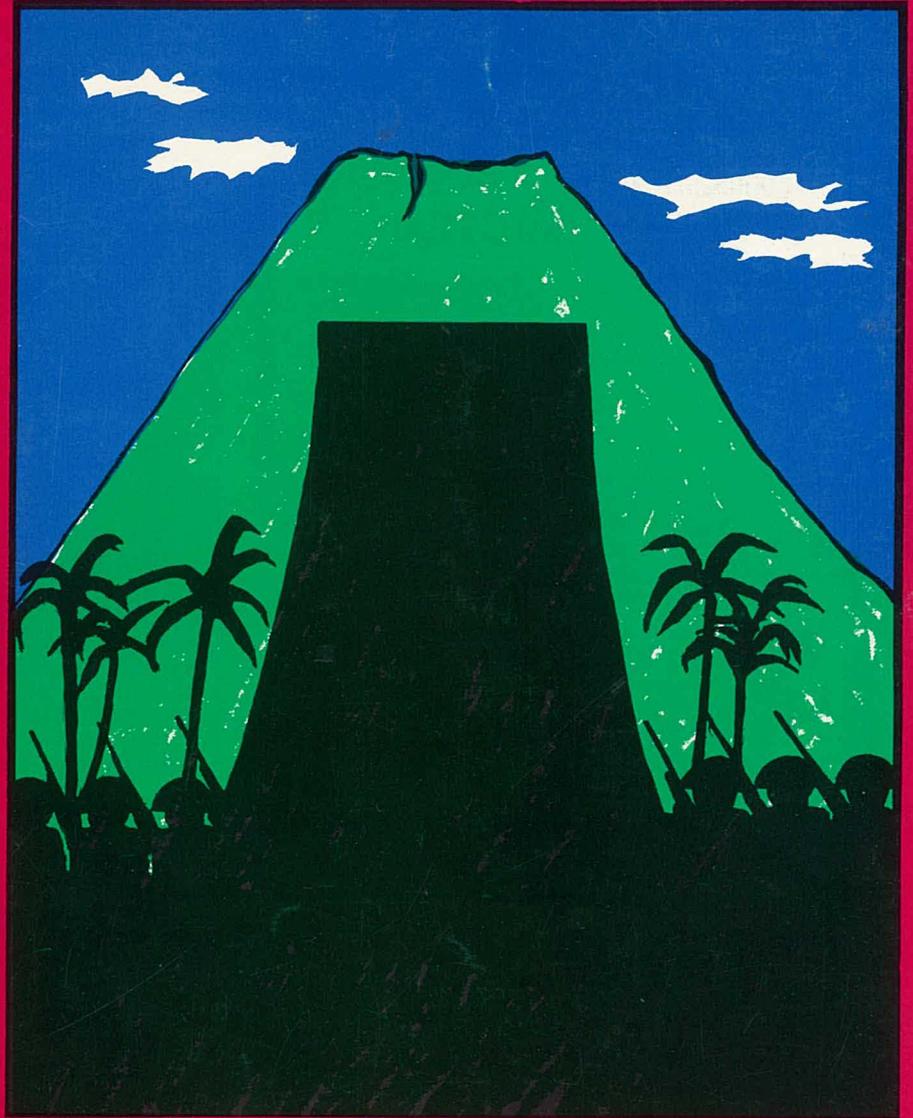


Chain Reaction

Friends of the Earth Australia

Number 34 October-November 1983 \$2.00

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PLAGUE
THAT
POISONS
MORONG.



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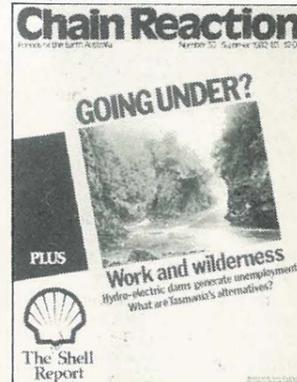
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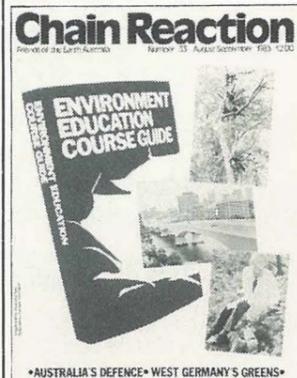
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THE PLAGUE THAT POISONS MORONG
By Walden Bello, John Harris and Lyuba Zarsky
Who benefits from the construction of a nuclear reactor and electrification programs in the Philippines?

11

DYEING CONCERN
Interview with Don McPhee



Hair dyes contain chemicals suspected of causing cancer. And you don't have to drink them to be in danger.

18

COCKROACHES, ANTS SPIDERS, BORERS AND TERMITES
By Robert Verkerk
The pest control industry in Sydney. A story of irresponsibility in the use of very hazardous pesticides.

20

THE BIG BOAT RACE
By Mark Delmage
Visits by nuclear ships to Fremantle — part of the USA's expanding influence in the Pacific and Indian Oceans.

25

WOMENS ACTION FOR PEACE
A discussion with Georgina Abrahams, Annique Duc, Diane Hague and Mavis Robertson



Feminism, media stereotypes, and why women are organising autonomously to oppose nuclear war.

26

LIMITS TO GROWTH
By Ted Trainer
A look at our over-use of resources and exploitation of Third World peoples and the global environment.

30

FARM THE WIND
By Andrew Blakers and Peter Penn



Wind-generated electricity for Australia? The obstacles are political and institutional.

33

FOE PAGE	2
LETTERS	3
EARTH NEWS	5
SUB FORM	9
REVIEWS	35

Cover: Kevin Wilson.

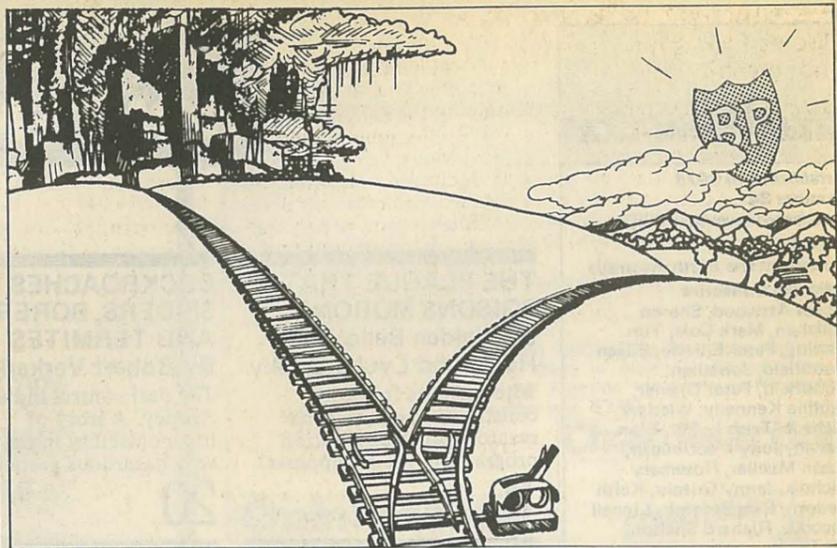
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FOE GROUPS

Solar power

Perth was recently host to the 'Solar World Congress'. Delegates from all over the world gathered to discuss the latest in solar technology. Predictably, the key input was from industry. With registration fees of \$240 the field of prospective participants was limited. A display of solar technology held concurrently with the conference included a solar car from British Petroleum, a company with a 49% share in the Roxby Downs (uranium) mine. The whole event was a salutary lesson to those who foresee a 'solar future', decentralised and in the control of the consumer. Industry has moved in and is producing increasingly more sophisticated technology. The presence of independent researchers at the congress who emphasised the use of 'low-tech' and who are concerned with energy use in Third World was a bright spot.

Another attempt to limit the influence and control of industry and government in the area of energy conservation and technology is Friends of the Earth (Collingwood)'s low-energy housing advisory service. This service



APOLOGIES TO B OETINGER

has been established for five years and provides advice on energy-saving in the home, from excluding draughts through to design of new solar houses. Useful information can be given to tenants as well as to house and flat owners.

Specific advice is available on house placement and orientation, solar gain through windows, choice of building materials, heat storage, insulation, stoves and heating appliances, ceiling fans, curtains, weather-stripping and the use of vegetation for summer shading. The service can also refer you to specialists and suppliers for solar electricity, wind power, solar hot water, and 'active' solar space heating systems.

Telephone enquiries are free. Ring FOE (Collingwood), on (03) 419 8700. More detailed help, such as determining a list of energy-saving priorities for your house or flat, or advising on alterations and new home design, may be obtained by arranging to come and see the service for an hour or so. In exchange, a donation of \$20 to FOE (\$10 for students, pensioners and unemployed) is requested.

Adelaide

Friends of the Earth (Adelaide) has decided to scale down its operations substantially. These changes mean that they will no longer be able to distribute *Chain Reaction* to their members. Those members who wish to continue receiving the magazine should subscribe direct through *Chain Reaction's* Melbourne office.

This decision, like Friends of the Earth (Collingwood)'s move earlier this year to make *Chain Reaction* an optional part of membership, threatens the longterm viability of FOE Australia's publication. The magazine will need increased support from other FOE groups if it is to survive and improve.

Friends of the Earth groups

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Membership fees: NSW \$20 (\$10 concession); Vic \$24 (\$18); WA \$15 (\$7.50) or whatever you can afford; Qld \$15 (\$10); SA, NT, Tas, ACT \$10 or whatever you can afford. *Chain Reaction* is sent free to all members of Friends of the Earth and some groups also send members newsletters and provide discounts at their bookshops. Enquire from your local FOE group. Make cheques payable to Friends of the Earth and post to the group nearest you - see list above. Donations are very welcome. Contact us for details on how to make tax deductible donations to FOE.

Women and gays not green?

I agree wholeheartedly with Peter Stephens' letter (CR 33) criticising the content of *Chain Reaction*. I came very close to not re-subscribing because of the relatively high non-environmental content of *Chain Reaction*. Can you provide one good reason why the items 'Disabled Scorn Quests' and 'Gay Conference' appeared in the last issue? By what criteria do they rate as being 'Earth News'? It's not as if there is a scarcity of news on conservation and the environment. Non-environment items and articles in *Chain Reaction* I find evoke the same gut-response as junk-mail in the letter-box does.

How about these as ideas on articles that I suggest fall within the category of conservation and environment?:

- A clear and objective analysis of the Roxby Downs blockade: its success and impact, with crisp action photographs;
- Attitudes in the federal ALP arena on uranium mining, with a list of the views and record of all federal ALP MPs on this matter, and clear information on how the Hawke government may be effectively influenced on this matter;

- Interviews with some of the new ALP MPs from marginal electorates who got in at the 5 March election, centring on their views on environmental issues;

- The continued dambuilding insanities in Tasmania, and an analysis of the proposed Henty-Anthony and King schemes;

- A listing of recycling depots: where they are, what they accept, what their hours of operation are, and where any proceeds from the recycling go to;

- Probing and analytical interviews with the new Victorian Minister for Lands, Conservation and Forests, Rod MacKenzie,

and his new director, Tony Eddison;

- Detailed interviews with Hawke and Bannon on why they think that the Roxby mine should go ahead;

- A clear and detailed article, with referenced sources, on the Koongara uranium deposit and the impact that mining at Koongara would have on the environment in general and the existing Kakadu World Heritage area in particular;
- The impact of the space shuttle on the ozone layer, and its consequences.

Ross Scott
Carlton, Vic

After reading *Chain Reaction* for eight years and participating in some Friends of the Earth activities, I am dismayed at the shift in CR from environmental towards social/political issues such as feminism and homosexuality.

Whatever good their predecessors may have done, present-day, hard-core feminists have discredited themselves by their attack on family life, and their notion that the interest of men and of women are fundamentally opposed. I am sure that a good many environmentalists, like me, do not want to be associated with such extremes and will in fact withdraw from FOE and CR if CR doesn't abandon its political mission.

Peter Myers
West Hobart, Tas

MX madness

This letter has been edited for space reasons.

Foolish man*, mesmerised by the dark side of science, steam-blasted technology's latest demonic creation - the MX missile - from a test canister in California during the last days of June. Moments later, the first of three solid-fuel rockets ignited, carrying the 10-warhead, 95-ton beast to its target 4100 miles away.

The MX is an aggressive first strike weapon so menacing to the Soviets that they will feel compelled to

match it, thus provoking yet another escalation of the arms race. There is no safe basing system that can protect it for retaliatory duty if the Soviets strike first. Hence, its very existence is a blatant temptation to the much-battered and invasion-wary Russians to launch a pre-emptive nuclear war.

Since his winning 'Soviet threat' campaign of 1980, President Reagan has continued to argue that America is weak and Russia strong. So successful has the Reagan administration been in fabricating this crisis that Congress is currently voting more defence funds than ever before for the largest ever peacetime arms build-up in American history.

The entire concept of Soviet military superiority which Reagan insists has given rise to a 'window of vulnerability' is a justification which is factually untrue. While numerically greater, Soviet forces are no match for the technologically advanced Americans who remain years ahead of anyone in military technology and sophistication.

Yet Reagan remains as committed to his massive rearmament program as ever before and continues to command widespread support for the policy. He is devoted to the MX as he is devoted to almost everything that kills, which is indicative of the pathological destructiveness of the American psyche. Their history is one marked by violence - violence against the oppressed: the Indians, the Mexicans, the Negroes, the working class, the immigrants, the Filipinos, the Koreans, the Vietnamese and now the people of El Salvador.

However, America is a nation which has produced a public relations and mass communications industry, without precedent, geared to justifying themselves and selling the image of an innocent, humane nation. Reagan himself has benefited greatly from this industry and it becomes all too easy to forget that this genial, good natured, always smiling, jelly-bean-popping president ordered the commencement of neutron bomb development and the refinement and stockpiling of nerve gas and

LETTERS

other chemical weapons.

If the President is genuine about his professed goal of arms reduction then the absurdity of the vote by Congress is even more frightening. Are the Americans going to attempt to limit the arms race by accelerating the arms race? Whether commissioned as some mysterious, logically complex move towards arms control or simply as a preparation for war, the MX gives peace less chance.

Jonathan Wills
Sydney

**Chain Reaction* has a policy of not printing sexist language, such as 'man' to refer to humanity. However in this case we feel the use of 'man' is appropriate.

Poor defence

'A great neglected issue in the peace movement today is the lack of serious discussion of alternatives to the current defence posture of Australia'. Most would agree with this introduction to MD Hayes' article on 'Defending the Sunburnt Country' (CR 33), but some, like myself, will feel frustrated by his prolix, dishevelled presentation of the topic.

Hayes begins by dangle the British report *Defence without the Bomb* (Bradford, 1983) before our eyes but then forgets to tell us what it is about and whether it applies to Australia. Instead, he leads us along the well-worn paths of Australia's wayward defence policies, from the Brisbane line to American bases, until we arrive at last at alternative defence and are introduced to the interesting notion of transarmament - that seems to be disarmament policies which at no time leave a nation undefended.

Instead of following this up, Hayes turns to the

LETTERS

dualism (or dichotomy?) of strategic and social disarmament models. He locates himself in 'the strategic paradigm' which seems to accept the legitimacy of existing defence activity including such alternatives as a nuclear-armed Australia, 'smart' conventional weapons and other mayhem. Civil 'defence' poses a problem but there Hayes has satisfied himself 'by examining a three megatonne ground burst nuclear attack on Brisbane in some detail' and concluding that at least one-half of Brisbane's million inhabitants 'would survive in quite good condition'. Others might say: a single bomb could kill the people of a large city right away and God have mercy on the rest.

After more such nonsense, Hayes arrives at social defence and gives a summary of Brian Martin's message. But even that writer is short-changed in the attached reading list, as are D Ball, VAPS and other recent Australian references.

It is regretted to find this important topic discussed in such unsatisfactory fashion in *Chain Reaction*.

Robert V Horn
SANA (Scientists against
Nuclear Arms)
Lane Cove, NSW

Noxious power

Arnold Spencer's claim that nuclear power stations are 'non-polluting' (letter, CR 33) must have been taken from nuclear industry sales talk! When built and run as intended, of course nuclear reactors are as safe as the engineers can achieve. But because of the nature of the materials that reactors feed on and create, potential hazards occur at all stages of the nuclear fuel cycle. Some of these products cause dangers of a different degree

to any occurring in any other industry.

It is sometimes forgotten, too, that the routine manipulations of nuclear materials include concentration, storage and transport operations which have never been made accident-free in any other industry. Nor has any other industry been able to achieve total containment of its wastes; for the nuclear industries, all these procedures will need to be *infallible* for centuries if pollution is not to occur!

Even *without* the contribution of nuclear reactors to the production of nuclear weapons, there are ample environmental reasons for discarding this technology. As well as plutonium, reactors produce the entirely new atom species - radio-strontium, radio-iodine, radio-caesium and radio-krypton. These are pollutants of uniquely dangerous character. The first three cannot be distinguished by living beings from nutrients that are essential to health, viz calcium, iodine and potassium. These three therefore concentrate in live tissues and food chains. Radio-krypton resembles radon and pollutes the air we breathe. The dangers of these products sufficed finally to persuade USA and USSR to stop atmospheric testing of weapons.

It is time for the public to insist that no more of these insidious products are *created* anywhere so that we will avoid the necessity for trying to contain them totally, for ourselves and generations to come. After all, there are other ways to generate electricity, of which there is not yet even a real shortage in advanced countries.

R S Beck with
Myrtle Bank, SA

Black issues

My main interest in the magazine lies in the area of Aboriginal issues - which seem sparsely covered, except for the recent edition. There are obvious differences between ecological and Aboriginal issues, but there

is also room for the development of cooperation and exchange of information. I think that lesson has been learnt well here in South Australia, and is particularly relevant in the case of Roxby Downs. Whilst objectives are different, this is an issue on which cooperation can occur (and is occurring).

Perhaps, then, there is a place in *Chain Reaction* for more news on Aboriginal issues? In particular on land issues?

Ann Lawless
Mile End, SA

Course appeal

This letter has been edited
for space reasons.

This is an urgent appeal for help. Your current issue includes us in its course guide but may not be able to do so much longer, for there is a strong move to end our program. We are not a department and have no professor to represent us in high places.

What the course guide does not convey is that we are exactly the kind of course advocated in the letter you printed from the two Griffith University PhD students - explicitly holistic, multidisciplinary, integrative, tracing the linkages between ecological problems and human institutions and values, and examining the connections between environmental and human well being. We are now in our eleventh year and despite the recent proliferation of *disciplinary* courses with 'environment' or 'energy' in their titles, we are still the only undergraduate integrated multidisciplinary course of this kind.

Student numbers confer no protection - our costs per student enrolled are less than those of all but the largest departments and closure cannot be justified on economic grounds. Nor has there been any attempt to justify it on educational grounds, hence the need for those in power to act without the due process of external

review and formal faculty decision. Their plan is to eliminate our honours and postgraduate teaching and to reduce us to two people teaching two subjects in a disciplinary department.

Our work addresses urgent and difficult problems, is intellectually challenging and socially useful. I know that former students are among your readers. They, and any others who think the program important, should express their views urgently to the Vice-Chancellor, ANU, GPO Box 4, Canberra, ACT 2600, and to any other person who may be able to influence this institution, like the Minister for Education and Youth Affairs, Senator Susan Ryan, and the Minister for Home Affairs and Environment, Mr Barry Cohen, who was once a student in this program. Parliament House, Canberra, is sufficient address for them.

Ian Hughes
Human Sciences Program
School of General Studies
Australian National University
Canberra, ACT

Pat on our back

Feel motivated enough to drop you a line to say I think the last two *Chain Reactions* have been really excellent. After reading Ally Fricker's article on the Greens I believe this is the standard and political analysis that I'm looking for on issues that aren't getting through. More of the same!

Pat Jessen
Collingwood, Vic

You are invited to write letters to *Chain Reaction* with your comments on the magazine or on other issues of interest. Letters should be kept within 300 words so that as many as possible may be published. Longer letters may be edited. Write today to *Chain Reaction*, Room 14, Floor 4, 37 Swanston St, Melbourne, Vic 3000, Australia.

EARTH NEWS

What's on in Watsonia

On Sunday, 23 October 1983, People for Nuclear Disarmament in Melbourne are organising a 'peace train' and march to Watsonia Barracks which is the principal Defence Signals Directorate (DSD) in south-east Australia. Watsonia, which operated as a key communications interception station during the Second World War, is the signals centre for the Australian defence establishment. In 1974 the British made special use of the monitoring and cryptographic equipment at Watsonia in a counter-insurgency exercise in the Solomon Islands and other south-west Pacific islands, even though counter-insurgency operation had been specifically disavowed by the government in the 1973 document, 'Strategic Basis of Australian Defence Policy'.

Watsonia is also the site for a satellite ground terminal, code named 'Project Sparrow', installed at an estimated cost of \$9.4 million, which allows the Australian intelligence agencies direct satellite communication with the USA agencies. This system, transmits intelligence information from satellites in space to the National Security Agency's (NSA) headquarters in the USA. People for Nuclear Disarmament objects to this function of Watsonia, as it provides the NSA with highly secretive information needed for precise military targeting, thus further contributing to a

USA nuclear first strike capacity.

The NSA is the principal USA intelligence agency operating in Australia; some 50 operatives work out of some 10 installations. The NSA has a much larger presence, is more important, more secret, and closer to Australia's own intelligence organisations than the Central Intelligence Agency (CIA).

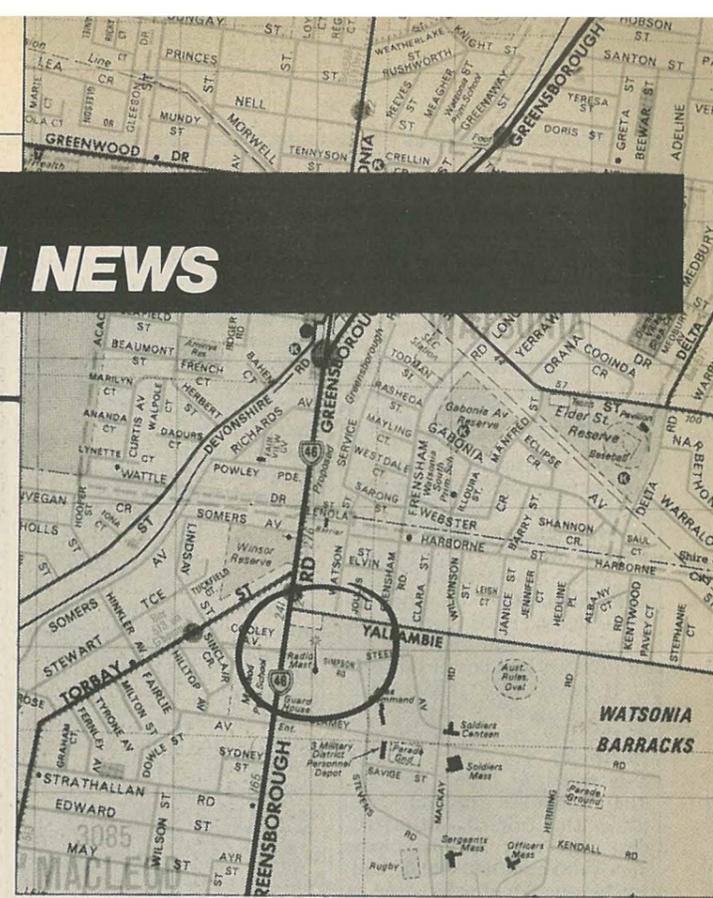
At the Watsonia demonstration, PND is asking everyone to photograph the 'Project Sparrow' antenna dish. PND believe this symbolic action is an effective way of exposing the absurd and dangerous wall of secrecy surrounding these installations.

The action is part of United Nations Disarmament Week. Millions of people in Europe, USA and Japan will be demonstrating for an immediate halt to the planned deployment of Cruise and Pershing 2 missiles in Europe. These missiles have an accuracy that equips them for a 'limited, winnable' nuclear war - a dangerous concept that brings the world even closer to nuclear devastation.

Action: 'Focus on Watsonia' is on Sunday 23 October. The PND Peace Train for Watsonia departs Flinders Street Station at 1.30pm from Platforms 2 and 3. There will be a rally beginning at 2.30pm at the Elders Street Reserve, Watsonia with a march to the Watsonia Barracks at 3pm. Bring a camera.

Red ants

The Soviet Union has established a sanctuary for ants on 640 hectares of pine forest near Moscow. Tree-felling, hunting and camping have been banned, says Radio Moscow, to enable the first colonies of the little ants to build up their strength. Source: *Guardian Weekly*, 18 September 1983



Good behaviour



On 9 September 1983 two people went to court in Fremantle on charges arising from the visit of nuclear-powered and armed USA warships on 2 July. Both received six month good behaviour bonds.

Tony Freeman and Bill Ethell were charged with handing out leaflets on Fremantle Port Authority land. Although only a minor charge, it provided a forum for discussion of the issue involved. Both men defended themselves, and appealed to international law, claiming that an individual's responsibility is to uphold international laws when they conflict with local laws.

The magistrate, R Gething agreed that what the two

Bill Ethell and policeman

were doing was 'highly commendable' and that 'everyone knows how harmful nuclear weapons are' but added, 'I don't make the laws', and proceeded to find both Ethell and Freeman guilty, suggesting that they could go to an international court to air the issues more fully.

Ethell asked his arresting officer if he was aware of the Tokyo war crimes trial decision that anyone who knows of crimes against humanity and who does not take affirmative action to stop them is also guilty of those crimes. The officer replied that he was only concerned with Western Australian state law.

EARTH NEWS

Power failure

All the talk in the Australian commercial media about the safety and cheapness of nuclear energy makes one wonder whether they bother to read the foreign press. *The Guardian Weekly* of 14 August 1983 carries an article on the failure of another nuclear power station.

It seems that the nuclear power station at Hartlepool, in the UK, started producing electricity for the national grid recently, nine years behind schedule and at five times the original estimated cost (the cost has been put at \$A900 million). But it had to be switched off after a week of operating when it developed a fault in its plumbing. 'You get these little leaks come along from time to time, but there is no suggestion that it is anything to do with the building delays', a General Electricity Generating Board spokesperson said.

The power station was begun in the days when Mr Roy Mason, Minister of Power, had to try and persuade Lord Robens of the National Coal Board that nuclear stations were the thing of the future. In the event, the Hartlepool Advanced Gas-Cooled Reactor was more in the future than anyone could have possibly believed, and it must have been with some relief that station manager Mr Phil Parkman threw the switch.

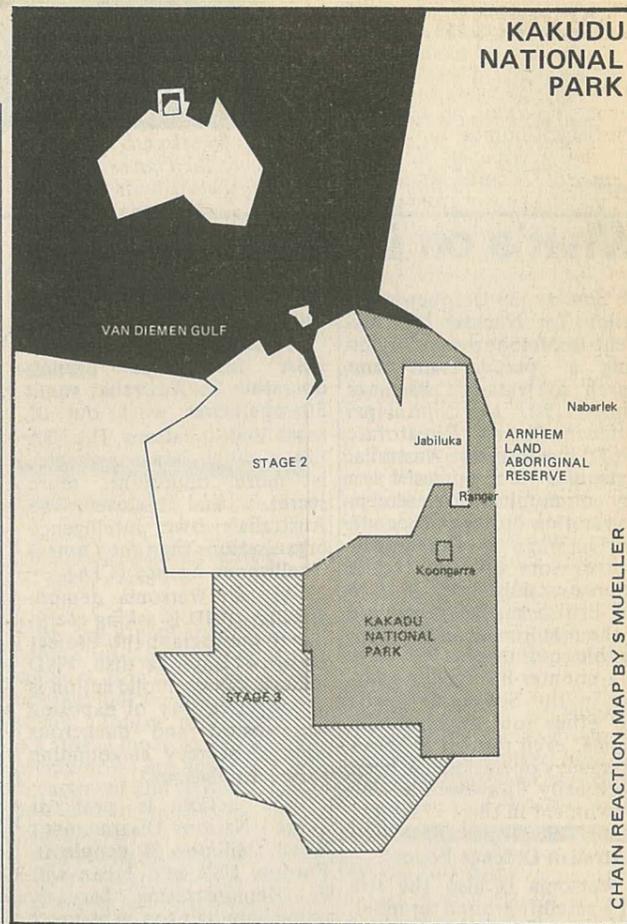
The new station, sitting provocatively atop the hard-hit Durham coal field has had so many 'teething' troubles over the years that the latest water leak in a control panel in the turbine hall could be seen as some sort of senile decay. Work stopped in 1970 when the building cost was a mere \$A150 million, after the Inspectorate of Nuclear Installations did not like the look of the concrete 'pods' which were to contain the boilers.

Hawking Kakadu

There is a great deal of concern in environment and anti-uranium circles that the federal Labor Government will renege on its policy to declare Stages 2 and 3 of Kakadu National Park. There have been indications that the government will declare the remaining areas 'conservation zones' leaving the way open for the development of uranium mining. It is also likely that Koongarra which was excised from the national park by the previous Liberal government will be left out of the national park contrary to Labor party policy.

Kakadu is of enormous ecological and anthropological importance (and like South-West Tasmania, a World Heritage Area) but the existence of relatively small uranium deposits puts it at enormous risk.

Action: The Movement Against Uranium Mining (MAUM) is launching a campaign to impress upon the federal government the undesirability of uranium mining together with the importance and uniqueness of the Kakadu region. If people are interested in becoming involved in the campaign they can contact MAUM on (03) 663 1428 or (03) 663 1561.



Development strategies

Conservationists may be interested in having a look at two documents which relate to government conservation strategy. One is the *National Conservation Strategy for Australia: Living Resource Conservation for Sustainable Development* proposed by a conference held in Canberra in June 1983. The other, sponsored by the Victorian Ministry for Conservation, is a discussion paper for a State Conservation Strategy.

Both documents talk about forests, rivers and soils in terms of resources, reflecting an inability to divorce the idea of conservation from resource development. The introduction to the National Conservation Strategy (NCS) links development and conservation by saying:

Development and conservation are

but different expressions of the one process. Together they are the means of providing for the needs of the present and the future. Further, many people believe that Australians have obligations to other living things and that activities must at times be modified to respect the natural cycles of other life forms and their ecosystems.

The NCS then goes on to define conservation as:

... the management of human use of the biosphere so that it may yield the greatest sustainable benefit to present generations while maintaining its potential to meet the needs of and aspirations of future generations. Thus conservation is positive, embracing preservation, maintenance, sustainable utilisation, restoration, and enhancement of the natural environment.

[The NCS sees] conservation and development as fundamentally linked by their dependence on living resources. Both conservation and sustainable development require an attitude of stewardship, especially towards those plants, animals and micro-organisms and the non-living resources on which they depend,

that could be destroyed if only short term human interests are pursued. To provide for today's needs as well as to conserve the stock of living resources for tomorrow, both conservation and development are necessary.

It is unfortunate that these sorts of documents are often seen as a step in the right direction - an attempt by governments to regulate environmental exploitation. However, legislation based on the assumptions in these documents ignore the real reasons for 'resource' exploitation - the political system, patterns of consumption and the nature of industry - and so negates any positive conservation strategy.

The use of 'industry' terminology (eg resources development, sustainable development) further reinforces the notion that these documents are written for industry, which in the past has had an uncanny knack of getting around government legislation and regulation.

Deportation defended

In March this year the government of Vanuatu deported Christine Coombe, then editor of the newspaper *Voice of Vanuatu*. Coombe ran articles attacking the government in a situation similar to the Australian media's loans affair during the time of the Whitlam government.

Reports on the event in the Australian media were in support of Christine Coombe claiming her expulsion was an attack on the 'freedom of the press'. The media's criticism, however, is simplistic as it does not take into account the precarious position of the new socialist government. It had weathered the attempt by right wing French settlers on the island of Santo at the time of independence. Christine Coombe's articles were part of the ongoing destabilisation activities by right wing forces in Vanuatu.

'Freedom of the press' in Vanuatu, meant the freedom of a privileged and powerful elite to disrupt and destabilise a government which was challenging their power.

Grace Molisa, whose husband is the Minister of Home Affairs in the Vanuatu government had a poem published in the last issue of *Voice of Vanuatu* outlining the reasons for Coombe's deportation. The version of the poem reprinted below is from *Pacific Islands Monthly* August 1983.

Freedom of the Press is a shining jewel in the crown of any Democracy.

What is Democracy? is it something to cherish?

Or is it Dem a' crazy? So-called "Democracy" is wielded

over our heads like a guillotine by a handful of corrupt and power-hungry, dissident, misfit, tools of multi-nationals distorting truth via stacking a biased paper.

Who is to say that the Australian, Fijian or any other brand of Democracy is any better than our Democracy?



Our own system of Consensus is more democratic than the dictatorship of the vote against the minority.

What Freedom of Speech is there in Freedom of the Press when my individual and human rights are denied in the unbalanced and twisted information hawked by a one-sided Press?

The other side of the coin of Freedom is Responsibility and Dignity... Our democracy born of consensus

is the outcome of personal conversation confronting consulting and consolidating a political position by means of direct dialogue ensuring a balanced insight derived from equitably expressed views conducive to complete understanding and harmonious existence in a common community.

What right has the dictatorship of an outsider, Australia, Fiji,

or World Press to interfere in the internal politics of our sovereign state by aiding and abetting dissent and disorder pre-empting the decisions we on our own accord by Constitutional right and sovereign duty should freely make? This paternalistic and condescending tenth-rate journalism of capitalist media is here purely to tarnish and taint our original Thought and Life-Style in the consumptive and acquisitive interests of capitalist economic expansion. The hardest slap in the face for every Ni Vanuatu and the entire Republic is the impudence of this person presuming to be our mouthpiece.

We Ni Vanuatu can run our own Independent Newspaper in the same way We attained political Independence and many other achievements since! Knowing a bunch of school dropouts is no ground to claim Ni Vanuatu cannot write nor run newspapers.

Government prohibits and deports undesirable aliens in the same way Mother England "Champion" America antiquated France and ruff raff Aussie do

for security reasons except we are more humane patient and compassionate.

The law exists to provide for Newspapers as in any Democracy.

The first duty of Government is to its citizens as in any other country.

These are, the frank, personal opinions, of my authentic autochthonous Ni Vanuatu Self.

Raining acid

Environmentalists have been aware for decades that emissions of sulphur dioxide into the atmosphere form acid rain which is responsible for the poisoning of forests, soils and lakes in Europe and the United States of America. However, it seems that legislative bodies are only now attempting to do something about the problem. One of the biggest problems is getting cooperation from countries which are responsible for the sulphur emissions to claim responsibility and do something about them, as the emissions are not confined to the countries which emit the fumes.

The West German government is attempting to reach agreement with its partners in the European Economic Community (EEC) on a common strategy to combat acid rain. West Germany have prepared a plan written jointly with Switzerland (a non-EEC country), and backed by Denmark. The plan calls for a 30% reduction in sulphur emissions by 1993. The West Germans have taken a lead after 'discovering' that many of their forests appear to be dying from acid poisoning. Other proposals in the German plan are to extend the monitoring of 'transboundary air pollution' across Europe and to develop flue gas desulphurisation and fluidised-bed combustion as ways of removing sulphur fumes before they leave power station chimneys.

Meanwhile the Canadians are having a tough time convincing their southern neighbours that sulphurous air which wafts up from from the Ohio valley and other industrial areas of the USA is damaging Canadian lakes. Tens of thousands of lakes in north-east Canada are now fishless.

Source: *New Scientist*, 9 June 1983.

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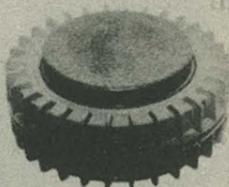
3 Capability to deploy minefields in undefended territory.

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According to a columnist for the San Francisco *Chronicle* Jack Anderson, a secret Pentagon report details a large arsenal of 'non-strategic' nuclear weapons now deployed in South Korea. The weapons include 133 bombs deliverable by plane, 63 eight-inch Howitzer shells, and 21 'atomic demolition munition' or nuclear land mines, Anderson says. The mines are reportedly buried within a mile of the demilitarised zone between North and South Korea. If the North's armed forces were to cross the demilitarised zone, the mines could be activated by remote control.

Mines, as an anti-personnel

weapon, have come a long way since the days of the Second World War. During the Second World War the Germans developed the shoe mine, small enough to be laid in large numbers and powerful enough to remove a person's foot at the ankle. But these mines were metal, and hence susceptible to location and removal. Most modern mines are plastic and return no echo to the electronic devices used by mine-clearing teams. Lightness and cheapness mean that they can be manufactured in enormous quantities and dispensed mechanically in clouds. As a result, wide areas can be sterilised against military use,

imposing deep defensive barriers against an enemy's advance.

The rules of warfare, codified in the Geneva Convention, hold not only that minefields must be clearly marked, but that all the mines must be detectable so that they can eventually be lifted. Ingenuity has now got the better of rules framed for a simpler and more cumbersome technology. Since it is now so easy to broadcast mines indiscriminately, this is probably what will happen, as indeed did happen in the Falklands campaign. Large areas of those islands are now closed to human use, it is believed permanently.

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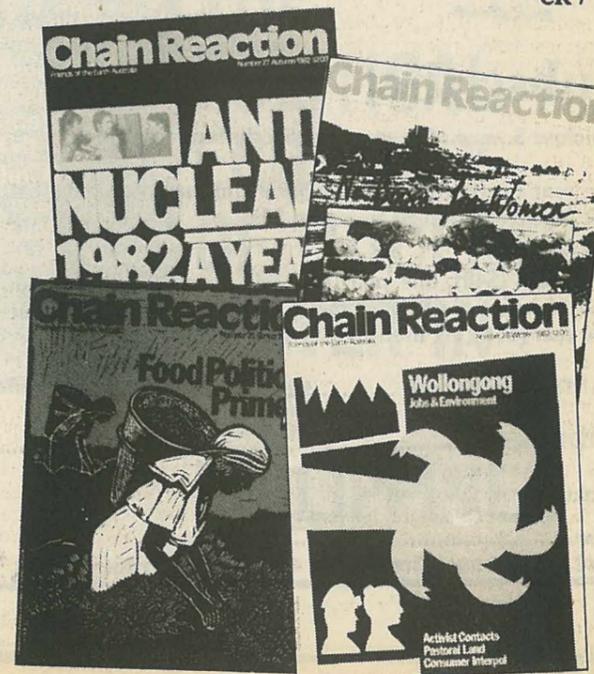
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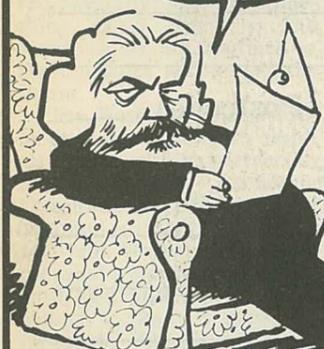


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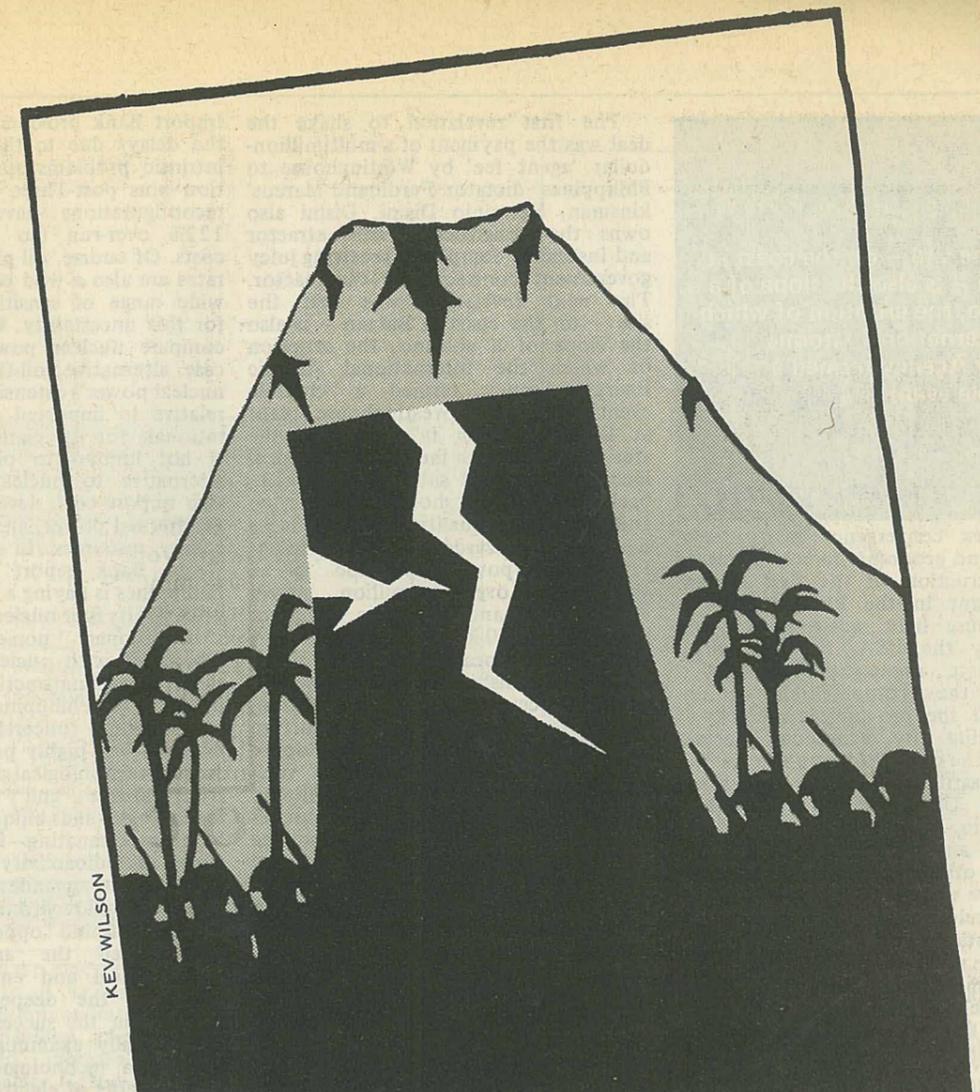
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THE PLAGUE THAT POISONS MORONG

'The plague that poisons Morong!', says graffiti on walls in the town of Morong in the province of Bataan in the Philippines. It refers to a Westinghouse nuclear reactor being constructed in the province, on the side of a volcano. Walden Bello, John Harris and Lyuba Zarsky of the Nautilus Pacific Action Research Center look at the background to the building of the reactor and electrification schemes in the country, and the growing opposition to the Marcos regime's nuclear program.

THE POLITICAL ECONOMY OF NUCLEAR POWER IN THE PHILIPPINES

"... the site — on the coast at Bataan — is also the slope of a volcano, the eruption of which the International Atomic Energy Agency termed a 'credible event'."

A complex convergence of strategic, political and economic factors underlies the construction of the first nuclear power plant in the Philippines — a Westinghouse light water reactor exported by the USA. In this article, we evaluate arguments for nuclear power in the Philippines and demonstrate that the pro-nuclear ideology is unconvincing. By examining nuclear power in the context of export-oriented industrialisation, conflicting class interests, and USA-Philippines relations, we explain why nuclear power was adopted — an analysis not easily generalisable to other Third World countries which have chosen the nuclear option.¹

The nuclear deal provoked a broad-based resistance in the Philippines which identifies nuclear power with USA imperialism. Closely linked to a pan-Pacific self-determination movement opposed to all nuclear intervention, the Philippines' resistance contains important lessons — and opportunities — for the left and the anti-nuclear movement.

THE PHILIPPINES REACTOR CONTROVERSY

The export of a 600 megawatt Westinghouse reactor to the Philippines reveals the factors at play and the odds at stake in the rush to nuclear nirvana on the western Pacific rim.² The \$2 billion plant has been controversial since construction began in 1977. Intense local opposition blossomed when erosion from the coastal site clearance increased turbidity in spawning grounds and destroyed the local fishing industry, the economic base for 70% of the villagers. Road building also destroyed valuable crop and grazing land. By 1979, the reactor had become the centre of an international campaign against nuclear exports stretching from the Philippines to Australia, Japan, the USA, Canada and Europe. Twenty thousand Filipinos sent petitions to the USA Nuclear Regulatory Commission, delivered by the Philippines Movement for Environmental Protection. Intense USA opposition was spearheaded by a coalition of liberal Washington public interest groups and the grassroots anti-Marcos Philippines movement.

The first revelation to shake the deal was the payment of a multimillion-dollar 'agent fee' by Westinghouse to Philippines' dictator Ferdinand Marcos' kinsman, Herminio Disini. Disini also owns the construction subcontractor and insurance companies receiving juicy government contracts for the reactor. The next revelation was that the site — on the coast at Bataan — is also the slope of a volcano, the eruption of which the International Atomic Energy Agency termed a 'credible event'. Like the Westinghouse plant at Diablo Canyon in California, the area is riddled with faultlines. Technical incompetence and subcontractor kick-backs also indicate shoddy construction and inadequate quality control, adding incalculable hazards to those intrinsic to nuclear power operation in an area where over 7 million, largely malnourished and immobile, Filipinos live within an 80-kilometre radius.

Mounting local opposition from peasants and fishing people met with a military occupation of the region, the arrest of dozens, and the torture and murder of at least two local opponents.³ Faced with increasingly vociferous international and elite Filipino opposition (especially in the churches and universities clustered around the Philippines Movement for Environmental Protection) which could not be so easily contained. Marcos suspended reactor construction twice and ordered a safety review commission. The commission whitewashed the Filipino authorities regulatory and siting practices, and demanded that Westinghouse upgrade safety features.⁴

It is clear to local opponents that the reactor is not in their interest. As one told a visiting priest, 'This nuclear plant is not really for electricity. It is so our president will be powerful'.⁵ More difficult to establish has been an effective counter to the proponents' argument that the local costs and repression are unfortunate, but necessary to reduce oil import costs and vulnerability to supply loss. Evaluating this claim exposes the deeper political and economic logic which lies beneath the corruption and the pro-nuclear stance of the regime.

It is relatively easy to show on narrow discounted cash flow terms that nuclear power in the Philippines today is likely to be as expensive as, or more expensive than, imported oil. Using optimistic assumptions for nuclear power our analysis showed nuclear power at best to cost about the same as oil in a life-cycle analysis.⁶ Using more realistic discount rates for the capital-scarce Philippine economy would eliminate the nuclear option on economic grounds.

The primary factors in determining the relative cost of oil-fired versus nuclear-powered electricity are the escalation rates of fuel prices and costs of capital. While the USA Export-

Import Bank provided cheap financing, the delays due to the complexity and intrinsic problems of nuclear construction plus post-Three Mile Island plant reconfigurations have resulted in a 122% over-run (to date) on capital costs. Of course, oil price (de)escalation rates are also a wild card, but we used a wide range of sensitivities to account for this uncertainty. While we chose to compare nuclear power to the worst-case alternative, oil-fired power (since nuclear power's ostensible cost advantage relative to imported oil is the official rationale for the plant), the Philippines is not limited to oil as a technical alternative to nuclear power. It can also import coal, develop hydro-power, geothermal power, and other renewable energy resources. In short, as a recent World Bank report concluded, 'The Philippines is paying a very high financial price for its first nuclear development'.⁷

Additional non-economic costs associated with nuclear power add to the relative unattractiveness of nuclear power in the Philippines.⁸ These include technological uncertainties; the low diversity and highly politicised uranium supply; technological dependence arising from arcane and complex atomic technology; and unique environmental hazards emanating from billions of curies of radioactivity in a geologically unstable and an undeveloped regulatory and personnel environment.

The Filipino opposition, however, has pushed the argument beyond technological and environmental problems to the deeper level of class interests in the success of the project. By critically examining the electricity generation technologies and consumption patterns of electricity, the Filipino movement challenges the notion that productive forces are socially 'neutral'. Instead, they argue, social relations are embodied in the material infrastructure — such as the reactor and particular forms of electrification — constructed by the regime.

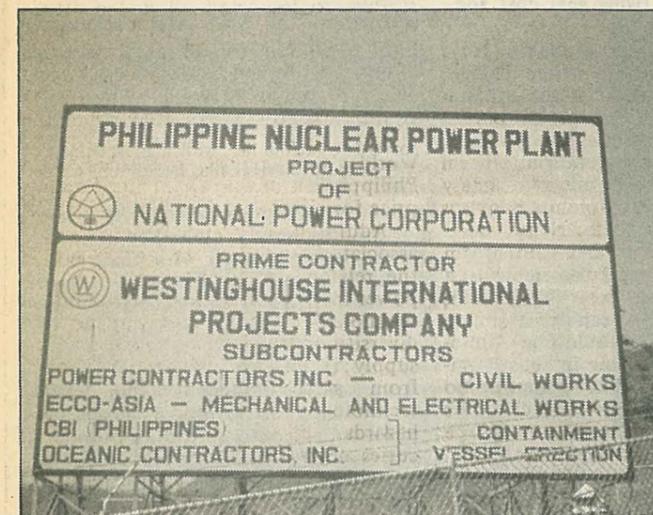
ELECTRIFICATION IN THE PHILIPPINES

The USA State Department defended the Philippines reactor in 1978 with this assertion:⁹

An adequate and growing supply of electric power is particularly essential for developing countries. Agriculture, manufacturing, schools and hospitals as well as every other sector of the economy and all levels of society depend on electric power, and there can be no significant development without it.

Economic development is the ultimate — and unsound — premise for the conclusion that nuclear power in the Philippines is justified.

The Philippines has undertaken one of the most ambitious programs of centralised electrification in the Third World. Aided by the World Bank, USA Agency for International Development (AID) and the USA Export-Import Bank among others, the Marcos govern-



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SHIRILEE

ment plans to make electricity available to industry and to all barrios by 1990.¹⁰ In 1977 the Philippines National Power Corporation unfolded plans for an almost five-fold increase in total generating capacity, from 2800 to 16 000 megawatts over ten years.¹¹

During the late 1970s, electrification accounted for 4% of gross national product and for 40% of government spending in public services.¹² To carry out its program in the decade 1978-1987 the Marcos government planned to invest \$9 billion, plus complementary investment of at least \$72 billion in transmission, distribution, and end-use equipment.¹³ Although the scale of the program was cut back in 1980 due to World Bank influence, electrification remains a high government priority. The benefits of this massive program accrue differentially to the rich and poor — as revealed in the patterns and trends of electricity use.

Electricity in Production

Virtually every aspect of the Philippines economy has been subordinated to a strategy of export-led industrialisation.¹⁴ Set in motion in 1971, production for the world market grew out of the failure of import substitution in the 1960s.¹⁵ The new strategy was the result of an intense struggle between a wealthy protection-seeking domestic elite and international and domestic export-oriented elites seeking access to cheap labour and raw materials with as

few restrictions as possible.¹⁶

Industry: Patterns of electricity use reflect the export-orientation strategy. Urban industry accounted for 56% of total electricity consumption in 1974. In the greater Manila area, the copper-exporting Marinduque Mining and Industrial Corporation (partly owned and managed by USA interests) is the single biggest user, followed by USA-controlled chemical industries and Japanese and USA-controlled steel industries.¹⁷

The consummate expression of export-oriented industrialisation are free export zones, such as that in Bataan, to be connected to the nuclear plant presently under construction. A free export zone supplies cheap labour, a ban on non-governmental unions, a tax shelter, and cheap services to predominantly multinational firms which must export at least 70% of their output.¹⁸ 'Total electrification' also aims to supply electricity to other 'free export zones' as well as to 'bonded' villages (a group of villages transformed into a factory, mostly producing textiles for export).¹⁹

Contrary to AID reports,²⁰ non-export-oriented rural industry has not resulted from rural electrification. A recent assessment acknowledges that the program has not had much impact on 'the establishment of new [rural] businesses'.²¹ The basic problem for rural industries is the lack of effective

demand for beverages, canned food, clothes and the industrial consumer items they could turn out, rather than the availability of electricity. The bulk of the estimated 40% of the Philippines labour force that is unemployed or underemployed is in the countryside. Falling real incomes and inequitable land ownership and income distribution constrain the demand for mass consumption goods and preclude the possibility of an effective link between electricity, industry and a higher standard of living in the countryside.

Agriculture: Asked in a 1978 USA Congressional hearing if electricity serves rural areas in the Philippines, Eximbank president, John Moore, replied, 'I would imagine so, to some degree'.²² In fact, only 2.4% of total electricity is consumed by the combined sector of agriculture, dewatering (removing rice paddy water), fishing and forestry in the Philippines. Yet this sector includes over half the active labour force, and is the backbone of the economy.

By 1976, ten years after AID-initiated intensive development, rural electrification powered the irrigation of only 34100 hectares of riceland, less than 3% of the country's 1.4 million hectares then under irrigation.²³ Of more than 10 000 irrigation pumps, only 425 were electric in 1976. Commenting on the AID-sponsored model MORESCO cooperative on

"Rural electrification is also an integral component of the counter-insurgency efforts of the regime."

Mindanao Island, a USA AID consultant admitted in 1978 that seven years of electrification had not resulted in a 'significant increase of the number of electric pump irrigation systems'.²⁴ In 1975 the seven users of electric pumps in the cooperative irrigated only 108 hectares. This dropped to 100 hectares when the biggest user reverted to a cheap, reliable, gravity-feed system. One hundred hectares is about 5% of the total irrigated riceland in the area.²⁵

Furthermore, agriculture is not dependent on electricity-intensive mechanical or chemical inputs produced in the Philippines or made available by imports paid for with foreign exchange from electricity-intensive exports. Only 15% of Filipino farms use mechanical power. The overall rate of application of energy-intensive chemical fertilisers is also relatively and absolutely low.²⁶

Indeed, the past, current, and planned development patterns in the Philippines leave little room for such industries. The import-substitution strategy of the early 50s to late 60s, the first phase of Philippine industrialisation, consisted mainly of the production of finished consumer goods for an urban middle-class market. The focus of export-led industrialisation is the production of raw materials and light consumer goods for export to the advanced industrialised countries.²⁷ As long as agriculture is subordinate to export-led industrialisation, the relative flow of electricity into agriculture is unlikely to increase as a result of a mere increase in electricity supply — nuclear or non-nuclear.

Electricity in Household Consumption

Urban consumption: Forty percent of the urban population used no electricity in their houses in 1975.²⁸ A large proportion of urban Filipinos (over 25% in Manila) reside in dense squatter settlements with minimal electricity service.

The urban poor use kerosene and sometimes one or two 40 watt electric bulbs for lighting; gas, kerosene or wood for cooking; and batteries for a radio.

One survey of Davao City in Mindanao revealed that 36% of the poor scavenge for wood and another 40% buy it for cooking. If income increases, kerosene and not electricity replaces wood. Fifty percent of the households had no electricity or only one or two lightbulbs, and the number of households connected to electricity had not increased from 1972 to 1974.²⁹ The urban poor in cities such as Davao actually constitute a *shrinking* market for electricity as a decline in real wages has coincided with rising real cost for electricity since 1973.³⁰

While no data are available for Manila, energy studies of other Third World cities show that it is the urban rich who consume the major portion of the electricity for residential use because they own and use a far greater number of appliances than the poor.³¹ The use of these appliances in Manila boosts the peak demand for electricity, decreasing the load factor, and stretching the generating capacity of the electrical system to the point of brown-outs and load-shedding.³² Such peak-demanding electrical appliances should be suppressed by pricing policies in terms of system efficiency rather than generation expanded — but generally the rich win out and keep their appliances.

Rural consumption: Nearly 70% of the Philippine population lives in the countryside. Only about 18% of the rural population (which, in the Philippines statistics, includes the people of provincial towns and cities), however, were connected to electricity in 1978. While this is 11% more than in 1975,³³ it is unlikely that this rapid growth rate can be sustained in the long run. Existing rural electric cooperatives stop expanding when between 25% and 40% of the homes are connected in the area where electricity is available.³⁴ This suggests that the system will reach saturation between 1981 and 1985 at the planned 20% annual growth rate.

Further penetration is constrained by absolute poverty and inequitable income distribution in the countryside. A USA AID evaluation team reported recently that:

very few fishermen, small tenant farmers, landless labourers . . . and even semi-skilled factory workers can afford electricity in their homes . . . The adopters of electricity are larger tenant and land-owning farmers, shopkeepers, mechanics, administrative employees, that is, those with skills and education . . . We estimate that approximately 40% of the Filipino rural poor are not able to afford power under the current rate levels and tariff structures.³⁵

Perhaps the early proponents of rural electrification hoped that income distribution would improve with time and, with it, the success of rural electrification. Since the program was initiated in 1968, however, the real wages of rural labourers and tenant farmers have plunged.³⁶ At the same time, the distribution of rural income became more inequitable.³⁷ AID and National

Electrification Administration surveys reveal that where electricity is available, the benefits accrue to a small rural middle or upper middle class.³⁸ As RAND Corporation analyst, Guy Pauker, concludes in a report to the USA State Department,³⁸

What rural electrification [in the Philippines] can hope to achieve is the availability of power in the villages, regardless of the volume of effective demand among the rural population which on average will remain too poor to afford electric amenities in their homes.

Furthermore, as USA AID consultant Judith Tendler has remarked,⁴⁰

The rural poor do not themselves place high value on the acquisition of household electricity. When villages without electricity were polled about their preferences, electrification is low-down on the list, with highest priority being given to services like health and water supply.

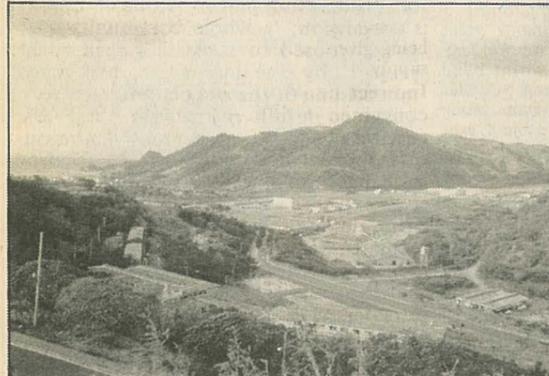
Indirect consumption: Electricity is also consumed indirectly, embodied in goods and services produced with electricity, or imported and paid for with foreign exchange earned with electricity-intensive exports. As the determinant of final demand and thereby of intermediate electricity demand, income distribution is a reasonable crude proxy for the indirect flows of electricity into personal consumption and wealth. Government figures show that 10% of Filipino households receive 38% of the total household income; the bottom 40% receive 16%; and the bottom 10% receive only 1% (1975 figures).⁴¹ A rich minority, therefore, purchases most of the electricity embodied in goods and services, as well as most of that consumed directly in the household.

President Marcos' electrification strategy favours those interests benefiting from an export-led strategy. Apologists claim that eventually its benefits will 'trickle down' to the poor majority. This hope is refuted by the 40% decline in the real wages of urban workers between 1972 and 1974, a decline which has continued. This plunge stemmed from a ban on strikes, tight control of labour organisations, high inflation, and other repressive anti-worker policies required to implement the development strategy dictated by creditors.⁴² A similar situation exists in the countryside, compounded by the failure of land reform.⁴³

Only the most heroic optimist in the USA government could ignore the warnings of its own eyes and ears. Gordian Associates bluntly informed the USA Department of Energy in 1978 that Marcos' industrialisation strategy had 'failed to make significant contribution to the direct satisfaction of basic human needs of the population . . .'. Instead, the report concludes, the major benefits have accrued to a small urban elite.⁴⁴ As RAND Corporation consultants Gerald C Hickey and John Wilkinson reported to AID:⁴⁵

If Marcos is counting on 'trickle-down development' to gain his place as one of the

Bataan Export Free Zone. Multinational companies draw on cheap labour from the poor to maximise profits.



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great leaders in Philippine history, it is contrary to most of the evidence of the past twenty-five years . . . The record in the Philippines shows that most of the Filipinos will never benefit from economic growth until fundamental reforms are made.

ELECTRIC POWER AND POLITICAL POWER

The preceding analysis demonstrates that 'total electrification' perpetuates and exacerbates the exploitation of the majority of Filipinos under the export-oriented development program. There is at least a *prima facie* case that the mere provision of more centralised electricity — including nuclear power — will not benefit most Filipinos under the current regime. This conclusion does not advocate or entail a non-electric arcadia for Filipinos as a development objective. Indeed, it says nothing about the potential nature of a benign, equitable, or efficient energy strategy in the Philippines. Rather, our analysis demonstrates that the outcome of current electrification and development strategies is a dark future for the majority.

While electrification in the Philippines may be explained partly by its necessity for export-oriented industrial interests, it also legitimates the Marcos government and cements the class alliance of technocrats, bureaucrats and cronies. The accumulation of political power accompanying centralised power generation must also be analysed to explain the regime's emphasis on electrification.⁴⁶

The program follows directly from the development strategy imposed by Marcos. As a power planning paper put it,⁴⁷

During the period of martial law, decisions are being made to move the country forward economically. If these decisions are firmly rooted and well accepted by the majority at the time elections are once again held, the electrification program will move forward, and the loads for planning will undoubtedly develop and may indeed be exceeded. On the other hand, if martial law is ended prematurely and the economic decisions are reversed, the load may prove too high. [our emphasis]

Nuclear power coincided with the centralisation of the energy bureaucracy brought about to implement this program. Plans to electrify the island of Luzon with eleven nuclear reactors and a number of huge hydro-electric power stations required government consolidation of the country's 436 utilities, the expropriation of the giant Manila Electric Company from Eugenio Lopez, a bitter rival of Marcos, and the integration of all the separate energy administrations into a super-agency, the Minister of Energy.⁴⁸

Electrification and Counter-insurgency

Rural electrification is also an integral component of the counter-insurgency efforts of the regime. USA AID consultant Judith Tendler asserted that the AID-backed effort 'received a major boost from the government because it

was seen as crucial to one of its basic political objectives — to win support away from the communists in the countryside.⁴⁹ This claim was echoed by another AID official, who described the program as 'planting the flag in bandit country,'⁵⁰ and by Marcos himself: 'The social and political effects of rural electrification have been beyond our wildest dreams . . . I would therefore say that electrification has become one of the pillars of stability.'⁵¹

As one Indonesian observer noted candidly,⁵²

When Ferdinand Marcos became president of the Republic of Philippines in 1966, there were many citizens who potentially could become opposition group [sic]. In order to get a strong political basis [sic], he needed a good program that could attract the sympathy of [the majority] . . . From among many suggested programs, rural electrification program was considered the best . . . It [is] assumed that the USA also suggested this program, in addition to Marcos' close assistants. If the program can be fully implement it is expected that oppositional groups will decrease both in cities or in rural areas, and more people will support Marcos Administration.

The programs consolidate the tenuous urban-rural ruling class alliance built by Marcos after the declaration of martial law and simultaneously weaken the power of the opposition. The most ambitious programs of rural electrification are in guerilla zones like Samar, a major stronghold of the New People's Army, and Lanao del Sur, a key base area for the Moro National Liberation

"Nuclear exports have always been seen as a way to reinforce USA international political leadership . . ."

Front. Indeed, the rural electrification cooperative radio system is reportedly the best in the country, and of direct service to the massive military counter-insurgency campaigns.

'Peace-and-security lighting' also makes rural areas inhospitable to rebel forces and directly protects the property of wealthier rural society from informal wealth and income redistribution. Government control of electricity supply enhances Marcos' power over potential dissidents. The AID-supported 'electrical cooperatives' also draw support for the government from the rural middle classes. Co-operative management boards are filled with:

respected middle class members of society, and transmission lines are connected primarily to town centres where small landlords, merchants, and professionals reside. The majority of poorer households in cooperative areas remain unelectrified, except along the roadsides where distribution lines are strung.⁵³

Whether the poor's low priority for electrification, coupled with the local elites' conspicuous personal use of electricity, directly affects the severity of local class struggle — or instead results in peasant-worker disaffection from the central regime — is unknown. Existing studies of local perceptions of rural electrification are oriented towards easing or justifying central implementation efforts and ignore local political contexts and 'envy' effects. A speculative hypothesis is that rural electrification probably exacerbates local disaffection from the central regime in the more politicised rural areas, and possibly consolidates the regime's local hegemony in regions without popular organisation. It is clear, however, that lack of participation in the benefits of nuclear electricity contributed to the intensity and eventual politicisation of local opposition to the Bataan plant.

NUCLEAR POWER AND STRATEGIC POWER

The political rationale of increased electrification does not explain, however, why nuclear power technology was adopted. Aside from the corruption alluded to above, nuclear power confers

prestige upon the regime, fulfilling the aspirations of Filipino technocrats to achieve 'modernity' and unifying disaffected sectors of the ruling class behind a symbol of national development.⁵⁴ Nuclear power also provides the Philippines with the technical means for a long-run nuclear weapons option, the mere existence of which enhances the regime's standing internally and Marcos' standing internationally.⁵⁵

A more immediate strategic factor favouring nuclear power was the USA interest in the Philippines. The USA ambassador to the Philippines underscored the diplomatic importance of the Westinghouse deal in a confidential cable to the USA State Department:⁵⁶

In discussing project [with Westinghouse], I stressed that Embassy considering a great deal of American prestige riding on Westinghouse performance, and therefore we intended to follow project closely. I pointed out that this was in effect Filipino Aswan Dam, being the largest and most expensive project ever undertaken in this country.

In the midst of the negotiations with Marcos on the status and rental of the crucial USA bases in the Philippines, the ambassador was lobbying for soft USA Export-Import Bank loans for the nuclear project, reminding the State Department that Marcos is 'a close friend, ally, and host of two of our most important military bases.'⁵⁶

At the same time, the nuclear industry was on the verge of collapsing in the USA. Involved are the full range of fuel cycle industries, practically all major banks, and an extensive network of subcontractors. Over 1000 firms in 230 cities in 38 states of the USA benefit from a nuclear export.⁵⁷ Fathered by the USA state and raised on state subsidies, the industry has always been influential at the centre of power. Nuclear exports have always been seen as a way to reinforce USA international political leadership by diffusing technological dependence throughout a global *Pax Atomica*.⁵⁸ Accordingly, the State Department unhesitatingly promoted nuclear exports, initially to establish market beachheads for USA vendors, and then to relieve the domestic depression of the industry and to project American strategic power into the region. To this end, the USA Export-Import Bank has sunk over \$7 billion as of 1980 to bankroll nuclear exports including over \$600 million to the Philippines.⁵⁹ Little wonder that John Moore, head of Eximbank in 1980, boasted that, 'Historically, the Export-Import Bank has probably been the nuclear power export industry's best friend in the USA government.'⁶⁰

POPULAR RESISTANCE

The Westinghouse reactor has become an important target of the anti-Marcos forces, for it crystallises in a concrete and highly visible project all the perceived worst features of the Marcos regime: corruption, financial waste,

misguided priorities, technological dependence and massive USA influence.⁶¹ Nuclear power has thus become a major target and unifying symbol for the opposition, shaking some key high technocrats into the anti-Marcos camp, dividing the technocrats internally, and creating a new guerilla front in Bataan for the New People's Army.

Some 'Third World' nuclear proponents have invoked 'national sovereignty' to defend nuclear power. They argue that the international anti-nuclear movement is the unwitting shock troop of sophisticated superpowers seeking to preserve atomic hegemony.⁶² Yet Marcos' nuclear dream was shattered by the citizens of Morong, Bataan; in the words of the Philippines Atomic Energy Commission, 'a whole community . . . [was] roused to take sides against the project' by the insensitive, ham-fisted ramrodding of the project.⁶³

As a result of intense local and national opposition, Marcos' ambitious plan to install eleven reactors was pared down to two. At time of writing, the first plant — plagued by sabotage and poor quality construction — is still under construction; the second plant is still but a twinkle in Marcos' eye.

What worries the State Department and the nuclear industry is the rise of an anti-nuclear resistance as part of a movement against USA domination and linked to USA movements. The Manila-based Coalition for a Nuclear Free Philippines, which grew out of resistance to the reactor, now also demands that the government 'remove all nuclear weapons from our land and dismantle all USA military facilities on our soil.'

Little by little we are learning clearly whose interests the project really serves. By this, we are able to understand deeply that the true nature of nuclearisation is as an instrument of imperialism.⁶⁴

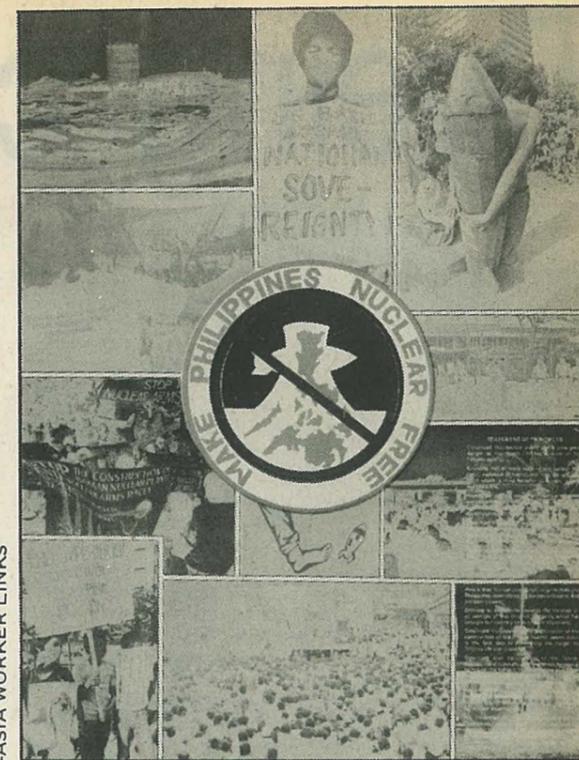
The Philippines Coalition is in turn linked to a pan-Pacific network, the Nuclear Free Pacific and Independent Movement (NFIPM). The NFIPM stands for democratic national independence throughout the region to achieve a Pacific zone free of all nuclear development, commercial and military. The USA State Department has taken note, characterising the NFIPM as the 'biggest potential disruption' to USA strategic interests in the Pacific. 'The United States government,' continued the spokesperson ominously, 'must do everything possible to counter this movement.'⁶⁵

This anti-imperialist, anti-nuclear political stance was generated out of the conditions of struggle in the Pacific. The struggle continues, most recently in the Philippines with large demonstrations at the reactor site despite the repressive, militarised circumstances.⁶⁶ Their struggle — and their politics — invite a response from the international anti-nuclear movement, especially in the USA, Japan and Australia. As the

Electricity is a low priority for the poor.



AUST-ASIA WORKER LINKS



AUST-ASIA WORKER LINKS

Coalition for a Nuclear Free Philippines wrote in 1981:

Our people have drawn lessons from the struggles they have already waged. Though the construction of the plant continues, we have won part of the struggle. Unity and vigilance saw our determination to advance our legitimate cause. Those in a position to put a stop to the project will never do so unless we carry forward with the struggle. Only then can we hope for victory.⁶⁷

AFTERWORD

The Filipino struggle directly contradicts Lenin's philosophical polemic, 'Communism equals Soviet power plus electrification,' and in particular its corollary that capitalist technology will simply be inherited and redirected to socialist tasks. The fight against the reactor implies that nuclear power and other central electrification technologies reflect and embody imperialist domination of the Philippines. It follows that the energy system itself will require radical transformation in a period of socialist transition. In this sense, Lenin's dictum — if it ever meaningfully informed socialist thought about electricity technologies — is irrelevant in the Philippine context.

Finally, in analysing the subordination of nuclear technological decision-making to the struggle for class power in a pre-revolutionary period, we did not investigate technological alternatives under continuing capitalist rule; nor did we speculate about technological options

in an era of socialist transition in the Philippines. Determining what the Filipino liberation movement can or should do about transforming the energy system was not our object here. We believe that such a transformation is not primarily a technical consideration, independent of the post-revolutionary political struggle for class hegemony. Rather, energy technology choices in a socialist transition will be determined by the need to build the class power of peasants, workers and national minorities in constructing a socialist economy. The technical transformation of the means of production will remain, therefore, an arena of class struggle. This technical transformation has not been 'blueprinted' in advance of this struggle, but will presumably be undertaken as the socialist resistance moves to an offensive stage of the liberation struggle.

The technical options to provide energy services — including electricity — are manifold and diverse in the Philippines. But the end-use forms (process and space heat, electricity, mechanical power, etc), and the social and geographical patterns of energy production and consumption will certainly shift when the present government finally comes to an end. All that can be said validly at this stage is that nuclear power and electrification in the Philippines embody the domination over the Filipino people by a USA-

backed government, intensify their exploitation, and accentuate the social conflict engulfing the whole country.

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FOOTNOTES See pages 39 and 40.

Dyeing concern

What chemicals are you particularly concerned about?

In hair dyes the problem chemicals are basically aromatic amines, chemicals very similar to those that were outlawed in the rubber industry 30 or 40 years ago because they caused cancer in people working in the industry. They were made illegal in that context largely because they are absorbed through the skin.

If you look at a packet of hair dye preparation you'll find that it says it's a scheduled poison, keep out of reach of children, and avoid ingestion. Well, that is quite good except the compounds are absorbed through the skin very efficiently.

Skin absorption is much more effective than ingestion. Ingestion probably means that the material would be excreted pretty quickly, whereas in skin absorption it goes right through the blood system. A proportion of women who use the darker hair dyes excrete brown urine because the chemicals that have been absorbed go through the blood stream and get stored in the bladder.

The chemicals I'm talking about are mutagenic in everything they have ever been tested in and they are also carcinogenic. It seems to me that the hair dye industry has had an extraordinary degree of protection, particularly in this country, where some of the materials are not assessed for safety in any way before they are used. They are just used.

Why are you calling it protection?

It's now eight years since attention was drawn to the chemicals involved and nothing has happened to interfere with the manufacture, distribution and sale of these products anywhere in this country. It's a fairly long time for a federal system of government.

Does this industry locally employ many people?

Yes and no. Directly probably a fairly small number but indirectly when you consider all the people in hairdressing salons and so on, probably quite a large number are involved. But the same people could be involved using safer products.

I wonder if those people get any education in their training about the toxicity of the things they use?

I'm not worried about the toxicity of these products. Toxicity as such is not a problem. If people went in to get their hair dyed and suffered toxic effects we would know about it straight away and they wouldn't go back. It's the subtle, slow effects that are not obvious, like the cancer which develops twenty years later or the birth abnormality which might be induced a long time after the mother is exposed to these particular products. Hairdressers don't understand these sorts of problems any more than the average member of the community.

One thing the hairdresser does is avoid exposure to the dyes — they always wear gloves while they slap it on your skin. Hairdressers don't want to have their hands coloured fifteen different shades during the day. And yet when epidemiological studies were suggested on hair dye users it was felt that the most appropriate people to look at were those working in hairdressing salons who used dyes all the time. They are the least exposed unless they actually dye their own hair or apply the dye with their bare hands. In one study I know of it was very difficult to find any hairdresser who actually did dye their own hair. This might suggest something, I don't know.

Do the hair dyes that people

buy over the counter carry any warning?

A lot of the products we are discussing are used solely in the hairdressing salon and they don't carry warning labels at all. Over the counter products usually carry a warning telling you they contain a poison, the implication of that being that if you want to apply a poison to your skin it's perfectly safe. Given that it is absorbed through the skin that implication seems a bit silly, but people don't seem to realise that.

Since 1975 you have been concerned about hair dyes. What has happened since then?

In actual legislative terms nothing as far as one can tell. In some countries there has been action about particular ingredients but in Australia I don't know of anything that has happened. It's a state government responsibility. Federal governments can advise but basically the decision rests with each state.

What is the situation with these hair dyes in other countries?

Well, in Italy a couple of the major ingredients were outlawed some years ago but it is very important to realise that there are still preparations available in Italy that will do the job.

The USA is a very tricky situation. There was a regulation that was going to require a cancer warning on the labels of commercial and over the counter hair dyes. That was prior to the present administration. Chemicals which were carcinogenic under Carter are not carcinogenic under Reagan. That seems to be the philosophy.

Can you tell us what to expect

Dr Don McPhee works with the department of microbiology at La Trobe University in Victoria. Lyn McLeavy is a primary diploma of education student at La Trobe and an environmentalist.

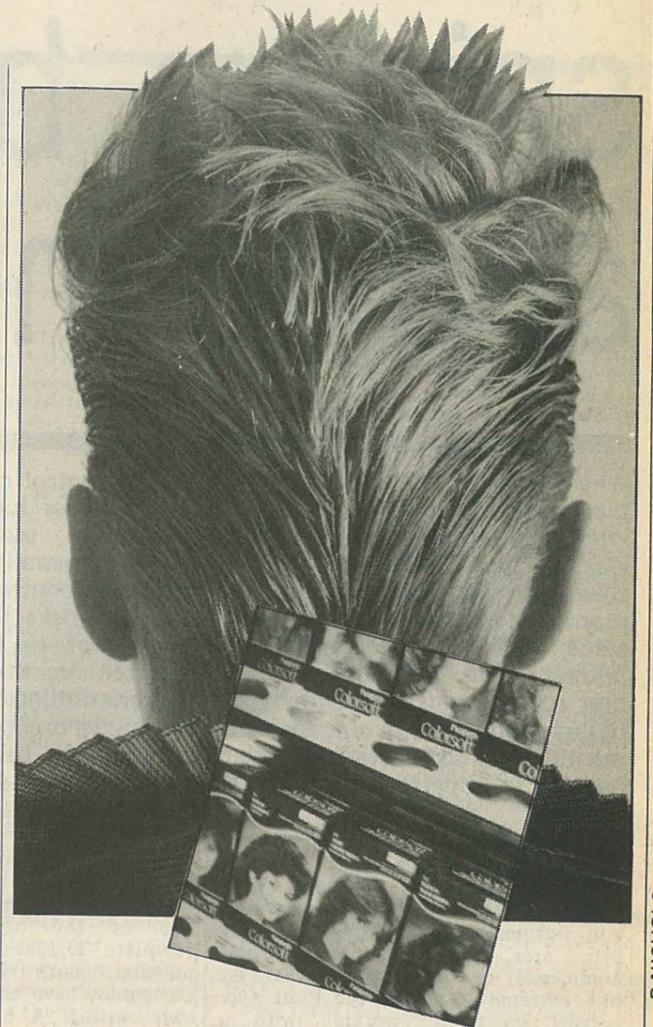
now Victoria has a Labor government. Nothing happened in the last eight years. Under John Cain's government do you expect some changes?

One would like to think that things will change a bit faster. The problem is that in so many of these areas the states have to work cooperatively otherwise you finish up with manufacturers simply shifting from one state to another to avoid regulation. I suspect that this is used as an excuse a lot more than is really justified. What's required in my view is a national approach to these issues.

It's very difficult for people who don't actually work in the field to appreciate that the effects of mutagens and carcinogens don't occur in the lifetime of a government. Unless it's something very dramatic and obvious governments have to be persuaded to act in the best interests of the consumer rather than the manufacturer. They have frequent contacts with the manufacturer and very few contacts with the consumer. It's a fact of life.

One mustn't take the position that everything that is a carcinogen or a mutagen must be banned. You simply can't do that realistically, if only because there are naturally occurring carcinogens in foods and in various other materials which we come into contact with. On the other hand there are certain applications of chemicals which you know from basic common sense are wrong, are inappropriate applications of those chemicals.

I think people have a tendency to assume that if one thing is sold on a big scale, in a big way with lots of advertising, that it must be safe because the government



would have checked it to make sure it was safe. That is absolute nonsense.

But it's a reasonable assumption don't you think?

No, I don't think it's reasonable at all. I think it is an assumption based on an acceptance that a government actually can look after you.

One of the problems with industry and government is if a compound is pretty well innocuous in the sense of not being terribly toxic then they don't want to do anything about it. And there are a lot of chemicals around that are probably going to turn out not very toxic at all but

extremely dangerous carcinogens. The attitude of government at the moment is that you have got to show toxic effects in order to be able to give them something to work on. It's a nonsense. They should know it's a nonsense but they don't. That's where the difficulty arises in getting any kind of regulation.

Action: Letters and enquiries should be sent to ministers for health in your state requesting action on hair dyes. For further information see Dr Joseph Hanlon, 'Tint of Suspicion', *New Scientist*, 11 May 1978.

In the late 1970s, publicity was given in overseas and Australian media to evidence suggesting that substances contained in some hair dyes, rinses and tints can cause cancer and birth defects.

Hair colourers have been used for thousands of years and synthetic hair colourers for nearly a century. But only in the past twenty years has hair dyeing become widespread. By 1971, 40% of adult women in USA were regular users.

In 1978, the Union of Australian Women (UAW) organised a campaign directed at the Victorian state government calling for action on the suspect chemicals. Although hair dyes are used by both men and women, women are the most frequent users. As the UAW recognised, 'women face many pressures to dye their hair — young women are told that a change of hair colour will enhance their appearance, older women that they must look young to be attractive. Many employers won't employ grey-haired women.'

The UAW demanded that the government investigate hair dyes and withdraw suspect chemicals, and legislate that hairdressing salons warn customers of the possible dangers of hair dyes. As Dr Don McPhee reports in this interview conducted by Lyn McLeavy for *Chain Reaction*, little has been done in recent years to regulate the hair dye industry following this publicity.

Cockroaches, ants, spiders, borers and termites

When insects get in the wrong places they become pests, and a whole armoury of chemical weapons are unleashed against them. Many of the chemicals commonly used in Australia are among some of the most hazardous to human health. Their use in urban pest control adds substantially to background levels in the environment. They also constitute a direct hazard to operators and their clients.

Pest control constitutes a thriving business for the many controllers in metropolitan areas around Australia. How well do these pest control companies consider the risks involved? Can we afford not to know how they operate? In this article Robert Verkerk outlines a disturbing story of the ignorance and irresponsibility on the part of pest control operators and government regulatory bodies in Sydney.

In the Yellow Pages of the Sydney telephone directory there are over 300 listings of pest control companies and businesses which operate in the urban area, in both the domestic and commercial sectors of the market. At one extreme in size is the local one-person operation, working with a very limited amount of equipment and chemicals, often from the family station wagon. At the other extreme are the operations with a fleet of supposedly well-equipped, radio-controlled vehicles with 'trained technicians' at the helm. Of the 300 companies only three, namely W A Flick and Co, Rentokil and Antipest (Aust) are national with branches in all the major metropolitan areas. The vast majority are small to medium-sized businesses.

Robert Verkerk is a graduate in applied entomology, and has worked with two of the larger pest control companies. He has recently set up Systems Pest Control which is attempting to carry out urban pest control in a socially and environmentally responsible manner. He is also a member of the Toxic and Hazardous Chemicals Committee of the Total Environment Centre.

The quality of these operations varies greatly and professional responsibility is not necessarily reflected in the size of the organisation. Without adequate legislation and appropriate policing, both larger and smaller companies have their own systems for cost cutting. A basic fact facing the urban community and environment is that at present the most utilised tools of the pest control trade are some of the most hazardous compounds to which humans can be exposed. Where irresponsibility in their use is the order of the day then we must begin to show concern.

Concern for environmental contamination by pesticides has, in most countries, tended to focus on agricultural pesticide use. Urban use of pesticides does not have the high visibility of rural usage, perhaps because urban pesticide application takes place in a myriad of small operations, generally unnoticed and unrecorded. Certainly the level of rural chemical use is relatively high by comparison, yet the environmental and human contamination from urban usage has been shown to be



R. NICHOLS

RENTOKIL

Clients are often, very wrongly, told, 'it's fine once it's dry'.

considerable. That a widespread and high level of exposure can and does occur as a result of such usage is well illustrated in a survey conducted in Queensland in 1973. An abnormally high concentration of dieldrin (one of the more hazardous organochlorine pesticides) in human milk was reported with no significant difference found between levels in urban as compared to rural samples. Ruling out possible contamination from extensive agricultural spraying, researchers could only conclude that the overall exposure could have only occurred from dietary intake and domestic use. (See 'Breast milk: A source of more than nutrition', *Chain Reaction* 31.)

It is also a matter of fact that the urban sector of the pesticide industry is far from being socially or environmentally aware or concerned. This article is a comment on pest control as it is conducted in the Sydney metropolitan area. This is a subjective account by someone who has studied and taught applied entomology at university level and who has had wide experience with two major pest control companies in Sydney as both operator and salesperson.

The most commonly used chemicals, in order of increasing risks to humans and the environment and decreasing cost, are the synthetic pyrethrum, organophosphates and carbamates, and organochlorines. Of particular concern are the organochlorine pesticides which include chlordane, heptachlor, aldrin and dieldrin. Unfortunately, due largely to their low cost, the most frequently used organochlorines in the pest control industry are aldrin and dieldrin, the more hazardous of this group. The acute toxic effects seen in humans following exposure to large doses of organochlorines have been well documented. Such heavy exposure is an everyday risk for pest control operators in New South Wales.

The characteristic properties of these compounds that have led to their extensive use are also the focus of concern for their hazard to health. These properties, in addition to pesticidal activity, are chemical stability, high fat solubility and resistance to biological breakdown. This means organochlorines are very stable and persistent in the environment, are taken up into living species and stored in fatty tissues, and become concentrated in animals and humans through the food chain. Of equal concern to both operators and the

general public is the fact that delayed and often irreversible effects may occur following exposure to these chemicals. These include mutagenic, carcinogenic and teratogenic effects as well as damage to all kinds of organs and bodily processes including the immunological, reproductive and neurological systems.

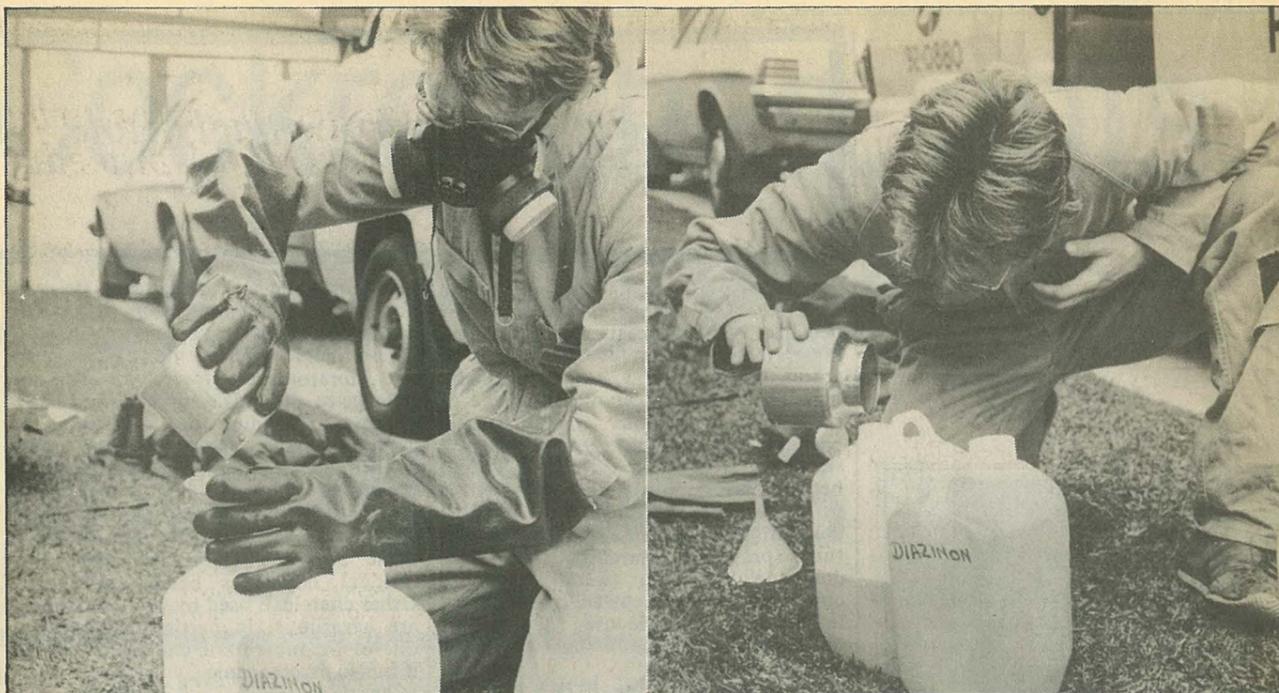
The organophosphate compounds are promoted as non-residual or marginally residual alternatives to organochlorines. They are however very much more toxic and the claim for their low-residual nature is being questioned. Other chemicals used by pest controllers are hazardous. In particular is arsenic, one of the most toxic chemicals known; it is also carcinogenic.

While most other 'advanced industrial nations' have prohibited the use of organochlorines, Australian legislation allows commercial use for a wide range of purposes, including the control of cockroaches, ants, spiders, borers and termites. Chlordane can even be used in interior areas for the control of carpet beetles.

One of the main ways in which urban pesticide usage differs from rural usage is the concentrated application of large quantities of chemical in a circumscribed area. Much of this application is unnecessary. For an average domestic residence with no evidence of any pest as much as 100 litres of 0.5% concentration dieldrin will be dispensed for an annual maintenance treatment. As much as 800 litres of 0.5% may be used for a termite treatment, again only as a preventative measure.

Backyards get flooded with organochlorines in an attempt to get rid of fleas and eaves of houses are sprayed to prevent harmless spiders from constructing webs. Many companies advertise their services playing on people's fear of the funnel-web spider, a danger exaggerated out of all proportion. This pest control 'advice' is erroneous. Ground dwelling spider treatments, despite the large quantities of organochlorines do not usually kill funnel-webs, but rather disturb their normally harmless nocturnal habits thus making them a greater hazard. The treatments do, however, destroy a good proportion of the soil microfauna necessary to maintain healthy soil as well as rendering the soil too polluted for vegetables and other food plants for human consumption.

Subfloors of timber-floored houses are probably the most frequently treated



R NICHOLS

Safety procedures are often ignored in the handling of toxic pesticides. Left: The right way — wearing gloves and respirator, and using a funnel to pour the chemical. Right: The wrong way.

areas. Often no attempt is made to remove items stored in these areas prior to treatment so they become covered in organochlorine residue. Clients are often, very wrongly, told 'it's fine once it's dry'.

Although it is illegal, organochlorines are not uncommonly applied indoors, particularly against termites and common ants — the obligatory arsenic treatment is so rarely effective that operators are tempted to use organochlorines. One particular company, considered by some to be the most qualified in the industry, deliberately infringes both the Pesticide Act and the Pure Food Act. In order to control termites in factories and warehouses they spray the surface of concrete slabs with organochlorines. This company has found that the normal procedure of drilling the slab and injecting the organochlorines too time consuming so they have resorted to this particularly hazardous if 'cost-efficient' procedure.

Other procedures are also questionable. Internal treatments against such pests as German cockroaches, fleas, carpet beetles, clothes moths etc. require that specific areas be treated. In the past, treatment generally involved use of liquid sprays and dusts. Recently there has been a trend toward use of pesticidal aerosols and mists which are less labour intensive. When a mist is sprayed in this way all areas, including hard to get at corners, cracks and crevices, are treated simultaneously. One particular aerosol containing, as active ingredient, the organophosphorous dichlorvos (DDVP) — Insectigas, manufactured by CIG — has become extremely

popular due to its high penetrating ability and toxicity. It is also relatively highly volatile so it is claimed to be non-residual. The success of several companies is due solely to their competitive advantage in adopting the dichlorvos 'gassing' technique (as it is known).

Operators who use this product exclusively have come across numerous incidents which strongly suggest that the compound is residual. In one incident a caged bird died after being brought into the premises 48 hours after a 'gassing'. Clients frequently complain of difficulty breathing the night or day following treatment. 'Gassings' have also, incidentally, given good control of common ants which infers a residual property since ants generally gain access from outside. Practical evidence seems to indicate the aerosol is particularly residual on porous, textured surfaces such as blankets, carpets and sheets. The implications from the standpoint of human hazard are quite clear.

A further development in this sorry story is that with the increasing price of DDVP aerosol as it is manufactured, operators are adapting equipment that produces a considerably larger droplet size which is likely to make the whole operation even more hazardous. The economic incentives for pest controllers to adopt such cost cutting measures is high. At whose expense?

As the industry stands, experience and training does not on the whole lead to social and environmental responsibility. Experienced operators can, and do, pick up bad habits, and training is often carried out by operators

and 'technical experts' who themselves flaunt even existing legislation. Operators can be given the full responsibility of a vehicle containing an arsenal of highly hazardous chemical with as little as one week's 'experience'.

The only officially recognised course in Sydney is at Sydney Technical College. This is not a compulsory course for pest controllers. Despite the generally good quality and content of this course, operators find that back at work they are forced to carry out treatments against their training advice. Particularly controversial at present is the blanket spraying against spiders.

On the other hand, teachers on the course have often commented that the majority of students appear to show no interest or concern about the extremely hazardous nature of the chemicals they handle in their everyday work. This is perhaps understandable when one considers the lack of concern shown by the appropriate government bodies and managements within the industry.

Training, when it occurs outside the Technical College appears far more pragmatic. For example, I quote the description of the new technician and owner/technician course offered by the Pesticide Co, distributors of pesticides and pest control equipment:

If you have just put a bloke on, you're going to, or you've just joined the industry as an owner, we've just the course for you. In just two days we can give a bloke a basic understanding of the legislation; the pesticides and what they do, don't do and how to use them safely; the main pests and how their life cycles, habits and damage can be recognised and considered when choosing the pesticide and equipment in the particular circumstances,

If operators are the guinea pigs for urban society then their altruism is misplaced.

and how to calculate dilution and application rates and how to relate to your customer. This drastic improvement in a person's knowledge and outlook on pest control is really a \$250.00 investment in your company's ability to provide better, safer service to your clientele and a big reduction in the risk of technicians stuffing up a job, staining or damaging property and poisoning themselves, your clients or their pets.

The lack of proper training does not equate well with the provision of a service that entails significant legal responsibility. Proprietors are advised to insure heavily, by Geoff Burge, solicitor to the United Pest Control Association (UPCA):

The risk is too great not to be covered for \$1-\$2 million public liability especially when the industry handles such emotive pesticides in people's homes. And be covered for professional indemnity, an area of increasing risk where as pest professionals, advice (even verbal) is part of every day's activity.

The Department of Industrial Relations recommends that operators have six-monthly check-ups to determine the concentration of pesticides within their bodies. Operators employed by smaller companies, or the self-employed operator often forgo this recommendation.

Tests that are done monitor only acute and sub-acute toxic effects. Delayed effects are not investigated with appropriate follow-up checks. Operators are reassured by a 'she'll be right mate' approach. The level of risk is unclear at present because of the lack of proper research. Data should be collected on delayed effects, and follow-up should continue even when individuals cease work.

If operators are the guinea pigs for urban society then their altruism is misplaced. Few in the pest control industry have union protection and government concern does not appear to extend far.

Which bodies are responsible for legislation relevant to the pest control industry in New South Wales? There are two. Firstly there is the Department of Agriculture, which has been responsible for the Pesticide Act of 1978. This act, referring to both the agricultural and urban sectors, deals with such matters as registration, labelling, containers, disposal and so on. This legislation is far from adequate, particularly with respect to registration: chemicals which have been banned for most uses in other countries, eg organochlorines, thallium sulphate, can still be legally

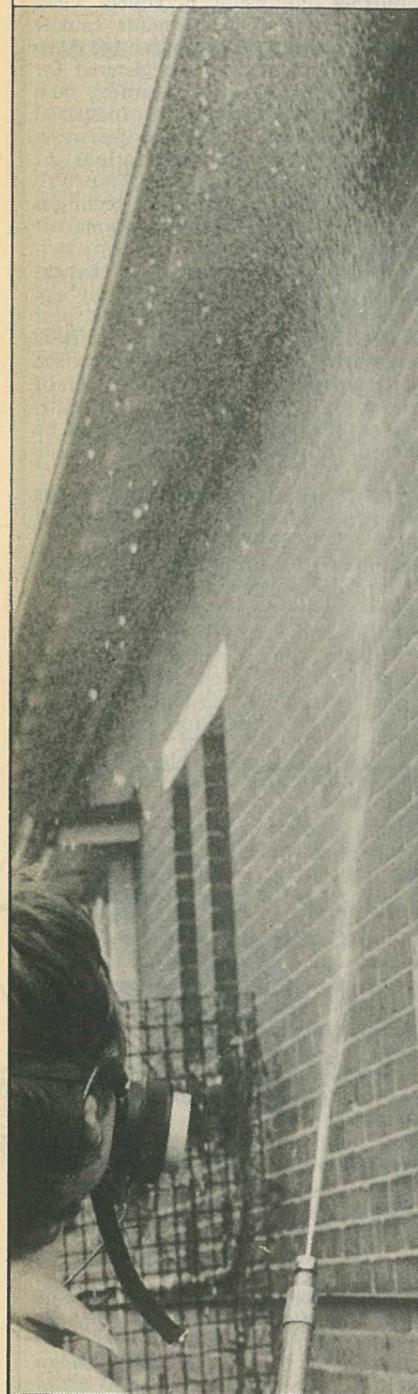
used for a wide range of purposes in New South Wales.

Secondly, there is the Department of Industrial Relations (originally the Health Commission), which has produced the 'Hazardous Pesticides Regulations' which deal with storage of pesticides, the setting up of vehicles, and only a recommendation — not legislation — that organochlorines, should not be used in areas with direct human contact.

It is these two bodies that are most responsible for the abysmal mess that is New South Wales' urban pest control legislation. There is no legislation at all defining acceptable standards of equipment. Substandard equipment is commonly used even by the larger companies, and this can add substantially to the hazards. For example, inferior equipment can give a very poor distribution of spray causing a significant 'drift' of smaller droplets. This is of particular concern with external applications such as the treatment of eaves, fences, or backyards. It is generally the operator who is at greatest risk. In the case of guns used in aerosol spraying, it has been found that the droplet size produced increases due to rapid deterioration of the gun through normal use. This consequently causes the aerosol to be more residual since the chemical takes longer to evaporate.

New legislation is necessary to cover both the registration and regular testing of equipment. Apart from the major items of equipment such as sprayers, it is also necessary to consider minor items such as hoses and hose connections. Failure of these smaller items of equipment can lead to the most horrifying situations. Low pressure hoses and connectors are often attached to high pressure equipment (generally used to apply organochlorines). Hoses can and do rupture, drenching humans and the exterior of premises with large quantities of extremely hazardous chemicals.

There is a very limited level of policing for the little legislation that does exist. This onerous task is carried out by health inspectors who are meant to show concern over pest infestations and hygiene in commercial premises; and a handful of pesticide inspectors who determine the presence of chemicals with the object of ensuring that only registered chemicals are applied in an acceptable manner. With recent financial cutbacks the shortage of inspectors is acute. The situation appears to reflect

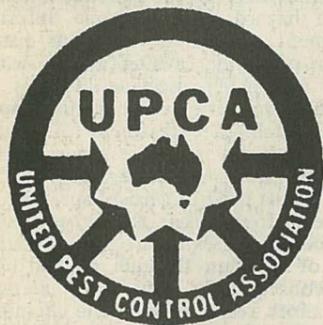


Spraying of house eaves.

an overall lack of concern of, if not individual officers, then at least the bureaucracy overall, as well as the appropriate government ministers.

As a pest control operator I feel the employment of these inspectors is a token gesture that supports industry more than protecting the rights of employees, householders and consumers. In one major company in which I was employed, it was common to hear of salesmen finding commercial premises badly infested with pests, whose proprietor apparently had some form of arrangement with the health inspectors, an arrangement which allowed them to avoid heavy fines for dirty premises without being forced to order pest control treatment. With proper legislation, treatment less hazardous than the pest would not only be more possible but more uniformly enforced to the benefit of all.

Legislation in New South Wales is poor even in comparison to legislation in other states of Australia. Despite the National Health and Medical Research Council's recommendations in 1978, only South Australia and Victoria require recognised qualifications for pest control operators. In South Australia firms must also be licensed.



Licensing of pest control operators will be introduced in New South Wales in 1984. It is understood in the industry that anyone who has been in the business for over three years will automatically be granted a licence. This would include most of the present offenders.

With respect to environmental protection from pesticide contamination, Western Australia now has the most advanced legislation in Australia. Organochlorines in Western Australia are restricted to the control of subterranean termites and cannot be used above ground for any purpose. They are applied by surface soil insertion only. In Sydney where many houses have tight subfloors this method is impractical and unfortunately this fact is used as an excuse by both industry and government for not changing state legislation. Yet it would be simple enough to legislate to allow the above ground spraying of subfloors with residual chemicals in the control of active termites or borers only, provided the subfloor was shut off and not used following treatment. Any person requiring access to

No research is being conducted on non-organochlorine alternatives for Australian requirements.

the subfloor during the residual life of the chemical (often up to 30 or 40 years), for example, electricians, plumbers or telephone repairers, should do so only wearing full protective equipment including a respirator, to prevent contact with, or inhalation of, contaminated dust.

There are attempts towards self-regulation in the industry. After a report was published by *Choice* magazine (Australian Consumers Association) self-regulatory associations were set up in several states. In New South Wales however only one-third of pest control firms are members of the United Pest Control Association (UPCA). Economic factors play a significant role. Pest control is a highly seasonal business with the most work in summer which finds companies operating in furious competition, desperately undercutting one another. During winter months, single operators often look for alternative work such as gardening. Many remain unemployed, including employees of the larger firms which have a policy of 'putting off' their employees in order to reduce their overheads. Employees are not in a bargaining position.

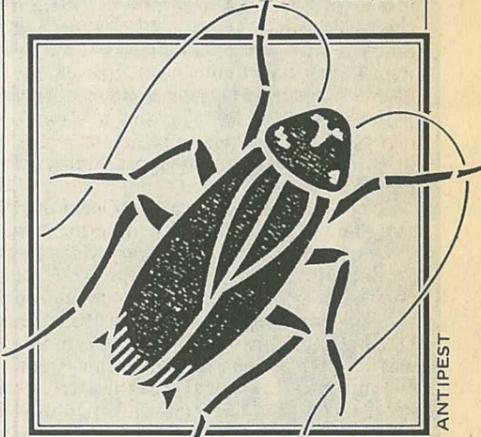
No research is being conducted on non-organochlorine alternatives for Australian requirements. An example can be given of a safer, alternative formulation available in the United States of America which is not being actively promoted by the Department of Agriculture. Only persistent enquiry has elicited information from the manufacturers, Dow Chemical, that this formulation (chlorpyrifos, a residual organophosphate) is proposed for registration against termites in 1984. At present the introduction of this chemical appears more of a public relation exercise on the part of Dow as the price of the formulation will be twice that of the cheapest, most commonly used and one of the most hazardous compounds, aldrin. At \$400 for 20 litres, how many pest controllers will use this safer formulation voluntarily.

A final irony is that if any pest control firm or operator felt moved to consider safer alternatives in some areas of pest control, they may be prevented from doing so by the 'protective' legislation. Through Department of Agriculture regulations you can, technically, be fined for using a registered chemical for an unregistered use.

Further confusion is added when even government departments cannot agree. With the Department of Agriculture chlordane is still registered for carpet beetles. A query regarding such use to the Department of Industrial Relations elicits a horrified response. Similarly, some recommendations of the Standards Association leave much to be desired when they include technical directives but no considerations of health and safety.

The most obvious legislative changes that should be made immediately are to restrict treatment to active pest infestations only, to stop routine preventative treatment. Inspectors are also required to check any report of termite or borer infestation. Alternatives to chemical treatment should be adhered to where possible as a basic policy.

The Toxic and Hazardous Chemicals Committee of the Total Environment Centre (Sydney) has formed a sub-committee to study the whole problem of pesticides in the urban sector. Where these environmentally persistent chemicals are used they are known to accumulate and overall levels are increasing. Use of such large quantities of such hazardous substances for non-essential use is little short of criminal.



Contacts: Toxic and Hazardous Chemicals Committee, Total Environment Centre, 18 Argyle St, Sydney, NSW 2000. Tel: (02) 274714

Food Justice Centre (Amanda Carter), Friends of the Earth (Collingwood), 366 Smith St, Collingwood, Vic 3066. Tel: (03) 419 8700

See also 'Pest Control Companies', *Choice*, Journal of the Australian Consumers Association, vol 24 no 9, September 1983.

The big boat race

The visit by a USA naval fleet, including the world's largest warship, to Perth in July 1983 was described by the media as 'a peaceful invasion'. However the role of the thirteen warships making up the fleet (three of which are nuclear-powered) and its 200 nuclear weapons and 9000 sailors is far from peaceful. Mark Delmage looks at the reasons behind the USA military build-up in the Indian Ocean region.

If we were to revisit the USA 90 years ago we would find it to be an emerging economic power. In the following ten years it would expand its influence through the Caribbean, Central America, Alaska, Hawaii and South East Asia.

Of particular interest to the Indian-Pacific region were USA activities in the Philippines. In 1898 the USA dispatched over 100 000 soldiers to a country where in a colonial war it killed 200 000 Filipino resistors. The intent of the USA was not to liberate the Philippines from 377 years of Spanish rule but to gain a foothold in Asia. Today the Subic naval base is one of the largest in the world and, together with naval facilities in Japan and Hawaii, makes the Pacific a significant region of USA influence and its most important trading area.

Until recently the Indian Ocean had remained beyond the reach of permanent USA naval forces. However with the establishment of the North West Cape communication base in Australia and the development of the naval base on Diego Garcia in the Indian Ocean this was to change. The Indian Ocean region encompasses a third of the world's people and strategic materials including Middle East oil. As in the Pacific, the USA will use its influence to oppose liberation and independence struggles wherever it perceives its economic or strategic interests threatened.

Australia's role as an ally promoting

Mark Delmage was an organiser of the Fremantle rally against visits by nuclear ships, and helped in the preparation of a submission by the Workers Information Research Centre to the Fremantle City Council entitled 'Strengthening the Nuclear Free Zone'.

USA hegemony in the region should not be underestimated. Politically and diplomatically we are not at odds with basic USA interests. We supply essential back-up mechanisms which enable a continued military build-up in the region. These include communication bases and landing rights for nuclear bombers en route from the Philippines to Diego Garcia. Rest, recreation and supply facilities in Western Australia support elements of the 200 000-strong rapid deployment force and visits by aircraft carrier task forces.

Regional criticisms of these developments are not new and worldwide anti-nuclear sentiment, combined with hawkish USA government attitudes, have reinforced local feelings. A focus was given to these reactions with early notification of the visit of the USS *Carl Vinson* to Perth in July 1983. The recently formed Fremantle People for Nuclear Disarmament group began to organise a 'linking of hands' in the port area and successfully sought Fremantle City Council support for a march and rally in Fremantle streets. Predictably newspaper editorials supported the visit and gave much attention to possible economic benefits flowing from sailors on rest and recreation.

On the day about 5000 people participated in what was the first rally of its kind held in Western Australia. One of many other protests resulted in the arrest of six after a civil disobedience action on the wharf.

It is significant that the visit by the *Carl Vinson* was made possible only through a revision of 'guidelines on visiting warships' in December 1982. Mr Scholes then shadow minister described this revision as 'only downgrading existing unsatisfactory safeguards'. However more recently as minister for defence he claimed that 'warship visits are contingent on stringent environmental precautions being taken'. It has been suggested in Perth that now the largest of the surface

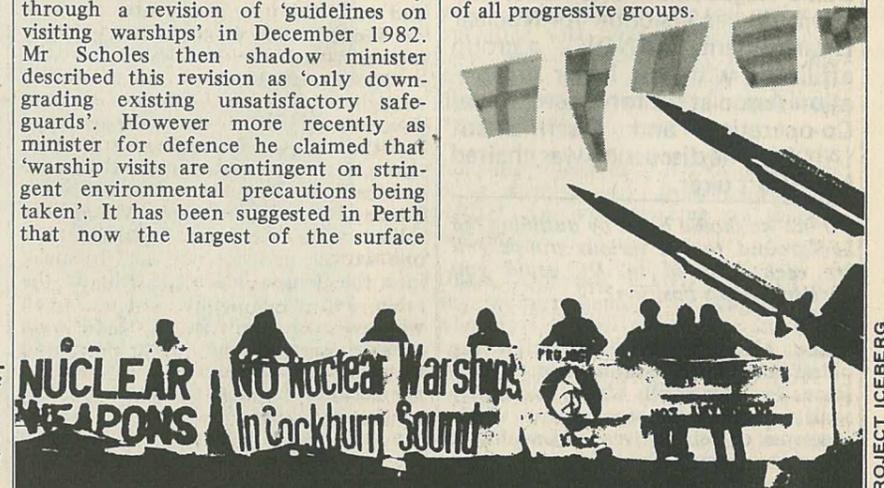
warships are allowed into Australian ports it is only a matter of time before ballistic missile submarines (such as Trident, Polaris and Poseidon) also visit our ports.

Meanwhile Australia remains tied to the ANZUS treaty and gives de facto support for an American military build-up in the region. What is not being discussed is the effects this is having on our neighbours' perceptions of us. Mr Hayden's recent calls for closer ties with our Asian neighbours does at first appear logical and progressive. However if these ties entail support for client American states such as the Philippines and military support for the Indonesians at the expense of the East Timorese we must realise that very little will have changed.

Yet Mr Hayden's comments will remind the peace movement of the need to popularise and integrate local, regional and global perspectives. Undoubtedly there is broad community awareness and concern for many of these issues, yet they remain unpopular subjects for discussion among many sections of the peace movement.

Social justice and peace are parallel issues and need to be understood as such if the movement is to progress. Failing this there is the possibility that if arms control agreements are reached in Europe then the momentum of the peace movement here in Australia will be lost.

This widening of the debate is not simply the prerogative of the peace movement. It will need the involvement of all progressive groups.



Womens actions for peace

During 1983 a number of womens action groups formed in Australia around the issues of nuclear disarmament and violence. At the same time many women involved in the peace movement generally have decided to organise autonomously. To a large extent they have taken inspiration from the Greenham Common peace camp in Britain, one of the largest and most longstanding of a series of international womens actions. Pine Gap, a USA communications base near Alice Springs, is the focus for a womens peace camp planned for November this year.

We publish here an edited transcript of a discussion between four women representing some of these groups in Sydney: **Georgina Abrahams** from Women's Action Against Global Violence (WAAGV) and Women Against Violence and Exploitation (WAVE); **Annique Duc**, also from WAAGV; and **Diane Hague** and **Mavis Robertson** from Women's Action for Nuclear Disarmament (WAND) — a group affiliated with the larger organisation Association for International Co-operation and Disarmament (AICD). The discussion was chaired by **Trish Luker**.

I think we should begin by outlining the background to the various groups you are each involved in. Di, could you explain AICD's position?

Diane AICD is probably one of the oldest non-aligned disarmament organisations in New South Wales. It's highly structured and incorporates a whole spectrum of perspectives — from church groups to unions. Some members have been involved in the Women's Inter-

national League for Peace and Freedom (WILPF), which is a fairly, well I'd say, middle-class group, but has been going for a long time. The unions include the NSW Teachers Federation, the Public Service Association and the Metal Workers. There are also people who are involved in the Nuclear Free Pacific Movement and Pacific Peace-maker.

Last year we established the group WAND within AICD. It was set up because women members perceived the need to operate and organise autonomously within the AICD structure. This is something which AICD has recognised as important, and they have been organising in a less hierarchical and bureaucratic way this year.

Georgina, could you outline some of the background to the establishment of WAAGV?

Georgina It began in February just prior to the federal election, when some of us felt that male-dominated politics was not addressing those questions which women saw as important: the nuclearisation of the Pacific and Indian Oceans; the continuation of uranium mining; lack of recognition of land rights; defence spending at the expense of social need; violence against women and children; unemployment; and lack of funding for women's refuges and rape crisis centres.

These were some of the things we thought the prospective new Labor government should concern itself with, but they were sidestepping all of these issues. So we organised a 200-strong car cavalcade to Parliament House on the Sunday just prior to 5 March. We tabled our own bills and legislation and one woman actually managed to sneak into the Senate, place the bills on the table and then climb out an open window unnoticed! Most of us were outside singing and when she told us what had happened nobody believed her because there were cops everywhere on the steps. But she had, and that was the beginning of WAAGV.

Diane Since WAAGV has been

established, a number of women are involved in both that and AICD — we are very supportive of what WAAGV is doing.

Georgina I imagine that the reason why WAAGV has attracted so many women is because it is not attached to any particular organisation. That's not a criticism of WAND, rather it represents the positive strength, charm and universality of WAAGV in its non-alignment with any single party of '-ism' or dogma. It's an area where women can come together and tackle the issue of global violence — the focus being primarily the nuclear issue.

Annique Those women who initiated WAAGV had actually been involved for a long time in a group called the Women's Political Coalition. A great deal of research had been conducted on issues which are important to women — particularly those related to violence such as poverty and prostitution. We had approached political parties, specifically the Democrats, for support, but they largely ignored the work we had done. The initiation of WAAGV was, for me, one step further than political lobbying.

Georgina Taking the politics and lobbying out of the traditionally safe arena and transforming it into something more dynamic and threatening — like protesting at Pine Gap, Roxby Downs or outside Parliament House.

In May this year WAAGV organised a women's camp at Lucas Heights. What happened there?

Georgina The decision to go to Lucas Heights was made at a conference we held in Canberra in early April. The camp marked Women's International Week for Disarmament and we chose Lucas Heights as a focus because we see it, as a research reactor, being an important part of the nuclear fuel cycle and because a great deal of what happens there is hidden by the Atomic Energy Commission. The camp lasted two days and about 150 women



T. LUKER



attended, some of whom had never really been involved in the anti-nuclear movement. It was a wonderful weekend, with workshops and folkdancing.

Do the women who are involved in WAAGV have quite different political perspectives and priorities individually while still working collectively within the group?

Georgina Yes, although the focus for us is primarily the anti-nuclear movement, whereas for WAVE, which also began this year, the focus is on issues such as pornography, using consciousness-raising, self-defence and street theatre. There are women who are involved in both groups, and WAAGV is certainly aware that violence exists on a continuum — a mentality that will rape women will rape the earth.

Annique I'd like to add also that, for me, it's two things: a great learning experience being involved but at the same time it's a motivating experience to work with women. I think that's the most powerful thing about WAAGV. A lot of women come into it because they are attracted by the anti-nuclear emphasis but then many of them discover a whole other area of interacting with women and this is, for me anyway, the most valuable thing.

The fact that it's autonomous?

Annique Yes, and also the spirit of the group is one which can envelop all sorts of women. It's the only feminist group which I've been involved with which seems to be able to do that without alienating anyone.

This raises a question I wanted to ask and which relates particularly to WAND. Was the group formed because women were experiencing problems within AICD?

Diane Well, I think it's the same as women organising autonomously anywhere basically; there are real problems operating with men. Women's perspectives are different from men's and AICD has been very male-dominated, like most other well-established organisations.

Have the objectives of WAND developed in a distinct way from mainstream AICD? Are you working on specific campaigns?

Diane Although WAND is open to any women members of AICD, those who have tended to become involved have a feminist perspective — it could be a perspective on anything AICD is doing. In terms of campaigns, we aren't working on anything specific at the moment, although we propose to do some 'histories'. I think this is important in terms of the women's

movement as a whole. We talk about the first wave and some nebulous second wave but I think we do tend to lose our herstory. There's a lot of herstory in the peace and disarmament movement in Australia. I'm thinking particularly of things like the Save our Sons campaign during the Vietnam War. AICD itself covers a range of experiences which go back a long way and we want to retain these experiences from a women's perspective. It's also crucial to ensure that the herstory doesn't get lost now. The Pine Gap peace camp that WAAGV is planning will be a major initiative.

Georgina In WAAGV we have found it very politically empowering for women to act together. There's very little mind-censoring when women act and form initiatives and that flow, that creativeness has become an important part of WAAGV. I feel that it is truly liberating for men if they can take that initiative and mobilise together too. Two mens' consciousness raising groups have developed, helping to provide sensitive male support for the Pine Gap action.

The media has been particularly sympathetic to women's actions in the disarmament movement. Do you think this is because they are able to capitalise on the notion of women as carers and nurturers? I feel that Greenham Common was represented in this way particularly, and in many respects they seem to be conscious images on the part of some women involved.

Mavis This also came through very clearly with the *Pacific Peacemaker* project. It was always Lorraine Ethell, mother of four children, never Bill Ethell, father of four children. To some extent I'm confused because I know that this projection of Lorraine did lead to a lot of women identifying with a really courageous activity. What I mean when I say I'm confused is that from my notions of feminism I feel resentful of that type of portrayal and yet in a sense it's almost inevitable. In many ways that's why the early WAND discussions began - for women, including Lorraine, who felt under pressure from working in an organisation that really does take male values - both AICD and the peace movement in general. It's like everything else politically - when women assert themselves they are more resented, resented because they aren't traditional women, and then being constantly checked on by men.

Some women are becoming politicised by their involvement in the issue of nuclear disarmament but it is also attracting many feminists, who have been involved politically in the women's movement and who have decided now to give priority to these issues.

Diane Yes, it's seen as much more of a threat now, when Reagan is talking about a limited nuclear war - a winnable war with nuclear weapons. I feel the reason why socialist feminists, particularly, didn't become involved in the peace movement earlier is related to that issue of 'women as carers'. If you are trying to challenge the way patriarchy wants to see women then you don't want to get involved in notions of 'women for peace' and 'mothers for peace'. Now, however, we are getting involved because we don't want ourselves to die.

Annie I think there are different levels of feminism and that for some women to be out there with their kids actually doing something is a really strong action. I can say personally that it was when I started to see the inter-connection between the patriarchy and the annihilation of this planet that I started to relinquish some of my involvement in other groups. This is the difference for me between a group like, for instance, Greenpeace and WAAGV.

Mavis I think there are two elements to it. In a sense the aspect that the media latches onto - women as mothers, women looking to the future - is the reality, since almost everybody does have a family. Maybe they don't have the traditional family of man, woman, nice boy, nice girl, but so far most of us haven't come out of a test-tube, and there's a sense of continuity which seems stronger among women than men.

The area where feminists have come together seems to me to be twofold. In Sydney, in 1974 as I recall, the women's movement held a conference on women and violence and as material to advertise this was a list of various aspects of violence one of which was 'the atom bomb'. So, in a way we've been developing as part of our consciousness that there is a direct connection between the use of physical violence and nuclear bombs. The other aspect of it, which I don't think we've addressed very much is that the women's movement, if it is situated anywhere, is situated in the notion that you have the right to control - to control your own body and you ought to be able to control your own future. The one thing which really stands in the way of control is the nuclear arms race.

If that is developed strategically then it is quite possible the response, particularly from the press, will be different.

Mavis I think the notion of women as carers is going to become less important and women taking control more significant and then I think the media will

take a different attitude.

Georgina It depends on what sort of control you want to exercise. Certainly when we address questions of the patriarchy and ways of organising, men feel threatened. Some men are taking the steps towards recognising their male ways of thinking and acting and many are consciously attempting to refute their privileges. I believe very much that the women's movement is the spearhead of a new progressive society and that the most revolutionary step that both men and women can take is to liberate our concern so that it extends beyond our own personal welfare to include all of life and the universal family. If we can make that leap in consciousness then we're really challenging the way society wants us to think.

This also raises another point. Disarmament is an international concern but in Australia it raises unique and specific issues - particularly in its relationship with the black movement and to the issue of land rights.

Annie WAAGV came smack up against this recently in trying to plan the action at Pine Gap. The idea had emerged at the conference in Canberra, but we hadn't really addressed any other issues except what WAAGV had proposed to do there. We soon realised of course that it was necessary to get permission from the traditional Aboriginal owners to camp there. Lately a very acute awareness has been developing about the relationship between the land rights struggle and what we're doing at Pine Gap. Some of us went to Alice Springs recently to discuss and plan the action and the first thing that was evident on arriving was how different the town feels to say Sydney or Melbourne because of the interracial politics. After discussions on the first afternoon it was decided that it was necessary to get together with the Aboriginal women to find out if they agreed with what we had planned and how they might participate with us and us with them. The women at Welatye-therre were very supportive of our action but many of them didn't even know about the base at Pine Gap. However, they felt that it was not really relevant to have a combined action there because the land rights struggle has gathered a type of momentum where it seemed inappropriate for black women to engage in a white Anglo-Saxon type of action.

I understand you had some problems with the CIA up there.

Annie Yes, the heaviness of the situation was brought home to us very clearly. We were followed the minute we arrived; there were Commonwealth police watching every meeting we had;

women's rooms were searched; and many received very strange telephone calls. The whole CIA thing up there is not a joke.

Georgina There are over a hundred ways to get arrested at Pine Gap. Going near or attempting to climb the fence, which is miles away from the installation, can put you in jail for seven years. Many lawyers and solicitors have expressed interest in our 11 November action because it may well create a legal precedent.

Could you outline the planned project. Is it an open-ended commitment?

Georgina That depends very much on the women who are going and the feedback we get from them. We'll be arriving at Alice Springs two days prior to 11 November and a car cavalcade will go out on the day. The date is very important symbolically - it's Remembrance Day and also the date of the CIA inspired bloodless coup of the Whitlam government. It's also important to draw attention to the fact that the agreement on the bases will be coming up for renewal in 1986 and we want to put further pressure on the government to remove the installations.

Diane I think that's a very important point - it's one of the lynch pins of the national campaign 'US bases out' and hopefully the camp will draw attention to the fact.



GIRLS OWN

ACTION GUIDE

Women for Survival

The following addresses provide contacts for regional women's anti-nuclear groups throughout Australia.

Australian Capital Territory

FANG (Feminist Anti-Nuclear Group)
c/- Sarah Withey
4 Olive St
Lyneham, ACT 2602
Tel : (062) 47 5405

New South Wales

Annie Winters
Mountain Women for Peace and Disarmament
PO Box 303
Katoomba, NSW 2780

Clover Wade
Darkwood Thora Valley
Thora Valley, NSW 2454
Tel : (066) 55 8605

Women's Action for Peace
c/- Carol Ferguson
PO Nimbin, NSW 2480
Tel : (066) 89 1492

WAAGV (Women's Action Against Global Violence)
PO Box K637
Haymarket, NSW 2000
Tel : (02) 267 6162

Northern Territory

Women for Survival
PO Box 3603
Alice Springs, NT 5750
Tel : (089) 52 1182

Margaret Gieslepie
PO Box 2120
Darwin, NT 5790
Tel : (089) 85 5267

Queensland

FANG (Feminist Anti-Nuclear Group)
Amanda Collinge
c/- 4ZZZFM
PO Box 509
Toowong, Qld 4066
Tel : (07) 371 1459

Kay Russell
PO Box 59
Herberton, Qld 4872

South Australia

FANG (Feminist Anti-Nuclear Group)
c/- Women's Liberation
234a Rundle St
Adelaide, SA 5000
Tel : (08) 271 2450 (Jan)

Tasmania

Sue Forage
Tasmanian Environment Centre
102 Bathurst St
Hobart, Tas 7000

Victoria

FANG (Feminist Anti-Nuclear Group)
c/- 193 Smith St
Fitzroy, Vic 3065
Tel : (03) 380 2879 (Gill)

Western Australia

WAND (Women's Action for Nuclear Disarmament)
c/- Environment Centre
Hay St
Perth, WA 6000

Limits to growth



CAA

CAA

Increasingly environmentalists are recognising the importance of socio-economic structures in understanding the reasons for environmental exploitation. As with other attempts to analyse these structures, there are differing perspectives. *Chain Reaction* is interested in fostering debate on how environmentalism fits into radical political and economic thought.

In this contribution Ted Trainer argues that environmentalists must be political, and looks at the link between the excessive use of resources in developed countries, and exploitation of Third World peoples and of the global environment.

Recent editions of *Chain Reaction* have reflected considerable interest in the question of whether greenies in general and this publication in particular should confine themselves to specific environmental campaigns or become involved in much wider social and political controversies, especially those involving a call for basic social change. I would like to argue strongly for one side in this debate and in doing so to give some indication of the strategy built into the courses I offer at the University of New South Wales, in the hope of encouraging more people working in environmental education to adopt a similar approach.

These courses deal with the 'limits to growth' problem. They begin by looking at the extremely high levels of per capita resource and energy consumption typical of developed countries. Potentially recoverable resource estimates show that there is no chance of all people on earth ever reaching anything like our present levels of resource use. This means that the present global distribution of resource use is grossly unsatisfactory; we few in the developed countries have high living standards only because we are rapidly using up resources the rest will never have access to. (Each American uses about 29 barrels of oil each year - 400 times as much as the average Ethiopian - and uses 55 times as much energy as the average for people in the poorest 80 countries.) We can only go on being as affluent as we are, let alone becoming richer, if most people on earth remain far poorer than we are.

Further examination of relations between rich and poor countries documents the claims that the global economy allocates most of the world's annual resource production to developed countries, where much of it is used for

Ted Trainer is a lecturer in education at the University of New South Wales.

luxuries and non-necessities, while Third World people must go without things they desperately need. It also gears much of the Third World's productive capacity to supplying goods to developed countries, when that land, capital and labour should be producing the things which Third World people need. (One-fifth of Third World agricultural production is exported to the supermarkets of the developed countries, much of it in the form of luxuries; coffee and tea alone take 40 million hectares.) Thirty years of conventional development have been, to put it mildly, unsatisfactory. It has been development which has enriched Third World ruling groups, transnational corporations and consumers in developed countries but which has not only done very little for most people in the Third World; it has actually lowered the living standards of many of the poorest groups.

It can be forcefully argued that the more the developed countries pursue affluence and growth, the worse the Third World's problems will become. The more we will have to grab available resources, the more we will have to import from the Third World, meaning that more of their productive capacity will have to go into export plantations, etc. And the more we will be obliged to prop up greedy and brutal Third World regimes. We insist that the key to development is to increase the volume of business turnover and therefore scarce Third World development resources should be put into building infrastructures for plantations and transnational corporations rather than into providing the poor with the things they need. This understandably generates serious discontent which would long ago have swept away these regimes had it not been for the assistance, especially the arms, which the rich countries give in order to keep in power comprador elites willing to follow the economic policies that benefit us.

The conventional response is, 'But the more our economies grow the more the Third World can earn selling things to us.' This response overlooks some crucial facts:

- Most of the export earnings go to the few who own the plantations and are not used to develop the industries needed by the poor.
- There is now abundant evidence that very little of the wealth generated by conventional development has 'trickled down' to the poor.

The conventional approach has not seen the Third World 'trade its way towards prosperity'; instead poor countries have sunk into levels of debt that now threaten to wreck the world financial system.

Hence the examination of the Third World scene yields a strong argument to the effect that only if developed countries 'de-develop' to much lower material living standards will it be possible for most people in the

Third World to attain reasonable living standards. 'The rich must live more simply so that the poor may simply live.'

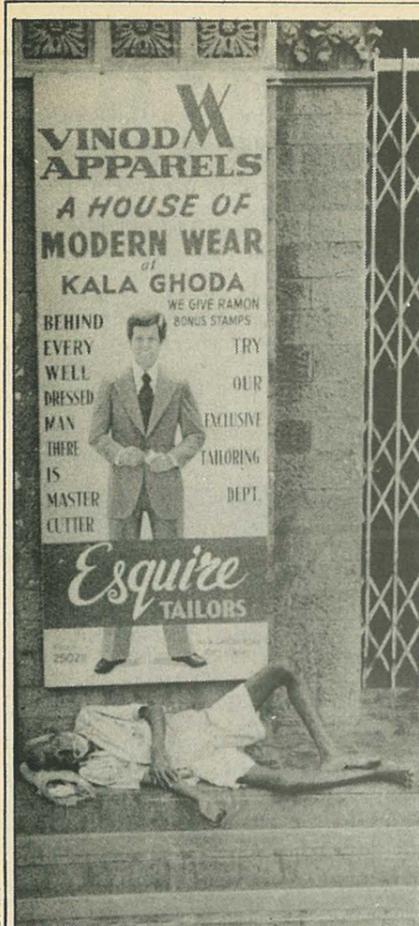
Similarly, the more we pursue affluence and growth in a context of dwindling resources the more likely we are to find ourselves drawn into more and more serious international conflicts over access to resources and markets. This is the point that many people in the disarmament movement fail to recognise. We can't afford to give up our weapons if we are determined to go on living at levels far higher than all people could ever have. We must retain the capacity to threaten the Russians with nuclear annihilation if they look like trying to get their hands on our resource supplies. It is futile and contradictory to be for disarmament if you are not also for de-development.

Finally in this list of problems there are many ways in which the pursuit of affluence and growth is undermining the non-material conditions which make for a high quality of life. The conventional assumption is that economic growth will solve all our problems. Since World War II Australian gross national product (GNP) per capita has approximately doubled yet the proportion under the poverty line may be 15% to 20% and rising, almost all forms of social breakdown (divorce, alcoholism, drug abuse, etc) are rising, and the frequency with which survey respondents report contentment with their lives is falling.

This might appear to be a list of quite separate problems but they are best understood as different manifestations of the one basic mistake, which is our determination to have material living standards that are unnecessarily high. There is good reason to believe that as long as we remain dedicated to the goal of raising GNP all these problems will become more serious.

I am quite convinced, partly from personal experience and partly from the alternative lifestyle literature, that we could easily shift to ways of life that permit very low material living standards and enable the resource and energy budgets of the rich countries to be cut drastically, lifestyles which therefore defuse all limits-to-growth problems while actually giving most people in rich countries a higher quality of life than they have now.

It is essential to recognise that the fundamental source of these difficulties is our economic system. This system has some notable merits, such as its incentives for initiative, effort and efficiency, but it also has some basic faults and it is not difficult to see how these generate our main problems. Firstly, whereas the solution to most of the limits-to-growth problems must involve significant reduction in production and consumption and resource use, our economic system cannot tolerate anything but growth. Consider what would happen if



'It is always much more profitable to produce what the relatively rich want than what the poor need.' Street scene, India.

we decided to cease producing some of the most inexcusable non-necessities like sports cars, speedboats and hair driers. There would immediately be an economic catastrophe, a huge jump in unemployment and bankruptcies. Similarly it is an economy in which what is produced, who gets it and what industries are developed are determined by what makes most profit. Consequently there is massive production of non-necessities while the most urgent needs of 2 billion people are largely ignored — because it is always much more profitable to produce what the relatively rich want than what the poor need. Note that many things could be produced for the poor at low prices and at a profit. For example it still costs less than 50 cents a barrel to produce oil in the Middle East so oil could be sold to poor people at about one-eightieth its present market price while still making a profit, but because the market mechanism maximises profit at around \$34 per barrel only the rich get access to the world's oil. This mechanism explains why we can hog world resources, why much of the Third World's productive

capacity is geared to our demand, why the wrong industries are built, why most people in the world go without basic necessities while mountains of throw-away trivia are produced.

Most of what is wrong with this world is explicable as inevitable consequences of market forces, effective demand and production for profit. In a satisfactory economy there might be an important role for these factors but this would have to be within a framework of deliberate planning and control which enabled us to determine that certain needed things would be produced regardless of whether it was profitable, and that certain things would not be produced even though doing so would be highly profitable and would add greatly to GNP.

The central point I want to make is that environmental issues must be seen in this context. The destruction of the environment is just one more of the problems which will inevitably increase so long as we remain determined to raise material living standards. It is tragic that many environmentally concerned individuals do not realise this and therefore fail to see that if what they are really about is saving the environment then they are in an intensely political and indeed subversive game. There are many specific bits of the environment that one can fight for and save without becoming involved in the general limits-to-growth debate or the call for fundamental social change but *the magnitude of the overall consequence on the planet's ecosystems can only increase until we undertake fundamental change to a society that has abandoned affluence and growth.* If you are really concerned about saving the global environment, as distinct from this forest or that wild river, then you must come to terms with the whole messy heap of viciously political problems involving the nature of our socio-economic system and the struggle to find better ways of organising our affairs.

Take for instance the problem of carbon dioxide build-up in the atmosphere, probably the most serious of all threats to the global ecosystem. The single most effective response to that problem would be to cut right back on all the unnecessary production that requires us to burn so much energy. Why are rainforests being destroyed at perhaps 11 billion hectares every year and therefore species being eliminated at the rate of perhaps one a day? These things are being done to set up cattle ranches in the Amazon to supply USA hamburger chains and to ship wood-chips to Japanese mills to make packaging for video recorders. Why are deserts spreading at perhaps 6 million hectares every year? Partly because the sort of development we encourage in the Third World draws their agricultural resources into export production and forces peasants to overwork slopes and over-

graze marginal lands. If we were not hogging world energy supplies poor people might be able to burn more kerosene and thus cause less havoc to their dwindling forests, and therefore reduce erosion and flooding. Would we be pouring 20 million tonnes of synthetic chemicals into the environment every year, including thousands of completely new ones, if we were content to produce just enough goods for a comfortable lifestyle?

Finally, consider what we are doing to our soils. Australian farms are losing soil at 50–100 times the rate of natural soil regeneration. The average American loss is 25–30 tonnes per hectare per year. For each kilogram of food an American eats she/he in effect consumes 30 kilos of soil. More serious is the nutrient loss due to the fact that agricultural crops and wastes are not returned to the soil. Our energy-intensive soil-mining form of agriculture makes it possible for most people to live in industrial centres producing goods and services. Agricultural systems capable of being sustained for centuries cannot be adopted unless we accept extensive social change to far more labour-intensive, self-sufficient, localised forms of agricultural production.

In the long run there is little point in working to save this wild river or that forest if we do nothing to turn off the growth machine, because even if you succeed the economy will only move on to devour some other wild river or forest. It is important to fight for these immediate causes but our continuing background concern should be to work for the eventual changes that will result in a society which ceases to generate not only environmental problems but all the other limits-to-growth problems.

Marxist social theory is indispensable for understanding why we have these problems, yet marxists tend not to realise that if we scrap capitalism but remain determined to have affluence and a rising GNP we will end up with more or less the same set of limits-to-growth problems we have now. The required revolution also has to involve fundamental value change away from obsession with accumulating possessions, wealth and power and towards finding satisfaction in pursuits like making and growing things for direct use, sharing, cooperating, helping, making things last, being part of a warm and supportive neighbourhood, and in personal and spiritual growth.

Our chances of eventually making these changes depend entirely on whether sufficient numbers of people come to see them as desirable. It is only by bringing these general social and political issues into courses and specific campaigns that those who are concerned about the environment can help to raise this sort of awareness and thereby make their most significant long-term contribution to saving the environment.

Farm the wind



By Andrew Blakers and Peter Penn

Many of the battles of the environment movement are essentially over projects involving energy development. For example, energy is at the root of the threat to each of the major World Heritage areas in Australia: uranium in the Kakadu region, oil in the Barrier Reef, hydro-electricity in South West Tasmania. In *Chain Reaction 33*, Don Siemon pointed out that environmentalists need to be more concerned with initiating and promoting appropriate energy policies. These policies should be directed to energy conser-

Andrew Blakers is completing a PhD in solar photovoltaic energy at the University of NSW. He has been heavily involved in a project to achieve significant electricity generation, in Tasmania, from wind energy. Peter Penn currently works as the NSW information officer for the Wilderness Society.

vation and 'soft' technologies.

This article deals with one 'soft' technology option — wind energy. The development of medium-scale wind generators, with capacities of 50–150 kilowatts (kW), has now reached the point where, in suitable locations, they are fully competitive with conventional electricity sources. Australia has the largest per capita wind resource in the world. The barriers to the mass wind generation of electricity are largely political and institutional.

Wind or water?

A detailed study has been made by the University of New South Wales into installing currently available 55 kW wind generators in northern Tasmania to match both the output (180MW) and the lifetime (60 years) of the Gordon below Franklin hydro-electric scheme. It was found that such a project is likely to be cheaper than any electricity

Wind farm in California, USA, mixing cattle and generators.

The estimated costs, in 1982 values, for electricity from various power generation sources in Tasmania.

• Hydro-electricity		
Gordon below		(
Franklin dam	1.64 c/kWh	(HEC
Henty-Anthony		(estimates
scheme	2.60 c/kWh	(
• Coal		
Thermal power		(HEC
station	3.60 c/kWh	(estimate
• Wind		
North-west		(University
Tasmania		(of NSW
wind farm	2.50 c/kWh	(estimate

source outside the World Heritage area (see table). In addition, the wind scheme has clear advantages on environmental, social, employment and export potential grounds.

If the current low and even negative power demand growth rates in Tasmania

continue or if interest rates do not fall significantly then the wind scheme will improve markedly relative to the hydro scheme. The wind generator costs used in the study are based on current technology and small production runs. There are excellent prospects for real cost reductions.

The lake of the Gordon below Franklin dam would have flooded 13 300 hectares of prime wilderness, including the anthropological sites and ancient rainforests of the Franklin Valley. To match the output from the dam would require 8000 wind generators. These could be dotted over a similarly sized area, but in cleared farmland in northern Tasmania. Only 200 hectares would actually be alienated by wind generator towers, allowing crops to be grown between them. This arrangement is known as a wind farm, and is common in Denmark and California.

The wind and hydro schemes have similar employment potential during the construction phase. However, the long-term employment provided by the hydro scheme is 29 jobs, compared with 200 jobs by the wind scheme. A Tasmanian wind generator industry has good export potential to the mainland, New Zealand and the Pacific region. The hydro scheme does not have this type of export potential.

Wind generator production is now a standard manufacturing process. The wind generator capacity contracted to one USA utility alone, Pacific Gas and Electric, has reached 350 MW since 1980. The official Danish energy plan calls for 60 000 55 kW wind generators to be connected to the grid by the year 2000. Denmark is the same size as Tasmania and has a lower wind potential.

The wind scheme would involve an expenditure of some \$1340m within Tasmania over the 60-year project life. The corresponding figure for the dam is only \$420m. The major reason for the difference is that the Gordon below Franklin scheme requires continual massive interest payments outside Tasmania.

The wind potential in Tasmania is larger than the entire hydro resource. Wind was considered by the Hydro Electric Commission in their 1979 report, *Gordon River Power Development, Stage Two*. However, their method of analysis was incorrect: their estimate of the cost of the wind generators was two to three times the off-the-shelf price of 55 kW wind generators, and their siting costs (in South West Tasmania!) were unrealistic.

An application to fund a demonstration wind farm in Tasmania has been presented to the National Energy Research Development and Demonstration Council (NERDDC). The cost of the wind farm is around \$1 million and involves the installation and monitoring of between six and eight wind generators.

This project could test the concept

of large-scale wind generation, provide engineers and manufacturers the opportunity to gain 'hands on' experience, and act as a spinning advertisement for wind energy. These wind generators could be operating by 1984 and should recoup their installation cost through oil savings at the Bell Bay power station. The location for the proposed wind farm is north-west Tasmania. Farmers and local councils have given their support to the project.

It is possible that NERDDC may not fund this project or greatly reduce the funding required. The reason for this is that the project represents such a large proportion (over one-third) of Australia's meagre research budget for wind and solar energy. Another avenue to fund this project is for the federal government to set aside funds from the compensation paid to Tasmania for halting the Gordon below Franklin dam.

There is now a major lobbying effort in Sydney, Tasmania and Canberra for the demonstration wind farm in north-west Tasmania. The federal Minister for Resources and Energy, Senator Peter Walsh, has supported the proposal in principle. However, he has warned that it may be difficult to persuade cabinet to accept the proposal.

Two medium-sized wind generators will shortly be installed on King Island, off north-west Tasmania, by a private company. Unfortunately, King Island is isolated from the Tasmanian electricity grid and it will be difficult to set a precedent for the introduction of more wind generators in the rest of the state.

Mainland potential

The southern states of Australia all have excellent wind potential. Both Victoria and Western Australia are experimenting with wind generators. A machine of advanced design was recently installed at Ballarat at a cost of around \$65 000. This corresponds to 3.6 cents per kilowatt-hour under Tasmanian wind conditions using Hydro Electric Commission methods of analysis. The price of locally mass-produced wind generators in ten years time is likely to be less than that of one-off, fully imported, currently available machines.

South Australia derives 70% of its electricity from burning Cooper Basin gas. South Australia's share of this resource runs out in 1987. Decisions have to be made this year on where to obtain electricity after 1987 because of the length of time required to develop conventional power sources. South Australia has a long coastline in the 'roaring forties', and has excellent wind potential. It is believed that the large-scale application of wind generators would produce electricity at a lower price than burning black coal imported from New South Wales or the poor quality local coal. The South Australian

government is interested in the potential of wind generators, but unless there is a concerted effort this environmentally sound employment-intensive option will not be considered seriously enough.

The State Electricity Commission of Western Australia appears to have the most progressive attitude to wind energy. This year they bought a medium-size Nordtank wind generator for Rottne Island. It has worked so well that the local agent, Geoff Hill, has been commissioned to produce a duplicate. If this machine is successful they will buy nine more. A combination of a high-quality demonstration wind generator, an enthusiastic engineer and some forward-thinking SECWA employees is likely to lead to a substantial local wind generator manufacturing industry within two or three years.

There are few technical obstacles to large-scale wind generation of electricity in windy areas of southern Australia. The cost of wind generated electricity using currently available machines is already competitive. The barriers are political and institutional. The Western Australian experience shows that a reliable modern wind generator can break down these barriers more rapidly than any paper studies.

Action

An extensive campaign is required to accelerate the introduction of wind energy to Australia. The emphasis of the campaign needs to be on lobbying the federal and state governments, with the immediate goal of a wind generator in each state to allow the state electricity authorities 'hands-on' experience. If you can help in lobbying activities, please contact:

- New South Wales:
Peter Penn
PO Box 268
Randwick, NSW 2031
Tel: (02) 398 6104 (h), (02) 267 7762 (w)
- Queensland
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Highgate Hill, Qld 4101
Tel: (07) 44 1616
- South Australia
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- Tasmania:
Hugh Malfroy
Australian Wind Energy Association
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Hobart, Tas 7001
Tel: (002) 34 5566
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Forest Post Office
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- Western Australia:
Geoff Hill
West Wind Turbines
2 Kilburn Way
Kelmscott, WA 6111
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REVIEWS

Books

Protest and Survive, edited by E P Thompson and Dan Smith, Penguin, Hammondsworth, 1980, 265 pages (soft cover). **Zero Option**, by E P Thompson, Merlin, London, 1982, 198 pages, \$13.50 (soft cover), \$37.00 (hard cover). **Exterminism and Cold War**, edited by New Left Review, New Left Books, London, 1982, 358 pages, \$13.95 (soft cover). **Against the State of Nuclear Terror**, by Joel Kovel, Pan Books in conjunction with Channel Four Television, London, 1983, 240 pages, \$7.95 (soft cover). **The Day After Midnight**, edited by Michael Riordan, Cheshire Books, Palo Alto, 1982, 143 pages, \$10.95 (soft cover). **The Survival Option**, by Ivan Tyrrell, Jonathan Cape, London, 1982, 237 pages. **The War Atlas**, by Michael Kidron and Dan Smith, Pan Books and Pluto Press, London, 1983, 40 maps, \$16.95 (soft cover).

Reviewed by Keith Redgen

The explosion of the peace movement onto the centre stage of world politics has been mirrored by an explosion of literature related to it. Since 1979 it has been impossible not to notice the new titles devoted to the subject with each visit to any general bookshop, by now occupying several shelves, and even entire sections in leftish stores. It seems as if everybody who has ever written anything left of centre (or right in some cases) thinks they have something to say on World War Three or the movement to prevent it. Almost all major journals have devoted entire editions to the issue and it has now become mandatory to include at least one article.

The reasons for this are obvious. Firstly, it is clearly the most important issue of our age, one that should have, and has attracted the attention and reflection of all thinking people. To this extent the growth in literature related to peace and war is a positive development. It pays tribute to the urgency of clear thinking on the matter, a pre-



The climax of a CND march at Altermaston, England, 1958.

requisite for appropriate action. On the other hand it betrays a risk that all this mental effort and output, with an apparently rich diversity of opinion and debate, will degenerate into another purely intellectual argument on the left, with the drive to produce the most perfect analysis outweighing the need for action.

As has happened frequently in the history of political movements, theoretical understandings have followed the height of activism. It is after the movement has lost its initial drive that most effort has been devoted to written output. This is partly in the nature of things. As they develop and grow they are impossible to neatly summarise or grasp in a satisfactory way. It is much easier to understand and analyse things that are stable. And movements for social change are by their very nature unstable. Once they are capable of being grasped in thought their impetus has surely passed. At the same time, this

growing intellectual output has perhaps contributed to the waning of the movement, diverting energies from essential political tasks into academic debates.

Further, there is a new genre of writing which tries to make the peace movement into the modern hope for a new world. With the demise of the proletariat, since the 1920s, as the bearers of revolutionary hope, especially in the minds of academic marxists, there has been an incessant search for the new subject of history, that group that through its own activity will carry the world into the golden age. The bearers of this task have been located in many places, from Chinese communes and Third World independence struggles to the student and hippy movements of the sixties, and dozens of other places. Today, in the writings of many intellectuals, the role has now devolved to the peace movement. The writings of this school have less to do with a movement for peace,

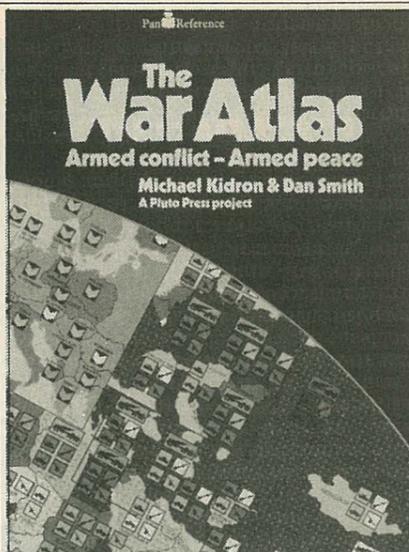
REVIEWS

than to the dreams of those who would force anything new into their inherited nineteenth century straightjacket.

The plethora of material available leaves the reader with a bewildering array of choices, which this review hopes to go some way to sort out. There is far too much for anybody to read everything, but fortunately most of it is inconsequential, and unhelpful either for activists or academics. But it is extremely difficult to know what is worth the time and what is not. After browsing through the bookshelves and journals, it is just as easy to not bother with anything. However as has often been pointed out, nothing is to be gained from too little knowledge. The question is what will aid understanding rather than stifle it, and what will be of use for the work of the peace movement.

Contemporary publications relating to war and peace fall into several broad categories. The most important of them to have at least some familiarity with are those that provide technical information, facts and figures, about arms, military expenditure, developments in strategic doctrine, and virtually anything else that might be worth knowing. Chief amongst these are the excellent publications of the Stockholm International Peace Research Institute (SIPRI), especially the quarterly *Journal of Peace Research*. There are many other specialist journals and books, and at least some of them should be essential reading, providing information necessary for understanding, argument and any serious approach to peace activism. One publication which arrived too late for proper review, *The War Atlas*, by Michael Kidron and Dan Smith provides, through forty separate world maps, a wealth of statistical information in accessible form, of just about everything to do with arms, war and their politics.

Secondly there are books and articles that are concerned mostly with political analysis and political theory. These take up most of the room on the bookshelves and cover a vast range of perspectives and argument. Mostly they take as their starting point the existence of the Cold War and the increasing danger of nuclear war, and attempt to explain and understand it. Probably the most widely read and one of the most highly regarded authors in this category is E.P. Thompson. He initially came to wide public attention and acclaim with his pamphlet *Protest and Survive*, first published in early 1980. Those of us who knew Thompson as one of the best contemporary writers of marxist history



and political theory (*The Making of the English Working Class*, *The Poverty of Theory*, amongst many other great and original works) expected his contribution to the peace movement to be of the highest quality and commitment. We have not been disappointed.

Thompson became deeply involved in the new European disarmament movement in late 1979, and in his own words has 'been on the stump for it constantly since then'. After involvement in the initial Campaign for Nuclear Disarmament (CND) in Britain in the late 50s and early 60s he dropped out of activism to concentrate on his academic career. He pleads guilty, along with the rest of his generation to abandoning the movement in despair after a series of major setbacks. The immediate cause of the revitalisation of CND was the decision to base Cruise Missiles on British soil, a strategy officially proclaimed as essential to the 'defence' of the North Atlantic Treaty Organisation (NATO) and consequently of Britain and the 'free world' generally. Thompson regrets that it took this to spur him and others across the world to once again join in their millions to fight the nuclear threat, but now that it has begun there is nothing to do but work tirelessly for peace. (See the introduction to *Zero Option*.)

The title of the pamphlet *Protest and Survive*, and the book of the same name which includes a revised version of Thompson's original piece along with contributions from several other authors, is a variation of the British government's civil defence publication *Protect and Survive*. (Thompson seems to love these wry twists on the titles of other books. *The Poverty of Theory* comes from Marx's *The Poverty of Philosophy* - itself a variation on Proudhon's *The Philosophy of Poverty*, and his major essay 'Notes on Exterminism: the Last Stage of Civilization' is in some ways a reply to Lenin's *Imperialism: the Highest Stage of Capitalism*.) British

civil defence policy is now totally discredited largely thanks to the success of this widely read book, and it is ironic that the official publication, whose intention was to make people complacent and secure has played some part in revitalising the campaign for peace and disarmament.

Protest and Survive is essentially a reply to a letter to the *Times* of January 1980, from a Professor Howard, who argued that with the stationing of Cruise Missiles in Britain it was essential to develop a credible civil defence posture, since Britain would now be a certain target in any pre-emptive strike by the USSR. Without civil preparedness its deterrent would not be taken seriously, thus making nuclear war more likely.

Thompson ridicules this argument, pointing out that it is the stationing of the missiles themselves that make Britain a nuclear target and make war more likely. He goes on to lambaste the campaign of official disinformation supported by the mainstream media which has created a public perception of threat from the USSR and Western inferiority and susceptibility. This is achieved by manipulation and selectivity in comparing the numerical and technological strength of NATO and the Warsaw Pact. Apart from the impossibility of obtaining reliable information on these classified matters, the Western, including British, government and media ignore technical areas where the West is clearly ahead and concentrate on megatonnage and missile numbers, where the USSR has apparently much greater strength. This ignores the fact that the USSR needs bigger bombs because theirs are far less accurate, and the fact that the USA's missiles have more warheads per launcher and clearly outnumber the USSR in terms of possible explosions. The upshot of it all is that nuclear weapons alone make nuclear war likely and more and better weapons make war more likely. Peace is promoted by having no new weapons and guaranteed by getting rid of the old ones.

The other contributions to *Protest and Survive* cover a broad range of issues to do with the 'New Cold War' and the growth of the peace movement. Highlights are Dan Smith's 'The European Nuclear Theatre' which explains just how vulnerable Europe, East and West, is, and how devastating a war would be. David Holloway's 'War, Militarism and the Soviet State' is a good introduction to the much debated question of the nature of Soviet society and the part it plays in the Cold War, while Mary Kaldor's 'Disarmament: The Armament Process in Reverse' is wonderfully optimistic and inspiring. (Her independent publications, especially *The Baroque Arsenal* are well worth reading to get some idea of the psychology and politics that has led the world to the brink of self-extinction.)

Nineteen eighty-one saw Thompson's most provocative and controversial

PROTEST AND SURVIVE

EDITED BY E.P. THOMPSON

AND DAN SMITH

- Cruise Missiles
- Nuclear War in Europe
- Civil Defence
- Soviet Armaments
- US Military Plans
- War, Militarism and the Soviet State
- Britain's Tuppennyworth

article, 'Notes on Exterminism: The Last Stage of Civilization' published in *New Left Review*. Its appearance in that journal was an event in itself, given the well known enmity (political if not personal) between Thompson and the editors of *NLR*. When they went so far as to editorialise support for Thompson's stand, and especially the possibility that strict attention to class analyses may have to be abandoned, at least until the war crisis had passed, academics began to realise that this was a powerful movement.

The article is reprinted in two of the books on review here, *Zero Option*, a collection of all of Thompson's contributions since *Protest and Survive*, and *Exterminism and Cold War*, a collection of replies to Thompson solicited and published by *NLR*. Attempting to understand a world that devotes so much of its resources, energy and political practice to preparing for suicidal war by means of traditional political categories, especially marxist ones, is hopeless at best, and at worst dangerous, Thompson argues. Rather the modern world has reversed the doctrine of Clausewitz, that war is the continuation of politics by other means. The Cold War has become so accepted as part of modern political life and pervades politics both within and between states to such an extent that politics has now come to be dominated by it. Thompson suggests that we need a new category, beyond capitalism, socialism and imperialism, to understand these new developments, and he proposes one of his own making, 'exterminism'. Exterminism is the apparently ineluctable thrust of the world towards war, a thrust that will ultimately serve the interests of no persons or groups, but which cannot now be deflected because it has become deeply em-

bedded in the political, social and psychological structure of the modern world.

The other pieces in *Zero Option* pursue the theme established here. 'Deterrence and Addiction' demonstrates powerfully that the belief that nuclear weapons prevent the USA and the USSR from going to war is unfounded. In fact, at least in the contemporary world, the build up of nuclear weapons has nothing to do with a desire to deter since the decision to undertake the developments are not made in response to the other side but result from entrenched establishments of research and development and unquestioned commitment to always find and introduce the best new weapons. Thus Thompson rejects the notion of an 'arms race' which suggests that one side reacts to and attempts to catch up with developments of the other. Further, the idea that there was a period of 'detente' in the 1970s, followed by a new Cold War and increased hostility, is largely mythical, since the weapons that created the cold war atmosphere were developed precisely in the 'relaxed' period. Thompson draws out the implications of all of this for the peace movement, and his work is a sparkling example of that 'pessimism of the intellect, optimism of the will' characteristic of all true fighters.

Thompson ended his exterminism piece with a call for open discussion and response. It is in the spirit of that call that *NLR* solicited the articles that make up *Exterminism and Cold War*. This is an uneven collection made up of some lucid essays, and some downright nonsense. The predictable defences of traditional and hard-nosed marxists was to be expected, but not welcomed. For example, Mike Davis castigates Thompson for not seeing that nuclear weapons and the Cold War serve the imperialist interests of the USA (the USSR of course is above reproach). Well of course militarism and the Cold War are put to work in the pursuit of other international goals. But it is ludicrous to suggest that nuclear weapons exist to serve those ends. They could have been achieved by much cheaper and less dangerous means. Even those contributions that are not so narrow-minded reflect a dangerous trend. For as the reader ploughs through this rather thick book it is difficult not to feel that much of what has been written is inconsequential, born of the need for professional writers to write something. It is more urgent to act than to understand and the movement has no need for those who would play the games of academic political theory.

Against the State of Nuclear Terror by Joel Kovel sits uncomfortably between analysis and the genre of writing that would make prescriptions for the peace movement. It sets out by asking how the people of the USA (and by impli-

The Day After Midnight

Based on a report by the Office of Technology Assessment
Edited by Michael Riordan



cation of Europe, the USSR and the rest of the world) have accepted or been made to accept the existence of nuclear weapons and the constant threat of annihilating war. Kovel is by profession a psychoanalyst of a particular philosophical marxist school and brings the skills of this discipline to the answering of the question. His analysis is sharp and illuminating. We are not passive victims of manipulation and disinformation (although these help) but rather have been socially created by a world where 'technocracy', the social structure of a technologically dependent society, is all powerful. We accept this world because it creates and defines us, making rejection almost psychologically impossible. We also accept the irrational hatred of the 'enemy' because the image of the 'Other' helps to bond us as a social unit.

This is all very well and a worthwhile insight, but when it comes to deeper explanations, Kovel falls down. He can't decide if the world has reached this pass because of a pervasive scientific rationality which has now grown to dominate economics or whether economics remains 'determinant in the last instance'. Even when he does put the blame on capitalism and its psychological consequences in breaking links with nature and natural communities, classes are rarely, if ever mentioned. The confusion leads to a set of ludicrous platitudes and impossible utopianism dressed up as the solution not only to war but to the eternal dilemma of intellectual revolutionaries. The peace movement is the subject of history. You have nothing to lose but your ego!

There are several books available that deal with the effects of nuclear war. They range from doomsayers, who are not all bad (Jonathon Schell's *The Fate of the Earth* is great) to the evil disinformation of USA propagandists with their winnable, limited, theatre war scenarios for Europe. The best of them is undoubtedly *The Day After Midnight*, an adaptation of an official report prepared for the USA Congress by the

REVIEWS

Office of Technology Assessment. It describes objectively, dispassionately and scientifically the best available predictions of the whole range of effects likely after several possible nuclear war scenarios. From massive, immediate death to the chances of reconstruction, we discover what is likely to happen, how and why. It is bound to surprise and shake preconceived ideas for almost everybody, and is a valuable tool for any argument on the topic.



The effects of nuclear war — Hiroshima, 1945.

There is one other genre that bears some mention. This is the output of the 'survivalist' school. The survivalists take the threat of nuclear war very seriously and, having studied up on the likely effects of it, concur with the sentiments of the pop band Scars: 'Some of us may die but, statistically, it is not likely to be you.' They sensibly believe that it is best to do everything possible to prevent it from being them. Their solution is blast and fallout shelters, supplies, being prepared to scavenge, bury the dead in mass graves and so on and on. Of course the trouble is that these preparations are very expensive and inappropriate for anybody without a suburban block of land, or a basement. As a friend recently wrote to me: 'Survivalism is almost as sick as the elite-oriented civil defence scenario. The elites have their bunkers and the rich have their farms, fallout shelters, armouries etc. Horrible.'

Ivan Tyrrell's *The Survival Option* is a fairly typical offering. He does concede in one paragraph that it would be better to have no war, and argues eloquently

that we should distrust and even disobey those that gave us the war, inadequate civil defence, and then demand unquestioning obedience after we emerge from our shelters. But once he's disposed of that in the first chapter, he presents us with the elaborate plans for survival, and at the end we are to emerge from our cocoon and follow the rules of the game. After all to disobey the armed dictatorship of a post-nuclear world would decrease the chance of survival. But the only real survival is to prevent the war from ever occurring.

Keith Redgen is an incurable attender of peace rallies and a veteran of the Stop Omega Campaign.

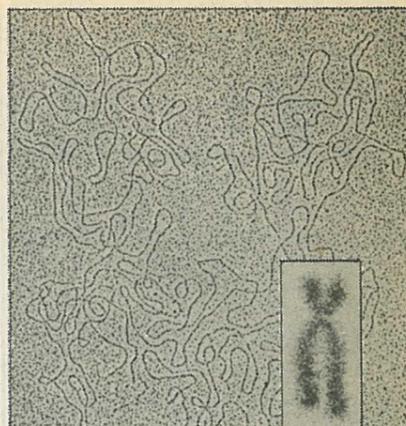
The Gene Business: Who Should Control Biotechnology? by Edward Yoxen, Crucible: Science in Society, Pan Books in conjunction with Channel Four Television London, 1983, 264 pages, \$7.95 (soft cover).

Reviewed by Barbara Blackadder

This book, as one of the 'Science in Society' titles, is produced in conjunction with the UK Central Independent Television's series of films, designed to question the role of science in our lives. Genetic engineering, in just a decade, has become big business, with the backing of well-known multinational corporations and, (in varying degrees) governments. The author was moved to write this book 'out of a sense of outrage about the way things are going', and in the hope of increasing public consideration and debate of the issues.

The information provided covers a very broad area of research which has one common denominator — 'the ability to move genes between organisms, to reprogramme one organism with hereditary instructions taken from another.' Because such 'gene business' will touch all aspects of our lives, it needs to be seen within that context, and each chapter is designed to form part of a whole picture; unfortunately this does not happen.

The history of biotechnology is traced through its rapid growth, and its connections with corporations and academic institutions. Chapters three, four and five provide a detailed and meticulous description (for me, too much so) of how biotechnology works — from the single cell, to gene splicing, thence recombining genes or sections of DNA, to designing and building genes, and their ultimate industrial/commercial applications. Such products as insulin, interferon, growth hormones, blood products and monoclonal antibodies (derived from specially created cell-lines to produce just one kind of antibody), vaccines and gene therapy are just a handful of the myriad of medically useful molecules available.



DNA and chromosomes: reproducing capital?

Plant and animal biotechnology is also covered, with an account of how it will be used to restructure 'agriculture' and some of the attendant problems this is already beginning to create. Finally the chemical and energy areas are examined to see whether biotechnology can provide the answer to environmental pollution and destruction, whether it 'might give us a cleaner, safer, more controllable, decentralised chemical industry.' Although we are given plenty of reliable information, there are a number of shortcomings in the book which left me knowing a great deal, but with a sense that these facts were fragmented and isolated rather than formed into a cohesive pattern which would clarify the issues.

One of these shortcomings is an approach to the material from a capital/labour — the 'have's' and 'have not's' perspective. In simple terms this approach sees the 'baddies' — multinational corporations — exploiting the 'goodies' — everyone else including the scientists — for profit. While this is of course true, such an approach means that any questions raised are dealt with inside a specific framework of issues, by extending the capital/labour parallel so that we have 'good' and 'bad' scientists, 'good' and 'bad' governments, 'good' and 'bad' research. Thus the type of questions raised become: can we improve the environment?, which medicines will we develop?, how will the pharmaceutical industry use biotechnology for profit?, who controls biotechnology? While all of these questions need to be raised, their framework actually prevents an examination of the deeper issues, which means several broad questions, crucial to the role of biotechnology in our lives, are not raised, much less answered.

For example: given the extent of corruption which is carefully documented throughout the book, why is science perceived and presented as a neutral and objective force for 'good' in the world? Why is it necessary, inevitable and 'good' to dominate,

control and finally redesign nature, our world, and life itself? Why has this type of research and technology enjoyed such a meteoric rise at this particular time in history? Biotechnology is about control — controlling the natural world and its life by redesigning and 'creating' a new man-made nature (unsurprisingly, this field is a male preserve).

The ever-present will to expose, dominate, control and recreate 'nature' has always been the guiding ethos of science — biotechnology hasn't, as the author posits, changed this ethos, rather it has served to highlight it in all its grim reality. Given the extent of corruption and collusion between the institutions of power — science, law, medicine and business — which are involved in biotechnology, it seems naive to posit the question of who controls it.

The Gene Business in failing to draw all the threads together to form a cohesive pattern within which the broader issues would be unequivocal, falls short of its stated aim as being 'designed to increase public awareness, debate and participation in response to the increasing role of science, technology and medicine in our lives.' What it succeeds in doing is to provide basic information, albeit somewhat boring and repetitive in parts, which enables those of us without a scientific background to understand just how biotechnology works.

Barbara Blackadder is in the process of completing a book on the politics of genetic engineering.

Film

Going Down, produced and directed by Hayden Keenan. 35 mm, colour, 92 minutes. Available from Smart Street films.

Reviewed by Fran Martin

Going Down is about the experiences of a group of four women on the day before one of them departs for overseas. The women's lives bring into focus the problems of contemporary inner-city living in Australia, where there's no work and it's a battle to keep your head above water.

The movie refuses to moralise about any of its characters' dreams, ideas or actions. Instead they project a lust for life; their energy, though sometimes desperate, is never lost. The film opens with a camera slowly descending a long flight of stairs, showing a house in the light of the morning after. A body is slumped over a typewriter, a bottle of cough mixture sits to one side and the sound of sobs can be heard.

Hostility becomes apparent when Jane (Vera Plevnik) and Michael (Esben

Storm) would be writer, engage in a sarcastic argument about what Michael is doing 'creatively' in his life. The dissent develops at times into witty flinging matches as the characters lock into one another's insecurities.

Ellen (Moira Machaine-Cross) is out looking for a job, with little success. 'Why can't I get a job?', she repeats over and over as she stumbles into the CES office. It's here she spots a potential boyfriend Greg (David Argue), as he goes about (literally) burying himself in a pile of paperwork. She grabs her opportunity, asks, 'Can I help?', and receives a polite refusal. This however does not dampen her spirits and she begins planning the night's events.

Tracey Mann plays Karlie, the woman who's destined for fame and fortune in the 'Big Apple', New York. The ticket has been provided by her father, who has also given her \$3000 in cash to set her up in business. It is not surprising that the envelope with the money disappears and accusations fly fast and furious. 'Money just ruins everything', she confides to her transvestite friend Trixie (also played by David Argue) as they share a quiet cocaine before departure.

Jackie (Julie Berry) has realised that mundane work and low wages don't accommodate her plans for travel. She has decided the only way to get her ticket and gain 'sweet revenge' is prostitution. This decision gets mixed reactions from her women friends as they each try to come to terms with it.

The night develops into one long party of music, fights and dancing set against a backdrop of the throb of Sydney's night-life. The implications of the title run riot.

The choice of music is fitting with great performances by Pel Mel, The Birthday Party, and Dynamic Hepnotics. The use of Randy Newman's 'Pretty Boy' when Michael retreats into his shrine-like room is perfect:

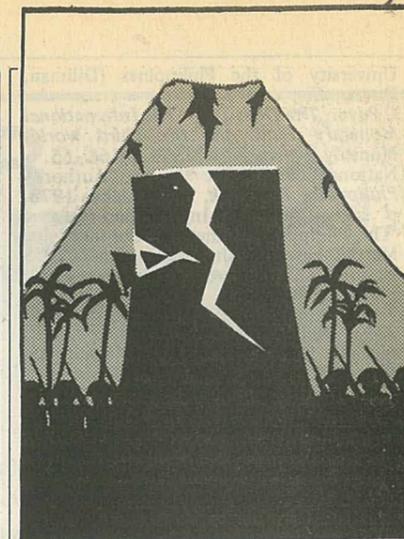
Have we got a tough guy here?
Have we got a tough guy from the streets?
The song reflects on Michael and his situation:

You don't know how low you can go till you get there.

The Bondi beach scene between Ellen and Greg with cardboard moon and palm tree is hilarious. It's in this scene that the movie's catch-cry appears: 'It's a dog-eat-dog world and there's never enough dog to go around.'

Despite the film's lack of continuity and occasionally totally unbelievable plot, I found it thoroughly enjoyable. A word of warning though — roller skating can be hazardous to your health.

Fran Martin works with the radio station 2WS on the music staff and is a member of the Chain Reaction collective in Sydney.



KEV WILSON

FOOTNOTES TO 'THE PLAGUE . . .'

1. See J E Katz and O S Marwah, footnote 48; and D Poneman, *Nuclear Power in the Developing World*, Allen and Unwin, UK, 1982.
2. See W Bello, P Hayes, and L Zarsky, '500 Mile Island, The Philippines Nuclear Reactor Deal', *Pacific Research*, 1, 1978.
3. See *ibid*, chapter 5, 'Coercion for Energy, Energy for Coercion', pp 25-29.
4. (Puno) Commission on Nuclear Reactor Plants, *Inquiry on the Safety to the Public of the Bataan Nuclear Plant*, (mimeo), Manila, 1979.
5. Muih Yat Sun, 'Nuclear Plant: The Plague That Poisons Morong, from red graffiti on village walls', (mimeo), Center for the Progress of Peoples, Hong Kong, 1981, p 5.
6. See Bello *et al*, *op cit*, and the appendix to the Philippines edition of this study published by Third World Studies, Room 428, College of Arts and Sciences, University of the Philippines, Diliman, Quezon City, Metro Manila, The Philippines, 1983.
7. World Bank, 'Philippines Energy Sector Survey', Volume 2, Annex 4, Washington DC, 1980, p 2.
8. See our 'Atoms for the Poor', *op cit*.
9. USA State Department, 'Statement by Louis V Nosenzo before the Committee on Appropriations Subcommittee on Foreign Operations', (mimeo) Washington DC, February 8, 1978, p 1.
10. G Pauker, *ASEAN Energy Plans and Prospects*, RAND report WN-100-98-DOE, 1978, pp 85-86.
11. National Power Corporation, 'Power Expansion Program', Manila, 1977, p 6.
12. World Bank, 'The Philippines Country Economic Memorandum', report 1765-PH, 1977, Annex B, p B-32.
13. G Makasiar, 'Energy for Development of the Philippines', Asia-Pacific Energy Consortium, July 1978, p 9; and A Saitzoff, 'The Role of the World Bank in Power Development Programs', in *Proceedings of the Regional Seminar on Energy Resources and Electric Power Development*, UNE/CN 11/595, United Nations, New York, 1962, p 245, which develops investment proportions between generation transmission, distribution and end-use equipment.
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15. R Rigoberto Tiglaio, 'Philippine Studies on Transnational Corporations, A Critique', (mimeo) Critical Studies Research Group,

- University of the Philippines (Diliman, Quezon City), 1978, p 17.
16. C Payer, *The Debt Trap: The International Monetary Fund and the Third World*, Monthly Review Press, 1974, pp 64-65.
 17. National Economic Development Authority *Philippines Yearbook, 1977*, Manila 1978, p 609. Corporate Information Center, 'The Philippines: American Corporations, Martial Law and Underdevelopment', US National Council of Churches, 1973, p 73.
 18. Pacific Asia Resource Center, *Free Trade Zones and the Industrialisation of Asia*, special issue of *AMPO (Japan-Asia Quarterly)*, Tokyo, 1977, pp 92-100.
 19. USA AID's most recent assessment notes that the few rural industries established with rural electricity are export-oriented. See D Mandel *et al*, 'The Philippines: Rural Electrification, Project Impact Evaluation', (mimeo), USA AID Washington DC, July 1980, pp 7-8.
 20. For example, 'By providing cheap electrical power for the rural electric program has provided the small entrepreneur a chance to compete in the market place.' In 'Philippines Rural Electrification V', USA AID project paper, Washington DC, 1977, Annex F, p 9.
 21. R A Luken, 'Environmental Assessment of the Rural Electrification Project - Philippines', USA AID Manila, 1978, p 42.
 22. In 'Hearings Before a Subcommittee of the Committee of Appropriations, House of Representatives', 95th Congress, 2nd Session, part 1, Washington DC, USA GPO, 1978, p 84.
 23. World Bank, *The Philippines: Priorities and Prospects for Development*, John Hopkins Press, 1976, pp 137, 167.
 24. Luken, *op cit*, p 9.
 25. F C Madigan *et al*, 'An Evaluation Study of the Misamis Oriental Rural Electric Cooperative, Inc (MORESCO)', report to USA AID Manila, 1976, p 74. Also A Herrin *et al*, 'Rural Electrification, A Study of the Social and Economic Effects in Misamis Oriental, Philippines', report to the International Research and Development Council (Canada), 1972, p 61, 26 Asian development Bank, 'Asian Agricultural Survey, Manila, 1977, p 80.
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 29. Davao Action Information Center, 'Fall-out from the Poverty Explosion, Economic and Demographic Trends in Davao City, 1972-74', (mimeo) Davao City, 1975, pp 49, 176-77.
 30. E S Lopez, 'NPC power rates hiked', *Manila Journal*, February 22-28, 1976, and *Balita ng Malayang Filipinas* (Free Philippine News Service), Manila, 31 July, 1979, p 1.
 31. See for example, K Newcombe, 'Energy Use in Hong Kong: Socioeconomic Distribution Patterns of Personal Energy Use and the Energy Slave', (mimeo) 1978, Australian National University, 1978, p 10.
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 33. National Electrification Administration, *Annual Report Calendar Year 1978*, 1979, p 7 (see also the previous year, p 22).
 34. Development Alternatives Inc, 'An Evaluation of the Program Performance of the International Program Division of the [USA] National Rural Electric Cooperative Association (NRECA)', report AID/otr-C-1383, 1977, p A-19.
 35. See Mandel, *op cit*, footnote 19, pp 11-12. See also J Morrell, 'Aid to the Philippines: Who Benefits?', *International Policy Report*, volume 5, no 2, October 1979, p 8.
 36. G Hickey and J Wilkinson, 'Agrarian Reform in the Philippines', RAND Corporation Seminar report to USA AID, Washington DC, 1977, p 13.
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 40. J Tendler, 'Rural Infrastructure Projects: Roads and Electrification', PPC Bureau, USA AID, Washington DC, 1978, p 70.
 41. World Bank, *op cit*, footnote 12, Annex B, p 5.
 42. World Bank, 'The Philippines, Poverty, Basic Needs, and Employment, A Review and Assessment', (mimeo), Washington DC, 1979.
 43. Hickey and Wilkinson state, for example, that, 'The only interest of the present Philippine government in land reform is to maintain sufficient illusion of progress to continue its propaganda'. *op cit*, p 32.
 44. Gordian Associates, *op cit*, p 140.
 45. Hickey and Wilkinson, *op cit*, p 33.
 46. There is a growing literature on the bureaucratic politics of energy decision making in the Philippines. On energy in general, see P Cowhey and K Phillips, 'Commercialization of Geothermal Energy in Indonesia and the Philippines', International Geothermal Energy Project. Earl Warren Legal Institute, University of California, Berkeley, December 1979, pp 88-112; the analysis contained therein fits neatly into that found in W Bello *et al*, *Development Debacle, op cit*, which incorporates the analysis of technocrats and cronies found in W Ascher, 'Political and Administrative Bases for Economic Policy in the Philippines', (mimeo), World Bank, 6 November 1980. On the reactor in particular, see our *500 Mile Island, op cit*, and S J Scherr, 'Philippines', in J E Katz and O S Marwah, *op cit* (footnote 48); and USA Argonne National Laboratory, *Political, Economic, and Energy Profile, Philippines*, Argonne Illinois, 1978. This latter study was produced for USA State Department operatives active in Manila, and is unusually frank (to the degree that the USA Embassy cabled a protest about the indiscretions risked by its circulation in the USA government). We have not developed the bureaucratic politics of the reactor in depth because these politics follow from and the outcomes of bureaucratic struggles support the fundamental class strategies of the Marcos government. It is the relationship between this strategy and electrification and the reactor which concern us rather than the more limited concern with the bureaucratic dynamics whereby Marcos achieved his goals.
 47. National Power Corporation, 'Luzon Power Planning Study, 1973-1992', Manila, 1973, p 169.
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 54. A major problem for Marcos. See W Bello *et al*, *Development Debacle: The World Bank in the Philippines*, Institute for Food and Development Policy, San Francisco, 1982.
 55. The conventional wisdom about the difficulties of producing nuclear weapons clandestinely or with crude and cheap facilities was exploded about five years ago. For the new wisdom, see Nuclear Energy Policy Study Group, *Nuclear Power: Issues and Choices*, Ballinger Cambridge, Massachusetts, 1977, pp 277-281. For the new strategic thinking of the USA posture in such a 'proliferated world', see J K King, *International Political Effects of the Spread of Nuclear Weapons*, Stock = 041-015-00105-1, USA Central Intelligence Agency/USA Government Printing Office, Washington DC, April 1979. Our point here was primarily that the Philippines gains international status without exercising the nuclear weapons option. For a case study of India's pursuit of strategic advantage via nuclear ambiguity, see A Kapur, *India's Nuclear Option, Atomic Diplomacy and Decision Making*, Praeger New York, 1976, p 236, and with specific reference to the Philippines, PanHeuristics, *Regional Rivalries and Nuclear Responses, Region of the South China Sea*, volume 3, DNA-001-77-C-0052, Los Angeles, 28 February, 1978, pp 111-7-05.
 56. Department of State Airgrams, USA Embassy Manila, 22 July and 25 September, 1974.
 57. (USA) *Congressional Record*, Washington DC, 16 May 1978, p H-4005.
 58. See G Herkin, *The Winning Weapon, The Atomic Bomb in the Cold War, 1945-1950*, New York, 1980.
 59. USA Export-Import Bank, 'Statement of Active Loans and Guarantees as of June 30, 1980', table four, Washington DC, 1980.
 60. J Moore, 'The Export-Import Bank's Role in Financing Nuclear Exports', Atomic Industrial Forum Conference, Washington DC, 19 November, 1980, p 7.
 61. See 'Principles of Unity for a Nuclear Free Philippine Coalition', (mimeo), Manila 1981.
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 63. R Savellano, 'Public Acceptance Dimensions of Nuclear Technology Transfer in the Philippines', in *Proceedings of a Conference on the Transfer of Nuclear Technology*, volume 3, Atomic Energy Organisation of Iran, 1977, p 182.
 64. 'Principles of Unity', *op cit*.
 65. J Borg, 'Anti-Nuke Faction "Biggest Threat" to US-Pacific Ties', *Honolulu Advertiser*, 11 February 1982, p B-11.
 66. 'Nuclear Plant Protested', *Bulletin Today* (Manila), 12 April 1981.
 67. 'Vigilance and Unity - The People's Strength', (mimeo) Manila, 1981, p 12.

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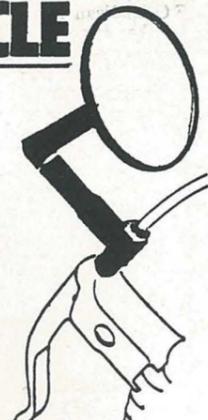
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