bulletin no 169, Perth, 1984.

Contact: Campaign to Save Native Forests, 794 Hay St, Perth, WA 6000. Tel: (09)321 2269.

Alternatives to plant patenting

Plant patenting legislation — 'plant variety rights' (PVR) — is being considered by the federal government. The introduction of PVR would greatly increase the control of large seed companies over Australian agriculture, and threaten public plant research. (See Mark Cole, 'Seed issue germinates', *Chain Reaction* 23; Judy Messer, 'Seeds update', *Chain Reaction* 28.)

A bill for PVR was tabled in federal parliament in 1982. Opposition to the proposed legislation came from most leading consumer, church and conservation groups, plant breeders, and private individuals. Politicians, mostly Liberal and Natonal Party members, were swamped with letters and petitions. When the Fraser government called an early election in 1983 the senate standing committee looking into plant patenting ceased to exist and the bill lapsed.

It was assumed that the Labor government would let the issue fade, as state Labor governments has expressd opposition or reservations. Shortly after the new government gained office, however the Minister for Primary Industry, John Kerin, announced that he would reconvene the senate standing committee.

Following the July 1984 Labor Party national conference, its policy on PVR is that it will 'not introduce PVR without an enquiry into Australia's plant breeding needs and of all other alternatives to PVR'. This differs from its previous policy in that the adjectives 'most searching' and 'public' have disappeared from before 'enquiry'. Also disconcerting is the senate standing committee's recommendation that PVR be administered by the Patents Office, under Barry Jones, a fervent supporter of PVR, rather than the Department of Primary Industry.

In this article, **Mark Cole** sets out a series of proposals for Australian plant improvement which would undercut many of the justifications put forward in support of PVR.

The Plant Variety Rights (PVR) debate has been defined up till recently by the nature of the legislation proposed. As a result the debate has been of a defensive and largely reactionary nature. Industry and government have called the shots and opponents to PVR have reacted. Now that the legislation has been moved off the immediate political agenda the opportunity exists to develop a more proactive campaign. Such a campaign should develop alternatives which, in an integrated way, lift the quality and efficiency of:

- The introduction of plant genetic material from overseas.
- Maintentance of germ plasm collections.
- Acceptance of new improved varieties by the industry, and effective promotion and distribution amongst farmers.
- Teaching of plant breeding skills, especially at postgraduate level.
- Plant breeding and associated research.

One of the major reasons the pro-PVR lobby has gained some support in industry circles is that the system of PVR has been promoted as a panacea for the problems caused by an insufficiently funded and integrated plant improvement system in Australia. In reality PVR would be of a much more disruptive than constructive influence on plant improvement work. Briefly, the proposed system will threaten the free exchange of genetic material, decrease the genetic diversity of new varieties, encourage the disarticulation between basic genetic research and plant breeding, and disrupt the present system of release of new varieties only after exhaustive testing and evaluation by independent authorities.

Plant breeders, farmers, economists and environmentalists who have been fighting the legislation should now be developing a range of superior proposals which will enhance rather than disrupt plant improvement work in Australia. If this opportunity provided by an ambivalent Labor government is not taken up and the debate is allowed to simmer, or worse still, remain bogged down on the pros and cons of PVR, the chances of the eventual enactment of PVR legislation will increase dramatically.

This article raises proposals which it is hoped can form the basis for discussion around alternatives to PVR.

Mark Cole is currently engaged as a research consultant to the AMFSU developing industry policy recommendations for manufacturing industry in West Sydney. Between 1978 and 1981 he was engaged in research into the Australian seed industry and agribusiness at Friends of the Earth in Victoria.

Commonwealth Control of Germ Plasm Collection

The collection and maintenance of an extensive range of genetic material of potential use in Australian plant breeding is inevitably a matter of national food security. In the final analysis it is a determining factor in the quality of indigenous plant breeding.

There are a number of germ plasm banks in Australia at the moment. The five major banks store wheat, tropical pastures and legumes, temperate and Mediterranean climate legumes, clovers and sugar. Eight major germ plasm banks are proposed to cater for all of Australia's major crops. However responsibility for funding is spread across a range of bodies including State departments of agriculture, the federal Department of Primary Industry, CSIRO, Wheat Industry Research Council and private industry. To ensure that such a vital network of banks is properly established and co-ordinated, the commonwealth government should take on full responsibility for the funding, establishment and supervision of the germ plasm banks.

Establishment of a Fruit Variety Importation Agency

Advocatees of PVR have argued consistently that lack of PVR has meant Australian fruitgrowers have been denied acess to a vast range of new fruit varieties. Most of the problems of access to overseas varieties appear to involve fruit varieties. These advocates fail to recognise the limitations that quarantine and virus testing places on the number of varieties to be introduced into the country. Further, under PVR, licencees would be able to multiply and sell patented varieties without evaluation by departments of agriculture.

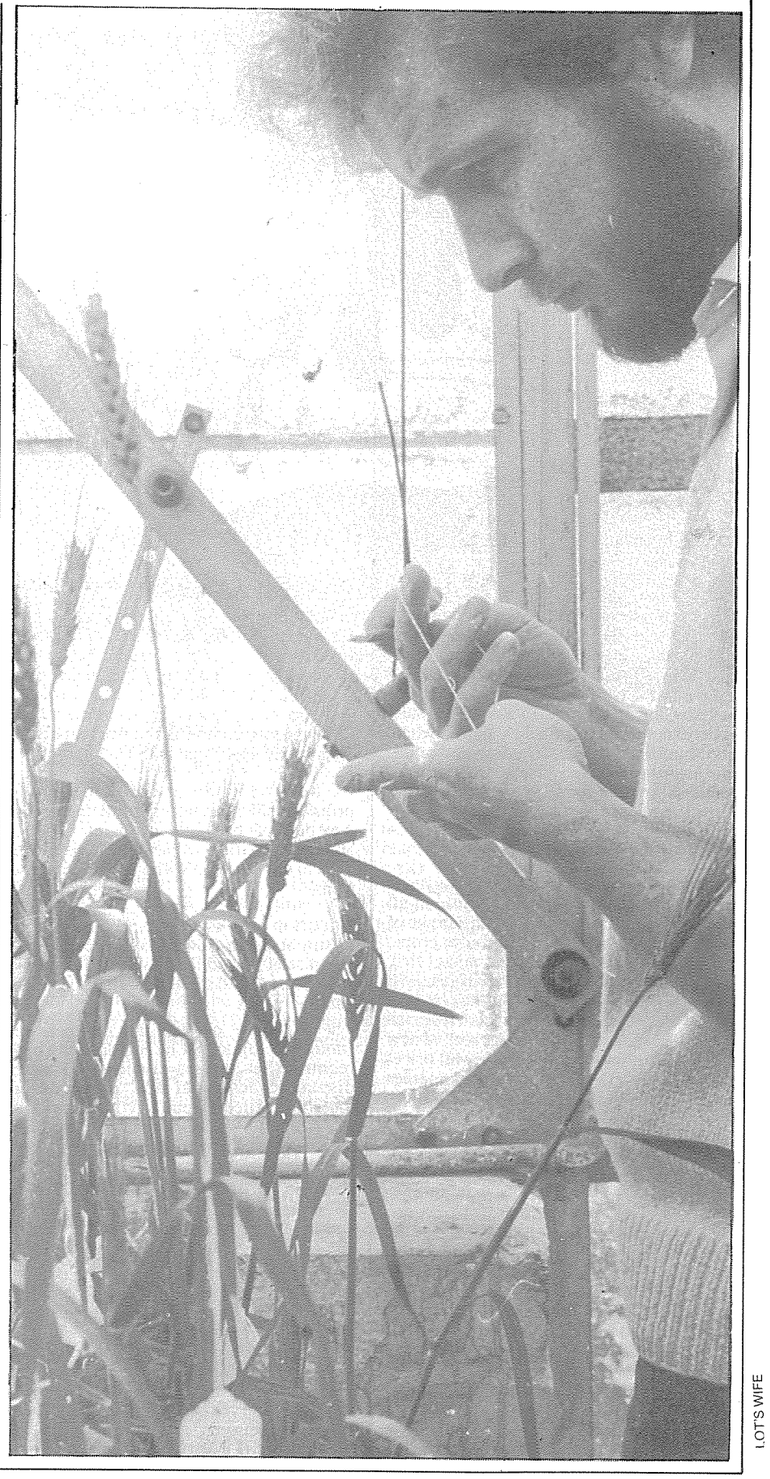
The introduction of new varieties of fruit is currently coordinated by the Fruit Variety Foundation Committee, a sub-committee of the Horticulture sub-committee, which in turn is a subcommittee of the Standing Committee of Agricultural Council. (The Agricultural Council comprises the Federal Minister of Primary Industry and State Ministers of Agriculture.) The Fruit Variety Foundation Committee comprises horticulturists and plant viroligists.

The committee meets annually to decide which plant varieties will be recommended for importation in the coming year. Each state is allotted a yearly quota for the number of varieties of each fruit species it can import. Importation is coordinated so that there is no duplication, and so that the resources for quarantining and virus testing are not overstretched.

Once brought into the country the imported fruit varieties are evaluated for commercial viability before being multiplied and released by the relevant state department of agriculture. Samples of imported varieties are maintained in screen houses for the committee by state departments of agriculture in New South Wales, Victoria and Tasmania. This system of importation, quarantine, virus testing, evaluation, supply and storage ensures farmers have access to the highest quality plant varieties in their orchards. The scheme ensures that material is available without restriction to all who wish to use it, either in orchards or for commercial multiplication for sale to other farmers.

The establishment of a Fruit Variety Importation Agency would solve any problems of access to overseas fruit varieties that are patented. The agency would operate under the supervision of the Fruit Variety Foundation Committee. Under the scheme the agency would have sole rights to import patented varieties. Upon request by the Fruit Variety Foundation Committee, officers of the Importation Agency would negotiate with overseas patent holders a suitable lump sum payment for release in Australia, after evaluation trials had taken place.

State departments of agriculture would retain rights for multiplication and all farmers and growers would have access to the variety. Any grower would be free to multiply and sell cuttings of the variety.



LOT'S WIFE

LOT'S WIFE

Levies on the purchase price of the reproductive material would cover the cost of the lump sum payment. The levy would cease once the cost of lump sum payment and administrative costs had been recovered. This compares to a PVR system where no evaluation takes palce, where monopoly rights to distribution and multiplication are held, and where the patent remains in force for 20 years.

Extension of plant breeding resources

Public breeders are by far the majority of breeders in Australia. They operate in all the major field crops as well as in a range of pasture crops. In many of the major crops, farmers are levied on the total tonnage they produce each year to fund rural research including plant breeding. This has led to a highly cost effective program of research which has managed to produce seed of new improved non-hybrid varieties at prices well below that which private companies could offer given the small size of the Australian seed market. The extension of crop levies for research into other major crops and the cross subsidisation of research into new and minor crops by levies on major crops would ensure the extension of plant improvement work in Australia.

The commonwealth should also expand funds available through the Special Research Grants Scheme, which provides grants for research in crops where no crop levy operates. In 1982-83 only $279 000 was allocated for some 36 research projects in 20 different crops.

Promotion of varieties bred by public institutions

At present most public funds are allocated to plant improvement work rather than to marketing public varieties. Australian agriculture is already experiencing the problem of private companies being able to outsell the public sector with varieties that are of no better agricultural value. What is required now is a public marketing body which has responsibility for:

- The production and distribution of promotional material in rural media for new publicly bred and evaluated varieties and coordination of field demonstration days in cooperation with grower organisations.
- Liaison with state departments of agriculture and seed growers to ensure adequate supplies of reproductive material of public varieties are available for distribution where demand exists.

The existence of such an organisation should be supported by legislation which requires that all seed distribution outlets display educational and promotional material related to publicly bred varieties released and recommended by state departments of agriculture.

Incentives for innovative private plant breeding

Incentives to innovative private plant breeding could involve the setting up of a system to collect royalties based on cross-counter sales of varieties of merit registered under the already existing schemes for the registration of varieties of wheat, barley, grain legumes, oil seeds, tobacco, herbage plants and potatoes. The process of registration involves exhaustive testing and consultation between state departments of agriculture. If a variety is found to be of agricultural merit and relevant to commercial needs it is added to the relevant register and released.

If legislation was framed so that seed of registered varieties would be sold suitably labelled, a sales tax could be imposed at the point of sale and remitted to the breeder. Unlike PVR any seed grower or merchant would be able to grow and sell seed of the registered variety; reward would only be earned by those private breeders which produce varieties of demonstrable worth to agriculture; and the system is built on already proven registration procedures.

An Australian Plant Improvement Organisation

The above initiatives ought to be coordinated by a single national organisation answerable to the Australian parliament. Such an organisation, named the Australian Plant Improvement Organisation (APIO), should be set up as a statutory authority with a managing board comprising representatives of industry, state departments of agriculture, federal Department of Primary Industry, CSIRO, and universities.

Initially, it could be responsible for:

- Collection and maintenance of germ plasm banks:
- Importation of improved varieties from overseas including the operation of a Fruit Variety Importation Agency;
- Funding of plant breeding work in all major Australian crops.
- Operation of cross-counter sales levies on varieties developed by private breeders.

Over time the responsibilities of the APIO ought to be extended to include:

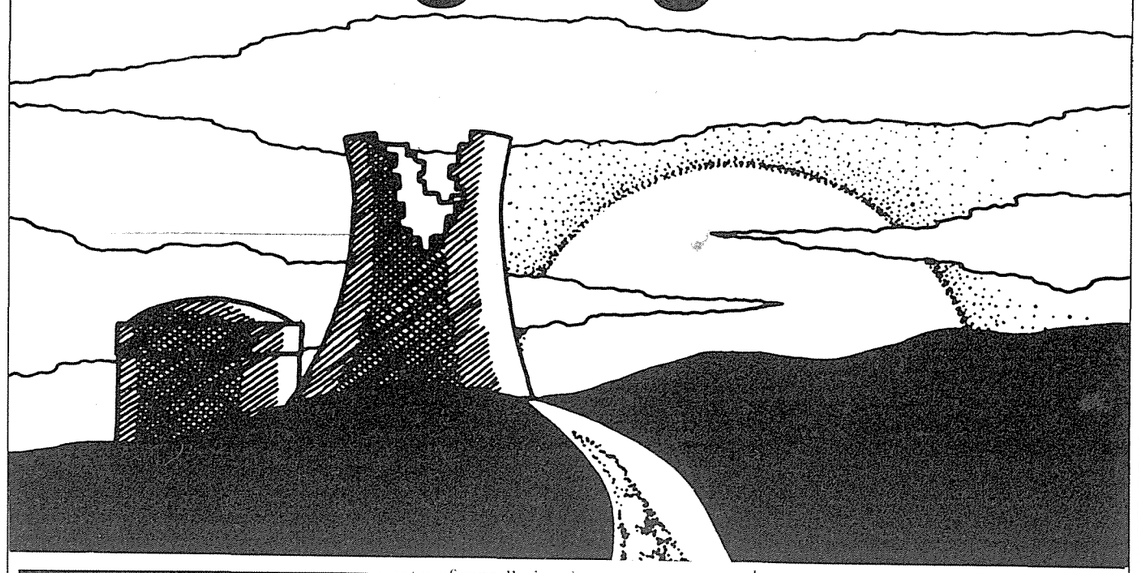
- Facilitation of increased cooperation between plant improvement programs of various public institutions throughout Australia.
- Establishing and monitoring activities of at least one campus-associated plant breeding institution providing post graduate training for Australian plant breeders.
- Promotion of publicly bred plant varieties

The development of an integrated approach to plant improvement in Australia which includes proposals outlined above would enhance standards of Australian agriculture as well as closing off loopholes in access and incentive schemes for private industry which large commercial interests have been able to take advantage of in lobbying for the introduction of PVR into Australia. The proposals would make present arrangements in the private and public sectors more cost effective as well as increasing the efficiency and span of Australian plant breeding.

Action: For more information on the campaign against PVR legislation contact:

- Free Access to Seeds Committee, c/- Food Justice Centre, 366 Smith St, Collingwood, Vic 3066. Tel: (03) 419 8700.
- Plant Diversity Protection Committee, c/- Total Environment Centre, 18 Argyle St, Sydney, NSW 2000. Tel: (02) 27 4714.

Nukes going bust



MAURICE SENDALS

The nuclear power industry in the USA is in trouble. Several major electricity utilities are hovering on the brink of bankruptcy. Partially completed reactors are being mothballed. John R Hallam reports on the current state of the industry in the wake of a series of economic crises over the last two years.

It's been known for some time that the nuclear power industry in the United States is in trouble. We are witnessing the biggest industrial debacle in history, in which, according to some estimates, as much as $100 billion in investment could be written off. Since the beginning of December 1983, just under 13000 MW in nuclear generating capacity has been officially or unofficially cancelled. That is more than the UK will *ever* have on line. For comparison, Japan has a total of 19000 MW on line, and 26000 MW total commitment. West Germany has a total commitment of 22000 MW.

In spite of the cancellations, the US nuclear program remains the world's largest. It has fallen from a projected 400000 MW planned in the mid-1970s, to 129000 MW at the end of 1982, to about 117000 MW in September 1984. At present rates of cancellation, it may never amount to more than 90000 MW. The French nuclear program is projected to be 53000 MW, and the Soviet program is about 48000 MW. At the moment, the USA still has a bit under a third of nuclear capacity operating and under construction worldwide.

In comparision with the highly centralised nuclear industries of France, the UK and the USSR, the US nuclear industry is highly decentralised. In spite of Reagan's plans to use civilian plutonium to make weapons, the civil and the military arms of the industry are more nearly separate than in the UK, France and the USSR, where the prime task of the first 'civil' reactors was to produce weapons-grade plutonium.

John R Hallam researches the nuclear fuel cycle with Friends of the Earth (Sydney).

THE NUCLEAR JUNGLE

The US nuclear industry isn't a single, dinosaur-like animal. Rather, it consists of a number of monsters lurking in the corporate jungle.

The reactor vendors

The biggest, and probably the hungriest, of the denizens of the bizzare ecological niche that is the US nuclear industry are the 'reactor vendors'. These are companies which supply reactor pressure vessels and the associated plumbing and control systems. The largest reactor vendor in the USA, and the world, is Westinghouse, who supply pressurised water reactors (PWR). Other PWR suppliers in the USA are Combustion Engineering, and Babcock & Willcox, who supplied the Three Mile Island plant. Babcock & Willcox haven't been saying much lately, and are in financial trouble.

The other US reactor vendor is General Electric, who supply a different type of reactor, the boiling water reactor (BWR). All four reactor vendors are large engineering firms, who sell a lot more than reactors. None of them have had a reactor order from the USA since 1977. These brontasaurs are very, very hungry for orders, and increasingly stalk prey outside the USA.

The architect-engineers

Also lumbering about the US nuclear jungle are the 'architect-engineers'. These are companies which build all sorts of power plants, not only nuclear ones. They are large construction and engineering companies who do things like design the plant, dig the holes in the ground, pour the concrete, and coordinate hundreds of subcontractors. The biggest of these is Bechtel Engineering, the biggest engineering company in the world.

Both vendors and architect-engineers are trying desperately to induce utilities to stay with the construction of nuclear projects, rather than cancelling them. They have even gone as far as offering plants on a 'turnkey' basis, that is, for a fixed price, which project. The utilities for whom the plants are being built have not been all that receptive. Out of three 'turnkey' offers made by vendors and architect-engineers, only one, to complete the Seabrook plant, has actually borne fruit.

The utilities

The electricity generating utilities are a varied group of bodies. Some utilities, such as Public Service of New Hampshire, the Long Island Lighting Co and Consumers Power are all owned by private shareholders. Some, such as the Tenessee Valley Authority and the Bonneville Power Authority, are owned by the federal government. Others are owned by states, or municipalities. Some, such as the Washington Public Power Supply System (WPPSS), are complicated federations of other utilities. WPPSS is made of up the monster Bonneville Power Authority, a number of medium-sized private utilities, and 104 small municipal utilities.

All US utilities, including those owned by the federal government, must raise money to cover the costs of their construction programs (not just nuclear), on the bond market. All are having some difficulty covering their construction costs, and are faced with declining confidence from the bond market.

The regulators

The nuclear industry in the USA is subject to a state and federal regulatory structure. At the state level are Public Utility Commissions (PUCs), which are basically consumer watchdogs. PUCs have limited, but important, powers. They cannot tell a utility that it cannot build a plant. They can however, decide whether a utility will be allowed to charge customers for a plant or issue bonds for it. Their jurisdiction extends to all utility construction, nuclear or otherwise. Many PUCs make no secret of the fact that they would like utilities to cancel nuclear projects. There is often an epic struggle between PUC and utility over nuclear plant construction, with the utility holding out for the best deal it can before it will agree to cancel a plant.

At the federal level, the industry is regulated by the Nuclear Regulatory Commission (NRC). The NRC creates regulations to govern nuclear plant safety, and issues construction and operating licenses. In general, the NRC's regulations have become stricter, and their enforcement more rigorous, since the accident at Three Mile Island, although many changes recommended by the NRC's own people have yet to be fully implemented. The NRC still tends to sweep many safety concerns under the carpet. The NRC is now dominated by Reagan nominees, but this hasn't prevented its chair, himself a Reagan appointee, from attacking the nuclear industry for sloppy engineering.

The intervenors

Finally there are the anti-nuclear 'intervenors', not exactly part of the nuclear industry, (but almost an industry in themselves). These are groups such as the San Luis Obispo Mothers for Peace, the Government Accountability Project, Friends of the Earth, Union of Concerned Scientists, and so on. Many of these groups are locally and regionally based, and concern themselves with a single nuclear plant.

Intervenors play a central role in NRC proceedings, helping to lift the carpet under which the utilities, the industry and the NRC have swept safety issues. They have also challenged NRC licensing decisions. For example, an operating licence for Diablo Canyon has been successfully blocked by a supreme court injunction sought by the San Luis Obispo Mothers for Peace.

Intervenors have also participated successfully in PUC proceedings, using economic rather than safety arguments. It has become commonplace nuclear industry rhetoric to blame the nasty intervenors for the cost overruns and subsequent cancellations that afflict the industry. But the problem goes far deeper than that.

The federal government

I don't put the federal government high on the list of participants in the industry. This is one of the important differences between the USA and say, France or the UK. In those countries, the decision to build or not build a nuclear plant is taken at the cabinet level. In the USA reactor cancellations are decisions taken in the boardrooms of the utilities concerned. In practice, such decisions have been the result of complicated haggling between utility, PUC, and sometimes, intervenors. This happened when the Midland 1 and 2 plants were cancelled; the utility had to bargain with the PUC, the Michigan Attorney-General, intervenors, and a consumers coalition that included General Motors.

UTILITIES FACING BANKRUPTCY

The USA faces the prospect of major utility bankruptcies, brought on by the scepticism of the Wall Street bond market, by the refusal of PUCs to allow them to pass on the costs of the latest construction fiasco to consumers, and by rising reactor construction costs. (Costs have risen from original estimates of $300—400 million for a typical nuclear project, to $3—4 billion.) A significant number of utilities have reacted by scrapping their entire construction programs, and turning to 'load management'.

One utility, South California Edison, went so far as to hire anti-nuke and Friends of the Earth activist, Amory Lovins, to design an energy-saving program. The results, were eminently satisfactory according to the company's chair, who was at one time president of the US Atomic Industrial Forum.

For the last six months, three major US utilities have been on the brink of bankruptcy. The utilities concerned are Public Service of New Hampshire (PSNH), the builders of the Seabrook project; the Long Island Lighting Co, builders of the stalled Shoreham BWR; and Consumers Power, builders of the now cancelled Midland 1 and 2 plants. These utilities are not the only ones that face problems however. The Washington Public Power Supply System has been unable to reply to a 'turnkey' offer because its constituent utilities are busy sueing it and each other; and the Tennessee Valley Authority has cancelled four plants comprising 5324MW and worth about $20 billion.

Let's look at each of these utilities in a bit more detail.

Public Service of New Hampshire

In April 1984, Bechtel tried to add PSNH's Seabrook 1 and 2 to a 'rescue list' of plants it would be willing to complete on a 'turnkey' basis. PSNH replied to Bechtel that the utility would be bankrupt within a week unless it could find additional finance. As things progressed, it became increasingly clear that Seabrook 2 had been effectively cancelled.

PSNH was eventually saved from complete bankruptcy by a bond issue put together by the world's biggest securities broker Merril Lynch. A completely new company was to be set up to complete Seabrook 1. However, the Merril Lynch bond issue was severely criticised by Donaldson, Lufkin & Jenrette, rivals of Merril Lynch. They pointed to the potential for licensing difficulties at Seabrook 1, and said that there was a 1 in 2 chance of bankruptcy for PSNH in the long run.

Long Island Lighting Company

The Long Island Lighting Company (LILCO) has been denied an operating licence for the 810MW Shoreham BWR by the NRC because both state and local governments have refused to create emergency plans in case of an accident at the plant, simply because 'you can't evacuate New York!' Legislation passed in the wake of Three Mile Island demands that such plans exist before an operating licence can be issued.

Interest bills for the idle plant have all but bankrupted LILCO. New York State Governor Mario Cuomo has been less than supportive, saying 'they're a private corporation — let them take a bath'. In April 1984, LILCO's chairman said that LILCO would be bankrupt by September, when it had to pay off a bond issue. However, LILCO managed to get credit through a consortium of 42 banks, up to December 1985. LILCO is now borrowing from its bankers in order to pay its bondholders.

Consumers Power

Consumers Power also faces bankruptcy in spite of the painful decision taken on 16 July 1984 to cancel the Midland 1 and 2 plants. These plants were constructed in a swamp, into which they are slowly and symbolically sinking. To add to this, architect-engineer, Bechtel, managed to install 1450 control circuits for the plants backwards in 1981; and one of the subcontractors, Zack Construction, rumoured to be run by the Mafia, had approved components as being of 'nuclear grade' before they had been manufactured.

Up to the cancellation, $4 billion had been invested in the plants. The utility's prospects of staying out of the bankruptcy court depend on how much Michigan PUC will allow it to recover from customers.

Washington Public Power Supply System

In 1983, the Washington Public Power Supply System (WPPSS) defaulted on $2.25 billion worth of bonds for the now cancelled WPPSS 4 and 5 plants. This left WPPSS 1, 2 and 3. WPPSS 2 has now been given an operating licence. WPPSS 1 and 3 are 65% and 76% complete respectively.

In February 1984, Ebasco, Peter Keiwit & Sons, and Morris-Knudsen, all of them involved as architect-engineers and subcontractors for WPPSS 1 and 3, offered to complete them on a 'turnkey' basis. But WPPSS just wasn't listening. Its legal situation is so complicated that nobody can work out just who has the legal authority, let alone the money, to complete the plants. Its board of directors is trying to get the Bonneville Power Authority (BPA) to do the job, but both the BPA and WPPSS are being sued by the 104 minicipal utilities who are part of WPPSS. A federal judge has refused to rule on whether BPA can complete the plants. WPPSS 1 and 3 have been effectively mothballed till the 1990s.

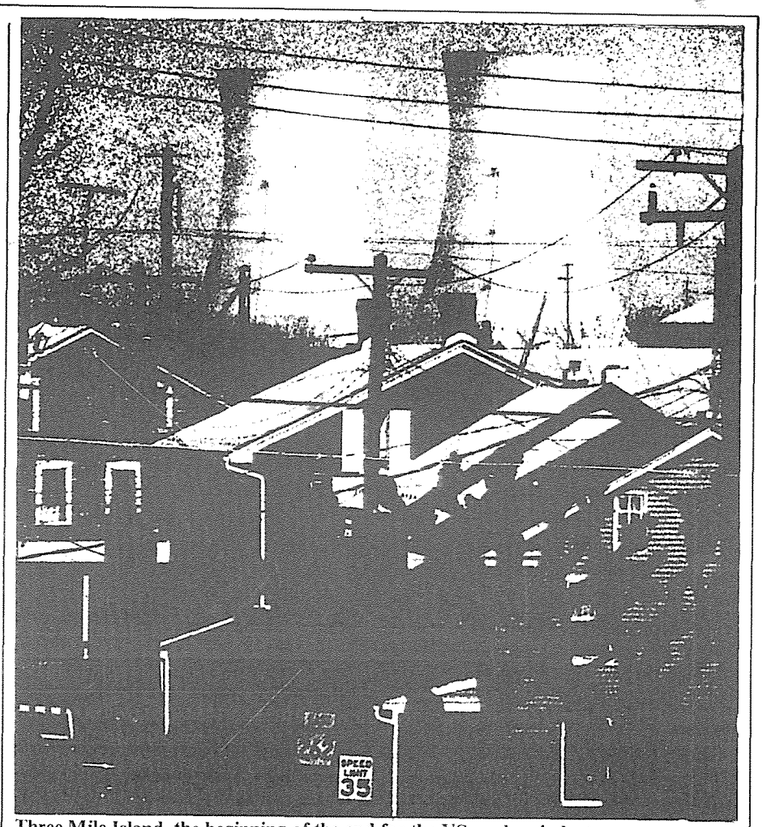
Tennessee Valley Authority

The Tennessee Valley Authority (TVA), created in the 'new deal' of the late 1930s, and owned by the federal government, is the largest utility in the USA. At one stage, the TVA had a nuclear program of 18 plants, adding up to 20677MW. Of this, 10272MW has been cancelled. The latest TVA cancellations are the Hartsville A-1 and A-2 plants in Tennessee, and the Yellow Creek 1 and 2 plants. When the TVA board decided to cancel them, $1.5 billion had been spent on the Hartsville plants, and another $6.5 billion would have been needed to complete them. $1.35 billion had been spent on Yellow Creek, and it was estimated that it would need at least another $10.5 billion. The decision to cancel these plants was taken by a board of directors dominated by Reagan appointees.

THE REAGAN ADMINISTRATION

The role played by the Reagan administration in all these dramas has been peripheral. The main actors are the vendors, utilities, architect-engineers, PUCs, the NRC and intervenors. The Reagan administration has limited itself to pro-nuclear rhetoric, and to trying to make the NRC more amenable by appointing the 'right' people to it.

The nuclear industry has advocated the demolition of the existing PUC and NRC framework, and the creation of a federal government owned 'national nuclear corporation', like France's maybe. The abolition of the NRC, or limitations on the role of intervenors, would be politically difficult. The abolition of PUCs would be unconstitutional, as they are state bodies. Furthermore, national nuclear coporation runs directly counter to the whole free enterprise rhetoric of the Reagan administration, and there is no sign of support for it.



Three Mile Island, the beginning of the end for the US nuclear industry.

TECHNOLOGICAL STAGNATION

The US nuclear industry is unable to get things right, or to correct its mistakes. The industry and the NRC seek legal, organisational and political solutions, when what is needed is to rebuild things the right way round. The result is technological stagnation, and, often, chaos on the construction site. For example, LILCO's reaction to the fact that diesel generators at Shoreham that are supposed to supply emergency power under all circumstances, instead catch fire or fall to bits (as they do at half a dozen plants that have this make of generator) has not been to replace the generator. It has been to seek an exemption to the NRC regulation that says the generators are needed.

A similar pattern has been evident at Diablo Canyon. Months or years may be needed to put right the design errors at Diablo. The NRC has admitted they need resolution, and then gave Diablo a full licence. Only one NRC commissioner was heard to suggest it might be a good idea to actually fix the problems.

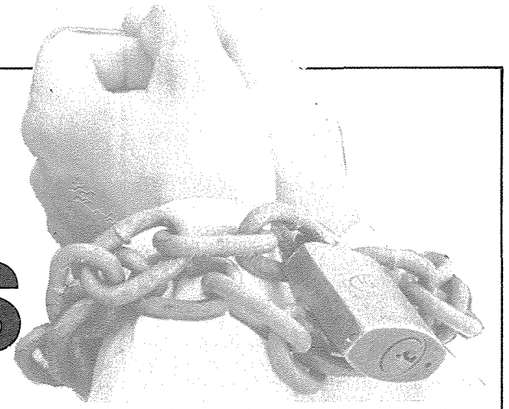
This refusal to fix safety problems seems to be part of the nuclear industry's technological stagnation in the USA. While France has produced the 1350MW N4 reactor, designed to take account of the experience of Three Mile Island, and the Japanese are developing advanced reactor designs, the USA has yet to implement the recommendations of the NRC's 'lessons learned' task force from 1980.

The tragedy for the dying US nuclear industry is that there just aren't legal and organisational solutions to things that just don't work, or just aren't built right. These solutions won't fix the 1450 electrical circuits Bechtel installed backwards at Midland, or the faulty piping support systems at Diablo, or the little relief valve that failed to close at Three Mile Island, whose equivalents on other Babcock & Willcox plants have still not been replaced, though the Japanese replaced theirs ages ago . . . One either fixes these technical problems, or else abandons nuclear plants and does something cheaper and safer.

This article is based on a much more detailed report on the US nuclear industry prepared by John Hallam. Copies of the report are available from Friends of the Earth (Sydney), 787 George St., Sydney, NSW 2000, for $2.00 each.

All amounts quoted are in US dollars.

Battle for your minds



Dear Ms Seddon,

Recently I had sent to me an article by you in *Chain Reaction* entitled 'A little each day . . . the Uranium Information Centre's battle for your mind'. Whilst the article was written some time ago, I feel obliged to write to you to correct some false impressions you may have.

1. Limiting people's access to information

There is no evidence of the Uranium Information Centre trying to limit access to information. Quite the opposite in fact. In the UIC's teacher's kit illustrated by you, three of the publications are reprints (with permission) of material produced by the International Atomic Energy Agency and World Health Organisation, both affiliated with the United Nations and strongly supported by some 150 nations, mostly socialist and mostly in total (non-profit) control of their nuclear power programs.

We have constantly published the addresses of these bodies and urged the 'non-expert' concerned about uranium to write direct for answers.

A fourth brochure, produced by the Home Mission Division of the Methodist Church in London, could hardly be more fair and open, pointing out as it does, many problems associated with nuclear energy.

2. 'Silences'

- You are apparently unaware that India developed and exploded a nuclear bomb quite independently of Canada's CANDU reactor technology. America, Russia, Britain, France and China all developed nuclear weapons *before* they had nuclear power stations.
- Waste is dealt with in a number of publications. To conclude the UIC press campaign, a summary brochure was produced. It contains some more information on nuclear waste management.
- Nuclear *reactors* do not release waste. Windscale (now Sellafield) is a *reprocessing* (chemical) plant, not a reactor.
- A nuclear strike on a reactor would not create a worse hazard than a nuclear strike on its own. The reactor cannot explode! It could presumably be blown apart, but so could hundreds of much more dangerous chemical and biological plants, or even cities.
- The 3% enriched uranium for power stations is useless for weapons manufacture. Weapons-grade nuclear explosive is made from ordinary water (H_2—deuterium) and from highly enriched (96%) uranium oxide and plutonium which are produced in laboratories and/or small clandestine, special military-use reactors which are virtually untraceable. Uranium for those purposes is required in very small quantities and most countries either have sufficient indigenous uranium or can buy the stuff.
- Most plutonium (there are many isotopes) from nuclear power stations is also useless for weapons. One plutonium isotope only, produced early in a three year fuel cycle, could be used for weapons but requires the whole plant to be shut down early at enormous cost. It is cheaper, easier, safer for operatives, and more secret to use laboratories and special purpose reactors. Plutonium from spent nuclear fuel is very inefficient and unpredictable as weapons material, rather like wet firecrackers.
- Uranium mining poses no threat to Aborigines; many are demanding that it proceeds.
- Uranium mining is not more capital intensive than any other mining and in Australia is largely private capital presenting little drain on, but a lot of revenue for, taxpayers.
- Nuclear power stations in other countries are often less expensive than dams or coal-fired power stations. For example, Loy Yang coal fired power station in Victoria is one of the world's most expensive power stations (including all nuclear power stations) and it still isn't finished!
- Whilst it is true that some nuclear power station construction has been stopped in the USA, 14 new ones will come on stream this year (1984) in that country. No other nation has lessened its nuclear commitment and the USSR is *doubling* its number of nuclear power stations every five years.
- Your point about 'the centralised and anti-democratic character of nuclear power' has me baffled. Is it different from coal or oil or hydro? Most nations' power stations are controlled by governments, except in the USA where some state-controlled utilities share the burden with private enterprise.

3. Ideological Intervention

You say 'in the face of the ideological intervention by the UIC acting for the multinational uranium companies'. Are you not arguing against yourself? We have produced as much material about the Soviet Union as about the USA; about France, Japan, Taiwan, China, Belgium, Switzerland, Spain, Italy, etc.

Uranium is mined by governments and by private enterprise and sold at very competitive rates on very tough international markets.

Whilst we have no ideological axe to grind, we *are* biased in favour of developing nuclear energy for peaceful electricity generation, side by side with coal, hydro and any practical new technology, in a world where oil and gas resources are becoming more depleted and expensive and in which the population, now 5000 million is likely to be 12000 million by the year 2100. Unless there is adequate energy, a scenario for extreme deprivation and probably conflict will result.

If you genuinely care about the human race, may I suggest you brush up on energy and use your own good fortune as an educated Australian to help spread factual information? If I can help provide you with material or sources of material I shall be pleased to do so.

Yours sincerely,
I F Drysdale
Manager, South Australian Chamber of Mines

An open letter to Mr Drysdale, South Austrlian Chamber of Mines

Dear Mr Drysdale,

Your letter is an interesting response to my article on the Uranium Information Centre in *Chain Reaction* 38, particularly given the article's main objective: to examine the UIC materials as an example of expertism, a strategy which is used by people or institutions with privileged access to information to subordinate and disarm people without such access. It is also interesting because it is so ambiguous. How should one interpret it? Is it the response of a kindly South Australian clearing up a student's confusions? Or does it exemplify expertism in action, an exercise to discredit the UIC article by undermining my credibility? Who is the letter written for? Me? Or the readers of *Chain Reaction?*

The substance of your letter 'corrects' my 'false impressions'. But not only are your corrections controversial, but many of the false impressions are the result of misreading, picky concern with facts at the expense of issues, and the use of terms in ways other than I used them.

1. Access

You misinterpret my point that expertism as a *general strategy,* rather than the UIC in particular, frequently involves limiting acess to information. However, I did suggest that the UIC made some materials more accessible than others. The point is that access is not just a matter of absolute availability. Access depends upon relative ease of acquisition, both contact with information and understanding it. Most of us, in our busy world, draw on information presented to us on a plate (or in a newspaper column) rather than writing away for material. Similarly, we would more likely write away for 'recommended' information than search out independent sources. There is a gradual scale of availability. By making pro-uranium most accessible and more critical information less accessible, the UIC can shape public opinion in pro-uranium directions while appearing to be fair.

2. Silences

You pick holes in my list of underplayed and ignored issues. But your points become trivial by focusing on very particular issues while failing to address my general concerns. It is true, Canada's CANDU reactor technology was not involved in the production of the Indian nuclear bomb. The plutonium for the bomb was produced in a CIRUS reactor, a joint enterprise between India and Canada, but dependent on Canadian expertise. The necessary heavy water was supplied by the USA.[1]

Recent literature does provide information on waste management. But my point was, that it is presented in a straight forward way and ignores unease about such management techniques.[2] It is factually correct to term Windscale a reprocessing plant rather than a reactor. But it doesn't alter my point that the nuclear fuel cycle involves the production of radioactive waste. Release of such waste either through leakage, routine release, or by a nuclear reactor being blown apart by a nuclear bomb, is dangerous. To say that more dangerous substances exist does not alter the danger of reactor products, particularly as it is not clear whether longterm effects have been taken into consideration.

But other points you make fly in the face of much expert opinion. The Fox report, and recent Tatz report, argue that Aborigines will be affected by uranium mining.[3] Since the early seventies, it has been recognised that plutonium from a nuclear power plant could be used in a bomb, which may not be predictable, but would go off.[4] Certainly the US government seems to see no problems in diverting such plutonium for use in weapons.[5] The UIC's own materials shed doubt on your relative costs of nuclear and other power stations, stating:

- a nuclear power station built along side Loy Yang, would produce electricity at similar costs (0.9 cents per kilowatt hour, from brown coal, 1.1 from nuclear); and
- nuclear power costs are underestimated because full fuel cycle costs are not always included (eg waste management, decommissioning of plant).[6] New nuclear power stations may have come on line in the USA, but in the USA cancellations have occurred[7], nations are reducing their nuclear commitment[8] and the USSR program is plagued with construction problems, and is being criticised, like the West's.[9] One could go on.

3. Ideological intervention

I use the term ideologies to refer to sets of ideas, bodies of information which provide only a partial explanation of the world and as a result tends to mask the social processes operating. In this respect ideologies mystify because they confuse people's understanding (your letter illustrates this well). You use ideology in the sense of doctrine, to refer to existing communism. Hence all the references to China and USSR's use of nuclear power.

By saying you have 'no ideological axe to grind' you mark your position as 'beyond ideology', conveniently forgetting that capitalism is as much a doctrine as communism. The consequence of your apparent 'neutrality' is to imply that my position is within ideology — probably of the USSR type. This of course, is a strange tactic for someone simply trying to correct my 'false impressions'

The effect of your letter as a whole is to brilliantly illustrate expertism in action. First it defines (scientifically) technical issues as the focus of the debate, downplaying technical considerations of a legal, economic and social nature,[10] and ignoring moral and ethical issues. Second, it undermines my credibility in those scientific technical issues by highlighting apparent 'false impressions'. Third, it notes apparently unrealistic claims in terms of having the reader 'baffled', and 'arguing against yourself'. The cumulative effect of these technical clarifications and the sort of language used, is to establish relative credentials — the reasonable, informed, well-meaning *versus* the ill-informed and, dare one say, 'ratbag'. Having established your own credentials, the final discrediting follows easily. 'If you genuinely care about the human race. . .' One can almost hear the aside — stop being a silly young thing and get on with something useful. But the reasonable tone is quickly resumed. 'If I can help provide you with information. . . I should be pleased to do so.'

Well Mr Drysdale, I am not impressed by your attempt to discredit the UIC article. Anyone who reads your letter and the original article will see your distortions and innuendo, your focus on trivia and neglect of the major issues I raise. The UIC's propaganda campaign is quite legitimate in our society. Anyone can try to influence public opinion. The difference is that the UIC can draw on large resources. The anti-nuclear movement cannot. This is an economic inequality which gives power to your propaganda. But it does not give you a monopoly on truth. The weaknesses in the UIC's case are underlined by your letter, as is my analysis of expertism.

If you really wish to help perhaps you would care to provide me or Friends of the Earth with funds to employ a research assistant so the readers of *Chain Reaction* can become truly informed.

Terri Seddon
Postgraduate in Education, c/- Macquarie University

Notes

1. W C Patterson, *Nuclear Power,* Pelican, 1977. CIRUS is a heavy water reactor like CANDU.
2. Eg, Patterson; E H Hirsch, 'Certainty and uncertainty in the disposal of nuclear waste', *Anti-war Action* 31, People for Nuclear Disarmament, 1984; Scientists' letter to the editor, *SANA Update* 22, Scientists Against Nuclear Arms, 1984.
3. Ranger Uranium Enquiry, *Second Report,* AGPS, Canberra, 1977, pp 232-233; Colin Tatz, *Aborigines and Uranium,* Australian Institute of Aboriginal Studies, 1984.
4. Patterson, p 251.
5. *New Scientist,* 13 May, 1984.
6. I Hore-Lacy and R Hubery, *Nuclear Electricity: An Australian Perspective,* Australian Mining Industry Council, 1978, p 29. Also Patterson, Chapter 8.
7. See J Hallam, this edition of *Chain Reaction.*
8. Compare figures in *Nuclear Engineering International,* August 1983, and *Nucleonics Week,* August 1984.
9. Eg, *Nucleonics Week,* 13 September, 1984, p 6; B Komarov, *The Destruction of Nature in the Soviet Union,* Pluto, 1978.
10. Eg, M Flood, R Grove-White, & K Suter, *Uranium, the law and you,* Friends of the Earth, 1977; *Australian Uranium Mining,* Movement Against Uranium Mining, 1984.

Cracks in the Ringwood solution

Dr Brian Martin evaluates the scientific claims made by Australian professor, Ted Ringwood, for his method for immobilising high level radioactive waste. Martin also evaluates the political statements made by Ringwood, based on the projected success of the method. Ringwood presents his research program as a solution to the barriers against uranium reprocessing and export, and to arms proliferation. The situation is critical considering the enthusiasm for the project in government circles, and the apparent absence of any form of peer review of Ringwood's claims.

Professor A E Ringwood, an eminent geochemist at the Research School of Earth Sciences at the Australian National University, in 1978 proposed a new method for dealing with high level radioactive waste generated by military or civilian nuclear reactors[1]. The essence of the proposal is to embed the elements of high level waste in a synthetic rock called Synroc with a crystalline structure able to hold these elements in place for millions of years. It is proposed that the Synroc will be encased in cannisters and buried deep underground in granite formations. Australia has some of the most suitable and stable rock formations in the world for such storage.

Ringwood has been very critical of other methods for disposing of high level radioactive waste, especially those based on glass, pointing to their technical shortcomings. Synroc promises to be a great advance over previously favoured methods, but there are criticisms which should be carefully considered.

Although radioactive elements have been held for millions of years in some natural rock crystals, this does not guarantee that this would occur in a synthetic rock with similar crystalline structures. To start with, Synroc contains a much higher percentage of the elements in radioactive waste than is found in natural rock. There have been no experimental tests of the longterm stability of rock crystals of the Synroc type. Natural rocks for the most part contain impurity elements which are *non*radioactive. Synroc will contain the radioactive varieties (isotopes) of these elements. Full testing has not yet been done with radioactive isotopes of the elements in radioactive waste. Therefore the physical changes in Synroc caused by radioactive decay over long periods of time remain to be determined.

One important example of an irradiation effect which promotes the breakdown of nuclear waste disposal materials by atmospheric moisture was identified in 1980 by E H Hirsch[2]. The radioactive disintegrations cause changes in the structure of the waste form. The surface eventually can become chemically sensitised, begin to react with water vapour and break down. This effect operates both in glass and in crystalline materials such as Synroc. The net effect is increased leaching of the waste disposal material. At the temperatures that Synroc will encounter this effect could be very serious.

In addition, natural rock is usually part of a large unified formation, whereas the Synroc would be disposed of only in relatively small portions in a granite formation whose natural integrity had been breached by the deep hole.

In summary, Synroc is as yet technically unproven. Furthermore, tests can never prove for sure — in advance — that a long term waste disposal method will be successful in practice.

These technical considerations must be considered in the context that even if Synroc were impregnable once synthesised and placed in the ground — and this remains to be shown — this would not solve the whole problem of radioactive waste.

The most environmentally sensitive time for radioactive waste is in the years *before* it is processed and entombed. Spent fuel rods from nuclear reactors are typically left in cooling ponds or other storage areas for years or even decades before reprocessing and disposal take place. During these years the waste is more highly radioactive than later, which indeed is why it is not disposed of sooner. If what is feared is release of radioactive elements to the environment by accident, natural disaster, terrorist attack or warfare, then this is where safeguards may still fail.

There is also no guarantee that Synroc or any other disposal method will be carried out correctly. There may be mistakes in synthesising Synroc, mistakes in choosing and drilling a disposal site and mistakes in filling and sealing the hole. Such 'mistakes' cannot be prevented through theoretical means since for the most part they arise from human error and lack of knowledge, as history has often proved. Since management of radioactive waste requires many thousands of years, the collapse of waste surveillance must be expected long before the waste becomes harmless, as surveillance depends on the survival of human institutions.

Much of the total human hazard from nuclear wastes arises from *intermediate* and *low level* wastes. These are not dealt with in the Synroc programme. It would be impossibly expensive. Low level waste is found for example in the once-used protective clothing worn by workers in the nuclear industry. Intermediate and low level wastes are generally dealt with in less secure ways. Example are land-fill burial, and dumping in the sea as proposed by the Japanese government.

The hazard from intermediate and low level waste should not be underestimated and neglected. A substantial fraction of long-lived radioactive elements such as plutonium end up in low level rather than high level waste[3]. Uranium tailings also pose a major radiation hazard. Although the radiation level at a given time is fairly low, the total human dose over the lifetime of the radioactive elements in tailings could be as great as for the rest of the nuclear fuel cycle combined.

Even if Synroc were technically flawless it would only constitute a partial solution to the problem of radioactive waste. Synroc cannot deal with the major problems of temporary storage of spent fuel, human error, and low level waste.

Since 1980 Ringwood has entered the public debate over the nuclear fuel cycle in a major way via public talks and articles. When presenting his arguments for Synroc, Ringwood presents persuasive arguments and musters considerable scientific evidence. When commenting on the export of uranium however, his case is much less rigorous. He presents no new arguments, and does not deal with many of the basic and long-standing objections.

Ringwood says that 'it really does not matter very much to other nations whether or not Australia withholds her uranium from the world market' since there are alternative sources of supply[4]. This claim is flawed by his neglect of the political factor.

The development of the nuclear fuel cycle does not depend simply on the economic availability of uranium and other materials. In most countries, nuclear power is an intensely political issue. Governments and some corporations have promoted nuclear power, while opposition has come largely from sections of the general population, such as from farmers in Europe and fishing communities in Japan. Essentially the struggle has been between, on the one hand, organisational interests in state bureaucracies, governments and corporations promoting nuclear power, and on the other hand popular opposition[5].

Withholding Australian uranium would be a major political action in the worldwide dispute over nuclear power and an immense boost for citizen opponents of the nuclear fuel cycle around the world. This is precisely why proponents of nuclear power want Australian uranium to be exported, even though it is not especially needed economically.

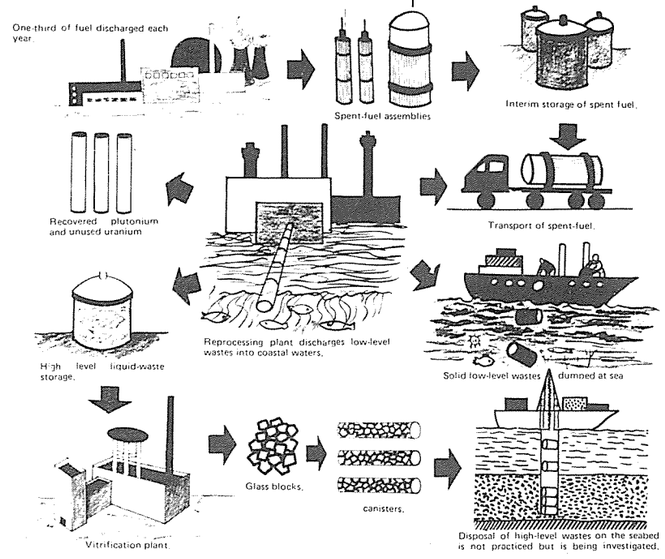
Nuclear weapons testing reveals a similar political dynamic. The French government prefers to test nuclear weapons in the Pacific because the political outcry would be too great if the weapons were tested in France itself. The same applies to uranium exports to France. Australian exports to France would not raise as much domestic opposition as would French acquisition of uranium from Gabon or from France itself.

Likewise, the New Zealand government's stand against visiting nuclear warships has no significant military impact, since the ships could just as easily stop at some other country. But the political impact of the ban is enormous, as shown by the outraged reaction of the US government.

Ringwood assumes that nuclear power on a world scale will be developed no matter what, and thus dismisses citizen opposition. But there is no inevitability to technological development. Just because the technology for nuclear or biological warfare, thought control or torture can be developed or even applied does not mean that these developments are desirable, inevitable or unstoppable. They have been and will continue to be opposed by many concerned people.

It is difficult to sustain the claim that participation in the nuclear fuel cycle would provide a real chance to influence the nuclear policies of other countries. Certainly there is no evidence that involvement in the arms trade, whaling or in selling pesticides has ever helped restrain the worst aspects of these activities.

In summary, Ringwood's support for exporting Australian uranium ignores the



The end of the nuclear fuel cycle

Brian Martin does research in applied mathematics at the Australian National University and has been active in the anti-uranium movement for many years.

political impact that withholding uranium would have — a political impact both on citizen movements and on governments.

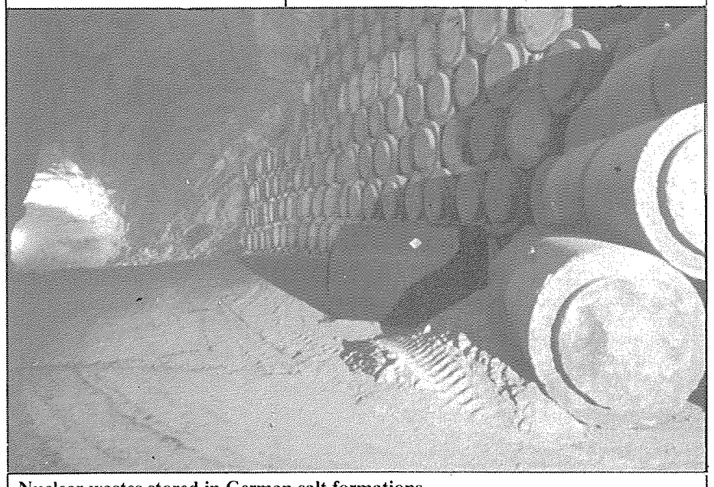
Ringwood favours the establishment of uranium enrichment and spent fuel reprocessing industries in Australia[6]. He claims that this would restrain the proliferation of nuclear weapons by ensuring that strict safeguards were imposed on the use of plutonium. He also cites the benefits of employment opportunities. None of these claims stand up to scrutiny.

Uranium enrichment and reprocessing, like uranium mining and nuclear power, are highly capital intensive operations and employment benefits would be minimal. Equivalent investment in manufacturing or services would create many times more jobs.

Ringwood fails to mention the disastrous technological and economic record of reprocessing plants[7]. For reprocessing of uranium oxide fuel, all major plants have either been shut down prematurely or run at a small fraction of planned capacity — or both.

Numerous inquiries and studies have shown the limitations of safeguards agreements as a means for preventing or restraining proliferation: the Ranger Inquiry in Australia, the Flowers Commission in the UK, the US Office of Technology Assessment, the Stockholm International Peace Research Institute, and the International Nuclear Fuel Cycle Evaluation. International Atomic Energy Agency safeguards, in which Ringwood puts his trust, have limited effect.

The Pakistan government, for example, is using facilities and skills acquired from its civilian nuclear program and from industrial espionage in a country complying with 'safeguards', in pursuing its nuclear weapons program. French officials have stated that they plan to use plutonium from the Superphenix breeder reactor — nominally a civilian facility — for its nuclear weapons program. And there are strong indications that the Brazilian and Argentine governments have moved closer to the production of nuclear weapons via their acquisition of civilian nuclear facilities. None of these or other relevant examples is mentioned by Ringwood.



UIC

Nuclear wastes stored in German salt formations

Rather than helping restrain nuclear proliferation, enrichment or reprocessing in Australia probably would contribute significantly to it.

The introduction of the technology for uranium enrichment or for reprocessing into Australia on a commercial scale, along with the associated scientific and technological skills, would provide an avenue for acquisition of nuclear weapons by the Australian government[8]. Although Australian nuclear weapons are not now favoured by more than a minority in the government or military, this situation could change. The availability of the technological infrastructure and trained personnel for making nuclear weapons could be used by those favouring nuclear weapons as an argument to push for them.

This is not a hypothetical consideration. In the late 1960s a number of prominent politicians and scientists favoured the building of a nuclear power plant in Australia because it could be utilised for making nuclear weapons if desired. The leaked documents on 'The strategic basis for Australian defence', reported on in *The National Times* in March 1984, show that there is little principled opposition within the Cabinet or the policy-making elite of the Defence Department for the acquisition of Australian nuclear weapons.

Even if the Australian government did not plan or desire to use enrichment or reprocessing facilities for producing bombs, other governments might be worried about this possibility. Thus Australian enrichment or reprocessing could contribute to a regional nuclear arms race, especially with the Indonesian government.

Investment in the nuclear fuel cycle is a powerful incentive to continue those activities, even if they contribute to proliferation. Already there exist strong pressures to allow export of uranium to any purchasing country — such as South Korea and the Phillipines — irrespective of the potential for proliferaton Since 1977, the Australian government's safeguards requirements have been watered down in a series of concessions made in order to obtain export sales. Far from Australian participation in uranium export helping to improve international safeguards, it is the safeguards which have been sacrificed to commercial pressures.

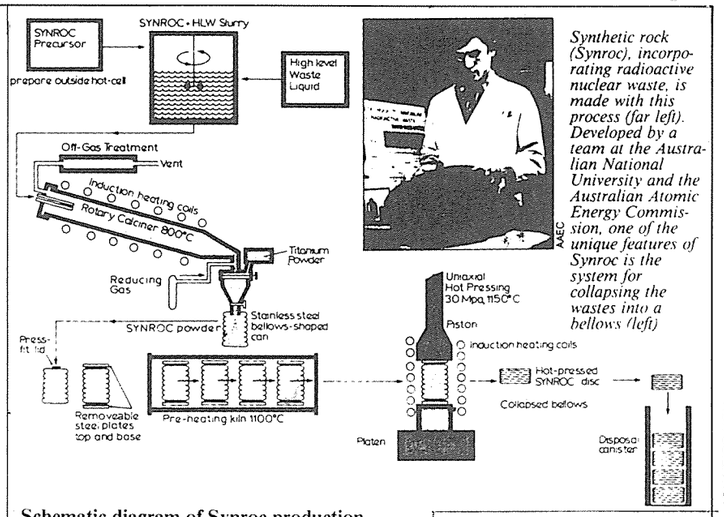
Rather than restraining the plutonium economy, investment in uranium enrichment or reprocessing would very likely accelerate its coming. Because of the high capital costs of nuclear facilities, once they are established they are likely to become entrenched[9]. This means that once heavy investments worldwide are made in thermal reactors, uranium enrichment and reprocessing, there will be enormous pressure to invest in breeder reactors — with their enormous potential for proliferation — in order to produce fuel for the thermal reactors.

Enrichment or reprocessing would introduce another danger to Australia; the likelihood of attack in war. Precisely because of their potential for aiding nuclear weapons production, enrichment or reprocessing facilities would be prime targets in war. The Israeli military attack on an Iraqi reactor in June 1981 is indicative of the concerns generated by nuclear facilities. The environmental consequences of attack on a reprocessing plant would be immense, with much more long-lived radioactivity released than from a major nuclear explosion.

Contrary to Ringwood, uranium enrichment or nuclear fuel reprocessing in Australia would more likely promote than restrain proliferation of nuclear weapons.

Ringwood says that there are only three major concerns about the nuclear fuel cycle: high level radioactive waste, nuclear reactor safety and proliferation of nuclear weapons[10]. This is a narrow view of the nuclear debate. There are many other important areas raised by critics of nuclear technology.

- As noted earlier, high level waste is not the important waste. Also of concern are intermediate and low level wastes, including uranium tailings and nuclear reactors at the end of their economic life.
- There are other important environment concerns besides radioactive waste and reactor accidents. Some of these are the dangers of transporting nuclear materials, and health hazards to workers.
- The cost of nuclear power has greatly increased over the past decade. This is one major reason why nuclear power programs have slowed so much. This has especially been the case in the USA, where cancellations have exceeded new plants for the past decade. The USA is the one country where nuclear power has had to compete in the market with other energy sources. In most other countries nuclear power has simply been promoted by governments without much consideration to costs. Even in the USA there have been vast government subsidies to nuclear power.
- The promotion of nuclear power has been associated with attacks on civil liberties in many countries, due to nuclear power's links with nuclear weapons and the strong vested interests in the technology. The threat of terrorism or criminal use of nuclear materials provides another reason for restraints on civil liberties. In Australia, uranium mining was given the go-ahead under the repressive *Atomic Energy Act*. The introduction of uranium enrichment and reprocessing would very likely lead to further erosion of civil liberties. It is noteworthy that only in countries with authoritarian governments, such as the Soviet Union and South Korea, have nuclear programs proceeded relatively unchecked by citizen opposition — though even there economic and technological problems are serious. The French government, which is nominally democratic, has insulated its nuclear program from public scrutiny and involvement, and run roughshod over citizen opposition.
- Uranium mining on or near Aboriginal land has had devastating effects on both the land and on the Aboriginal health and culture. Although some Aborigines favour uranium mining — mainly due to the royalties they are receiving —many still oppose it. The Fraser government simply overruled the possibility of an Aboriginal veto of uranium mining, so it is not surprising that many Aborigines have acquiesced. That does not mean the consequences are excusable.
- Nuclear power is not needed as an energy source: it only supplies a few percent of the world's energy at the moment. Reserves of fossil fuels are more than sufficient to bridge a transition to a sustainable and environmentally benign energy future.
- Third World peoples do not need nuclear power. The poorest people — the vast majority — do not even have power points to use electricity. Nuclear power in Third World countries mainly benefits the rich in those countries. It also drains scarce foreign exchange, provides little employment where underemployment is a basic problem, and is used to help produce luxuries for the rich. Much more relevant to poor people are simple technologies, such as biogas for cooking, and programs for reafforestation.
- Experience during the past decade has demonstrated that the most cost-effective approach to energy problems is to increase the efficiency of energy use. In addition, there are many renewable energy technologies which are currently economically competitive or promise to become so in the near future.



Schematic diagram of Synroc production

Synthetic rock (Synroc), incorporating radioactive nuclear waste, is made with this process (far left). Developed by a team at the Australian National University and the Australian Atomic Energy Commission, one of the unique features of Synroc is the system for collapsing the wastes into a bellows (left)

NEW SCIENTIST

Ringwood's presentation of the issues in the nuclear debate is seriously unbalanced. He downplays or ignores many important areas, especially the non-technical ones.

Professor Ringwood is to be congratulated for his efforts to find a safer method for disposing of high level radioactive waste. But scientific achievements do not impart any special validity to political views.

Ringwood's claims about the role of Synroc in overcoming the problems of radioactive waste are too sweeping. Synroc, *if* it is eventually proven to be as effective as hoped, will be a useful contribution towards treating existing nuclear waste. But even should this happen, it would not support the claim that waste disposal no longer is a major reason for opposing nuclear power. For Synroc does not overcome the problems of interim waste storage, of human error, or of low level waste.

Ringwood's views on proliferation are even more flawed. Uranium enrichment and spent fuel reprocessing, which he supports for Australia, would contribute to proliferation rather than restraining it. They would make Australian nuclear weapons more likely, contribute to a regional nuclear arms race, and provide a prime target in wartime.

Finally, Ringwood and other nuclear advocates have ignored or dismissed many of the most important aspects of the nuclear debate, including the effects of the nuclear fuel cycle on

local Aboriginal populations, on civil liberties, and the possibility of doing without nuclear power by promoting energy efficiency and renewable energy technologies.

Ringwood's promotion of the nuclear fuel cycle is to be expected considering his career interest in promoting Synroc. Like other scientists who are nuclear advocates[11], he has a narrow view of the main problems of nuclear technology, ignoring or dismissing wider areas of concern. He focuses on technical fixes for problems which are fundamentally social, political and economic.

Decisions about nuclear technologies concern all members of the public. Much more debate and discussion is required before the Australian government can justify the allocation of large amounts of public funds to nuclear projects in this country.

Mark Diesendorf offered valuable comments on earlier versions of this article.

Notes

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4. AE Ringwood, 'Nuclear power in perspective', Research School of Earth Sciences Publication No 1437, Australian National University, Canberra, 1980, p 20.
5. Jim Falk, *Global Fission: The Battle Over Nuclear Power*, Oxford University Press, Melbourne, 1982.
6. AE Ringwood, 'Australia's uranium and the international nuclear industry', Research School of Earth Sciences, Australian National University, Canberra, 1983. See also Ted Ringwood, 'Australian uranium policies: recommendations from two recent inquiries', Uranium Information Centre, Melbourne, 1984.
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8. Brian Martin, 'Proliferation at home', *Search*, vol 15, nos 5-6, June/July 1984, pp 170-171.
9. David Collingridge, *Technology in the Policy Process: Controlling Nuclear Power*, Frances Pinter, London, 1983.
10. Ringwood, 1983, *op cit* note 6.
11. Brian Martin, *Nuclear Knights*, Rupert Public Interest Movement, Canberra, 1980; Brian Martin, 'The naked experts', *Ecologist*, vol 12, no 4, July/August 1982, pp 149-157.

REVIEWS

Books

From Red to Green: interviews with New Left Review by Rudolph Bahro, Verso Books, London, 1984, 238 pages, $13.25 (soft cover).

Reviewed by Julian Hinton.

This is not a coherent book to read, but a medley of ideas on contemporary (and ancient politics) and on Bahro's biography. It is a series of interviews with three fairly well-known socialist writers of the new left of Western Europe who show great interest in Bahro as a representative of the new left of Eastern Europe. They are strung together in more or less chronological order from his early life up till the middle of 1983 when the focus becomes the Greens of West Germany.

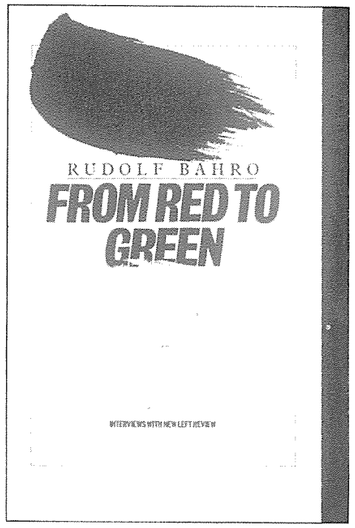
The account of Bahro's life and times through these interviews provide an excellent case for taking him as a reliable and committed speaker for the new synthesis of politics to emerge from the old opposition of left and right. He is in a perfect position to debunk the common myths about socialist societies which clutter progressive movements in the West, not to mention conservative strongholds. Economic growth rates and living standards are not necessarily worse than those of the West, political opposition is not always dealt with ruthlessly and, speaking for the GDR at least, Bahro does not see the masses yearning to escape to the 'freedom' of capitalism. 'Actually existing socialism' has delivered the goods in many respects, for the people of Eastern Europe, more so than if they had developed along capitalist lines inevitably in a peripheral relation to the more advanced West.

Having been disabused of any naive optimism or ill-considered commitment to the conservative and rigid socialism of his homeland, Bahro holds no illusions either about the alleged stabiity or affluence of western capitalism. With his wealth of political experience and ideological freedom it was not surprising that he became a central figure in the political avant-garde of West Germany — the Greens. Even in this country, where the Social Democrat tradition has been so strong, the Left fails to cope with the rising political needs and exigencies of modern civilisations. Large sections of the Left show their ambivalence and complicity on the issues of the arms race and ecological degradation, through their belief in economic growth as a saving virtue. Bahro's new radicalism suggests a different solution to the traditional concerns of the Left. Social justice and equity can no longer be contingent upon an increasing economic cake. Bahro's position (and that of many others today) is that nature is rebelling against economic growth in its present form and political systems must re-orient their whole structure of motives to accommodate this reality. He uses the term 'industrial disarmament' to describe this new economic policy. His aim is to free people from the burden of unrealistic optimism in boundless progress which is not consistent with long-term survival (nor is it implicit in historical materialism he adds, in a harking back to Marxist fundamentals).

The Greens are the political movement that gives expression to these views. Not that Bahro sees them forming an alternative party and playing the pluraist game. He values their parliamentary presence but puts more emphasis on the achievable gains of popular agitation and education. The loose organisations and wider (often completely internal) interests of the Greens are inevitable but not prohibitive according to Bahro. The overarching process will continue; of disillusionment with traditional economic solutions and the forming of localised, often experimental, alternatives to production, distribution and legitimisation of the current arrangements.

As the interviewer probes his ideas we find Bahro creating a picture of social transformation that is revolutionary in essence but avoiding the old rhetoric of confrontation and aggression, common from the Left. He wants to get away from the terminology of violence and conflict but one can't help wonder if Bahro is underestimating the reactionary energies that are poised to defend deep change in industrial societies. He sees changes as occurring through a process of dissolution of old structure and habits, by people simply withdrawing their creative and sustaining energies, almost unconsciously. It sounds like he expects world capitalism to be cancelled due to lack of interest.

It is doing him no justice to try to express the complexity of his ideas and experiences in a short review. But if his message is to have credence it must be reportable and convincing on the run, as it were. Bahro is an academic theorist of the Left not an opportunistic, political novelty seeker. His position is well founded and his practical suggestions for community or grass-roots activism is of great interest. Unfortunately



without a working knowledge of the Marxist tradition, these interviews will seem rather obscure. The detailed discussions of contemporary and historic German politics are also rather peripheral to Australian concerns, although often suggesting clear parallels.

Perhaps one aspect of his thought on strategies which is easily recognisable here, is to do with trade unions. He sees them as an inherently conservative force, quite contrary to the Marxist orthodoxy of proletarian revolution. Noting the lack of confrontation between wage-labour and capital that is supposed to transform capitalism he says that 'without the support of the metropolitan working-class, colonialism would not have been possible, and it is the position and strength of trade unions which have given rise to the whole system here. It is the industrial system itself which is about to undo us — not the bourgeois class but the system as a whole in which the working class plays the role of housewife. It would therefore be a most inappropriate strategy for survival to appeal to the interests of the working class'. But presumably the working class is interested in survival too. It is hard to imagine a social transformation of any substance occurring without their numbers and consent.

Currently a public servant in Canberra, Julian has worked for the Wilderness Society and has written a thesis on the politics of the Tasmanian Wilderness Society for the Centre for Environmental Studies, Tasmania.

REVIEWS

Apocalypse No: An Australian guide to the arms race and the peace movement
edited by Rachel Sharp, Pluto Press, Sydney, 1984, 287 pages, $9.95 (soft cover)

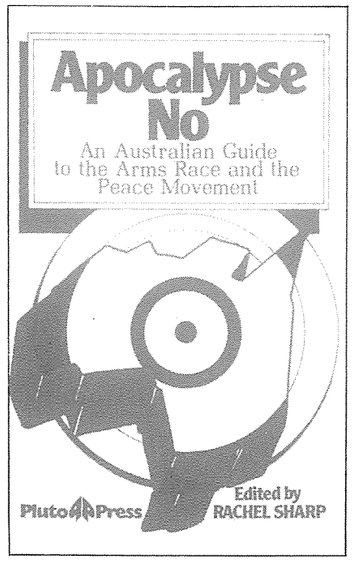
Reviewed by Keith Redgen.

By the time you read this you will know if the Nuclear Disarmament Party managed to have any of its candidates elected to the Senate. Whether they have or not, the remarkable success of their campaign bears testimony to the deeply held fears of nuclear weapons and nuclear war in Australia, especially among the young. However as Rachel Sharp says in the introduction to this new Australian book, *Apocalypse No*, 'without the search for a deeper analysis of the underlying causes of the arms race and the factors which tend to perpetuate it the peace movement runs the risk of being an occasion for mass moral protest which lacks a sense of direction'.

The intention of the book is to go some way towards providing this analysis for a specifically Australian audience. While there are available a huge range of books and other writings on the topics covered here, there is rather little that can serve as a general introduction for the Australian movement. The danger is that volumes such as this will get lost on the bookshelves amongst all the others. The book's rather general sounding title will probably also disguise the fact that it is an Australian contribution.

The book is comprised of thirteen separate essays and the analysis proceeds along four main paths. There is an historical account of the arms race and moves to stop or slow it down; description of the effects of the arms race and nuclear wars; a political analysis of the USSR, USA, Australia and the Pacific in terms of nuclear strategy; and finally a focus on the cultural elements of a society which would allow such a development to happen. So is the book successful? Does it provide the deeper understanding which is required?

Of course the answer is ambivalent; the book has strengths and weaknesses. For the reader who is unfamiliar with the history of the arms race and the main arguments of the peace movement, a quite good outline of the key events and points is provided, in a readable style. The best pieces in this respect are Keith Suter's 'Disarmament Negotiations since 1945', Richard Kefford and John Ward's 'The Medical Effects of Nuclear Warfare', Ian Shapter's 'Nuclear War by Accident', and Dennis Phillips' 'Setting the Stage: The Superpowers and the Nuclear Arms Race



from 1945 to the Present'.

Each of these gives a good overview of its topic. However one could question whether they provide the 'deeper analysis' promised at the start of the book. For example Dennis Phillips' chapter on the history of the arms race sets out all the basic facts and developments, revealing the effect nuclear weapons have had on international relations since 1945. But by concentrating solely on the arms race it misses a deeper analysis of the political history of the period and the problems that have to be overcome.

The arms race is treated independently of other elements of international relations such as the Vietnam War, the Sino-Soviet split, political upheaval in the Middle East, and so on and on. These things are not explained by the arms race, even if it is the central fracture of the modern world, and they do have an effect on it. While the arms race does have a momentum of its own, it cannot be understood without taking account of the other elements and events of international politics.

Weaknesses like this recur throughout the historical and political sections of the book. While fairly brief treatments must be expected to simplify in order to make clear points, they should not be misleading, for that can be as dangerous as no analysis at all. This becomes most obvious in Sharp and Trainer's essay on the costs of military expenditure. It highlights the vast amount of money and resources devoted to the technology of nuclear war, compared to the relatively little spent on alleviating poverty, injustice and other social problems. The implication is that if we could exchange military for more worthwhile expenditure then the world problems would be solved. It is conceded that this would be extremely difficult, if not impossible to achieve, because of powerful vested interests and the fact that the ecomony is dependent on massive military spending. However the argument is not developed to reveal that it is in the very nature of the modern world to so allocate resources. Not only are nuclear weapons and widespread poverty functional to the contemporary order, but military force is actually used to maintain that order. Nuclear weapons are a key element of the power of both the USA and the USSR, who have no real desire to create a better world.

The chapters on culture and aggression are even more deeply flawed. 'Culture and the Production of Aggression 1', by Ted Trainer and Helen Waite, poses the question of what kind of society, what kind of people could allow these developments to happen and even applaud them? The answer is given mostly in terms of the socialisation of children through television programs, toys and games, and sport. This is quite plausible as these things do emphasise violence and callous competiveness. (Though I would take the issue with the denigration of video games — no matter what violence the advertisers use to market them the players do not experience them as violent.)

However we then have to ask where these programs, toys and sports come from. If children and adults are partly created by these things it is because that is what is produced for them. It is because the social relationships they are submerged in every day of their lives gives meaning to what is seen and played in childhood. These things would not have any real effect if they were not functional and didn't reinforce experiences of the real world. The challenge must be directed at the social order of adults and not the socialisation of children.

Despite these flaws the book is still worth reading for what it does well. It sets Australia in the international context and gives sound basic information on many aspects of the arms race and the threat of nuclear war. While the deeper analysis that is attempted is valuable it should be taken as a point of entry into debates rather than the final word. If the Nuclear Disarmament Party holds the balance of power informed mass supporters are still what really counts.

Regular readers may be interested to know that Keith Redgen still lives in Melbourne somewhere between St Kilda and Glenroy.

The Green Movement in West Germany by Elim Papadakis, Croom Helm, Canberra, 1984, 230 pages, $31.95 (hard cover).

Reviewed by Georg Eifert.

In Papadakis' own words '. . . this book sets out to explain the evolution of the ecology, peace and alternative movements in West Germany and the emergence of a Green Party out of them'. Although he has indeed succeeded in writing an original, empirical contribution to this subject — on which no comprehensive work in English currently exists — it is by no means a boring, academic sociopolitical analysis of the green movement. The book is a good blend of analyses and learned personal evaluations and criticisms. Inspired by many visits and extensive contact with people from the 'eco scene' in Germany, Papadakis has produced an insightful and intriguing book, written with great sympathy. The author is however, not blind to problems and unresolved issues within the green movement. I was a parliamentary delegate of the Green Party before coming to Australia, and was stunned by the extent of Papadakis' knowledge and awareness of subtle differences and infights that have accompanied the development of the green movement since its inception in the early seventies.

The first chapter gives an interesting account of the origin of the green movement and Party. This is particularly enlightening for readers outside West Germany because it emphasises the diversity of origin and grassroots nature of the movement. In contrast to other small parties, the Green Party was not formed by a few ecologically concerned individuals who set out to convert and save the electorate. Before the party was founded many smaller organizations had developed (eg various citizen action groups) as had a growing awareness of pressing day-to-day environmental problems and minor ecological disasters (eg poisoned tap water in large cities). So the formation of the Party was a consequence not the cause of such changes) although the Party's growing popularity has provoked many overt and more subtle social and political changes over the last few years.

The book also shows that the green movement is not a student or other minority movement but heterogeneous and broadly based within the population. Papadakis provides a good overview of the themes and concerns that have held the movement and Party together, despite ideological and other differences (eg tension between 'pragmatists' and 'radical idealists'). These common themes include: a deep and fundamental dissatisfaction with, and suspicion of, existing established parties and their politicians; fear of isolation and loss of personal and collective identity in industrial societies; an effort to replace isolation with companionship, fear with happiness and boredom with adventure; a search for alternative personal and vocational life styles; suspicion or even rejection of technocratic ideas and solutions and a critique of consumerism. Papadakis does however, rightfully criticise many green supporters who do not consume less but differently and points out that even alternative newspapers use word processors and microcomputers. In this way the book also highlights the seemingly irreconcilable aims of the movement: to introduce a more direct, locally-oriented, grassroots democracy into a representational parliamentary system; and to combat economic growth whilst seeking to satisfy basic material and social needs. In addition to this, the author analyses the varied and changing response of establised groups and parties to the Greens and clearly identifies the importance of the nuclear threat in Europe to the development of the peace movement as an integral part of the green movement.

Papadakis rightly emphasises the integrative function of the green movement and Party. It has given new hope to many frustrated individuals and groups and socially (re)integrated people who had opted out of industrialist society. It has provided a home for those who have never belonged or would never have had a chance in mainstream society. Without the green movement and those countless alternative economic and lifestyle projects, the current social, economic and psychological problems of people in Western Europe would be far more aggravated.

All in all, I highly recommended the book. It provides an interesting, thorough and well presented insight into the origin and dynamics of the green movement. To those people in Australia who intend to establish some form of green party it should be of great help. An understanding and appreciation of historical, social and environmental differences between Germany and Australia will contribute towards avoiding pitfalls and disappointments. It is encouraging too, to see that, unbelievable as it may sound, non-violent, gradual social and political change is possible in Western society, if enough people wanting those changes get up and do things themselves, rather than leaving everything in the hands of professional politicians.

Georg Eifert was a member of parliament for the Green Party in West Germany and is now a lecturer in psychology at James Cook University in Townsville.

Calendars and diaries

Round up of top billing 1985 calendars and diaries.

Compiled by Peter Elliffe and Trish Luker

Housmans Peace Diary 1985, Housmans, $6.50.

This is a small paper bound volume with a comprehensive listing of international peace groups and discussion of the threats to world peace. It's action-focussed and not too depressing as a daily companion.

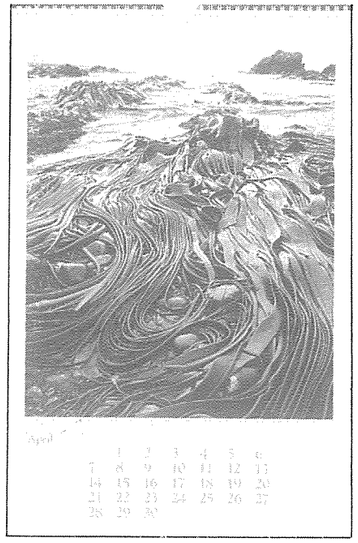
An Australian Women's Diary 1985, Hale and Iremonger, $7.95.

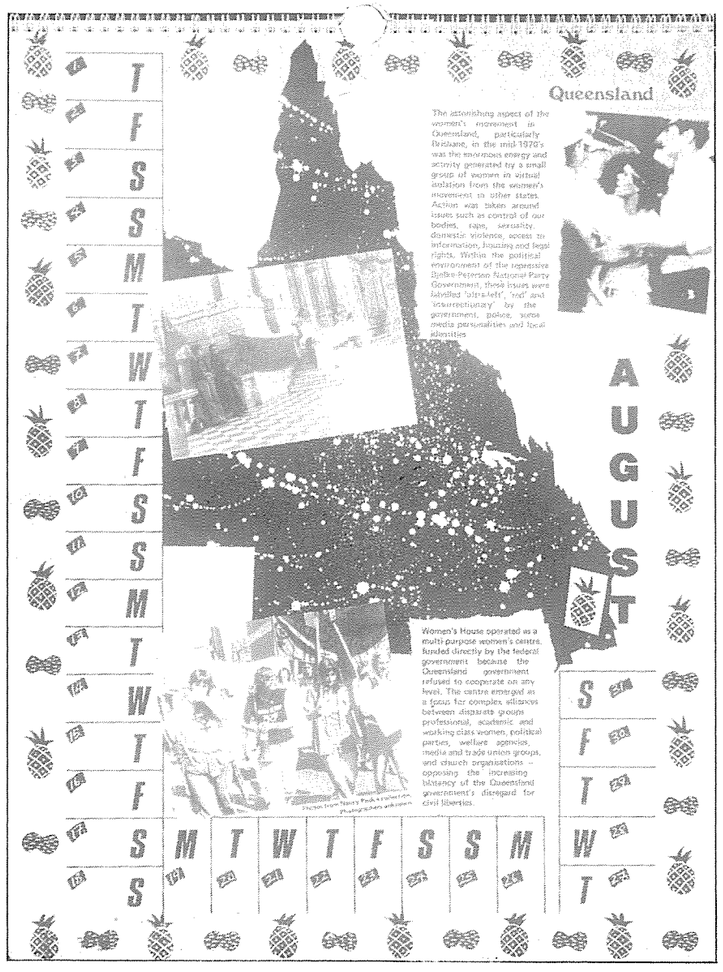
Not to be confused with *The Australian Women's Diary 1985,* this spiral bound 'aide-memoire' includes 19th century style black and white photographs and brief biographies of Australian women of greater or lesser notoriety.

REVIEWS

Wilderness Calendar 1985, Peter Dombrovski Pty Ltd, $6.50.

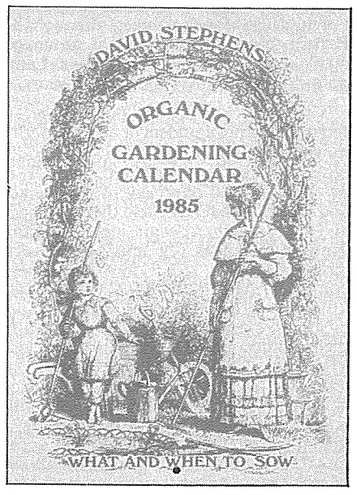
One of the many wilderness calendars available this year, this has full colour photographs by Peter Dombrovski and commentary from Jamie Kirkpatrick.





Women's Liberation Calendar 1985: Images of the Australian women's liberation movement 1974-75, Sybylla Co-operative Press and Publications Ltd., $8.50.

This is the second archival calendar published in conjunction with the Melbourne Women's Liberation Archival Group. Each month focusses on a specific feminist issue and the pages are crammed with 'herstoric' information. Bold and colourful design and a menstral chart is included.



David Stephen's Organic Gardening Calendar 1985: What and when to sow, Night Owl Publishers, $4.50.

For those of us who still manage to contemplate the garden, this calendar has a wealth of useful information on cultivation, seasons and lunar influences. Tastefully illustrated with line drawings.

Peter Elliffe is a member of the Chain Reaction *collective in Sydney but for Trish Luker, previous member of the Melbourne collective, this is a valediction.*

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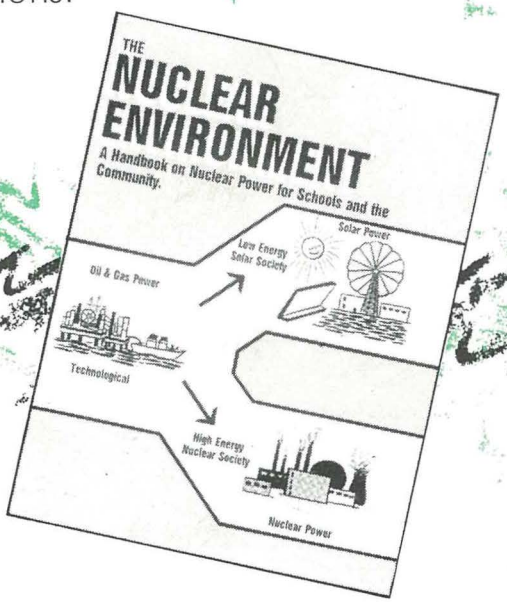

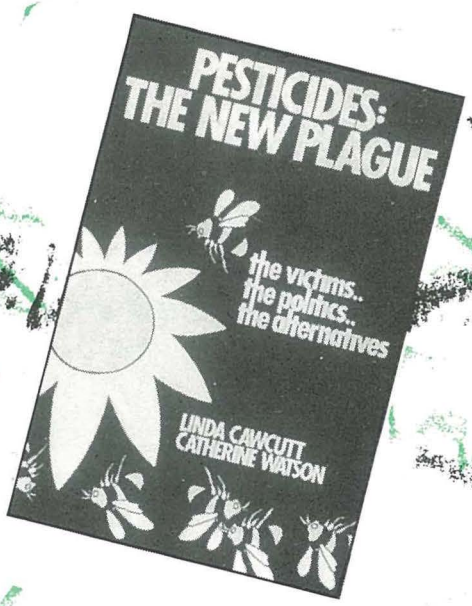

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