THE PLAGUE THAT POISONS MORONG.

Nuclear power in the Philippines

Women and peace groups
Urban pest control
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Microfilm of 1984 the deadline is 31 December 1983, for manuscripts. These few guidelines help in bringing out the magazine better and faster. The summer numbers are political and institutional.

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Monash University Community Research Action Centre, Monash University, Clayton, Victoria, 3168

Newtown P.O. Box 169, Newtown, Victoria 3122

On the evening of April 16, 1980, Charles Sturt University's annual dinner was opened by

5. Pretty girls can do anything.

6. They can write something.

7. Write something.

8. Something.

9. Anything.

10. Written.

11. Any.

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dualism (or dichotomy) of strategic and ecological defence architecture. He recognises the strategic problem of existing nuclear defence architecture, including such alternatives as a nuclear-armed Australia, "smart" conventional weapons and other options. Civil defence poses a problem but there are alternatives. However, Hayes has satisfied himself by examining a three-megaton ground burst, nuclear attack on Brisbane in some detail and concluding that at least one-third 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 food have mercy on the rest. After more careful examination, 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 difficult to find this important topic discussed in such unsatisfactory fashion in Chain Reaction.

Robert V Horn
SANA (Schools 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 intended, of course, nuclear reactors are an engineer's dream. But because of the nature of the materials that reactors feed on and create, potential hazards occur all along the 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 industry, all these proved unreliable. Even the best reactors are unpredictable 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 - radioisotopes, radio-acids and radio-caesium and radio-kyrston. These are pollutants of uniquely dangerous character. The first three cannot be destroyed by living beings or nutrients that are essential to health, nutrition, building, industrial and agricultural. These three therefore concentrate in live tissues and food chains. Radio-kyrston resembles radon and pollutes the air we breathe. The dangers of these products sufficed finally to persuade USA and some other countries to stop atmospherically testing: weapons testing.

It is for the public to insist that no more of these inadmissible products are allowed to pollute so that we will always avoid the necessity of containing 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 Myra Beck, S 5  

Black issues
My main interest in the magazine lies in the area of ecological and Aboriginal issues, which seem sparsely coveredition, 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 in particular relevant in the case of Roxby Downs. Whilst objectives are different, this is an issue on which cooperation can occur and is occurring among your readers. They have made a place in their hands on which the program important, although their views urgently need to be discussed.

Aron 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's on in Watsonia
On Sunday, 23 October 1983, People for Nuclear Disarmament are again using a peace train and march to Watsonia Barracks which is the main Defence Signals Directorate (DSD) in south-east Australia. Watsonia, which operates 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 disallowed 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 agencies direct satellite communication with the USA. This system, transmits intelligence information from the American National Security Agency (NSA) Intelligence Surveillance and Threat Evaluator, which is the principal intelligence-gathering organ of the US intelligence community. The NSA is more important, more secret, and any others who think about the "Project Sparrow" antenna dish PND believe this symbolic action is an effective way of expressing the absurd and dangerous wall of secrecy surrounding these installations.

The action is part of United Nations Day on 21 October. "No nuclear test 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 are high accuracy that equips them for a "limited" war - a dangerous concept that brings the world even closer to nuclear destruction.

Tony Freemantle 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 the reverberation of war - a dangerous concept that brings the world even closer to nuclear destruction.

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Good behaviour
Red ants
The Soviet Union has established a sanatorium for ants on 640 hectares of pine forest near Moscow. Tree-felling, which has been banned, says Radio Free Europe, is a threat to Chain Reaction. Radiation levels in a densely forested area have been taken from nuclear industry sales talk! When built and intended, of course, nuclear reactors are an engineer's dream. But because of the nature of the materials that reactors feed on and create, potential hazards occur all along the 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 industry, all these proved unreliable. Even the best reactors are unpredictable 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 - radioisotopes, radio-acids and radio-caesium and radio-kyrston. These are pollutants of uniquely dangerous character. The first three cannot be destroyed by living beings or nutrients that are essential to health, nutrition, building, industrial and agricultural. These three therefore concentrate in live tissues and food chains. Radio-kyrston resembles radon and pollutes the air we breathe. The dangers of these products sufficed finally to persuade USA and some other countries to stop atmospherically testing: weapons testing.

It is for the public to insist that no more of these inadmissible products are allowed to pollute so that we will always avoid the necessity of containing 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.
EARTH NEWS

Power failure

All the talk in the Australian media commercial about the safety and cheapness of nuclear energy makes one wonder whether they bothered to read the foreign press. The Guardian Weekly of 14 August 1983 carries an article on the fallacies 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 cooling system. This little leak comes 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 spokesman 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 slough of the future. In the event, the Hartlepool Advanced Gas-Cooled Reactor (HAGAR) nuclear reactor was unit. But for a while the cooling system failed. Then there has been another nuclear power station.

ACTION: The Movement Against Uranium Mining (MAUM) is launching a campaign to impress the federal government that the exploitation of uranium mining is leading to the destruction of the environment. The MAUM's spokesman said.

Development strategies

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

Both documents talk about forests, rivers and soils in terms of resources, regarding an inability to divorce the idea of conservation from resource development. The NCS sees conservation and development as fundamentally linked by their dependence on living and sustainable development. The NCS seeks conservation assistance by providing assistance to the National Conservation Strategy (NCS) links development and conservation by saying:

Development and conservation are not different expressions of the same process. Together they are required to provide new benefits available from the resource base, but new benefits also must be enjoyed at the same time for the needs of the present and the future. The NCS also makes the point that Australian have obligations to other living things and that activities must occur to modify this natural cycle of other forms of conservation. The NCS then goes on to define conservation as:

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

The NCS sees conservation as a means to an end, and not as an end in itself. It is suggested that the NCS should be seen as part of the national policy framework and as a tool for reducing the costs of providing services and infrastructure and for improving the health and environmental quality.

The NCS also points out that conservation is not an end in itself, but is a means to an end. It is suggested that conservation should be seen as part of the national policy framework and as a tool for reducing the costs of providing services and infrastructure and for improving the health and environmental quality.

In March this year the government of Vanuatu deported Christine Coombe of the newspaper Voice of Vanuatu. Coombe's 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's criticisms of the government. 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 attempts by right wing forces to disrupt and destabilise the government and was challenging their power.

Grace Molua, whose husband was the Minister for Home Affairs in the Vanuatu government, had a poem published in the last issue of Pacific Islands Monthly. The poem is reprinted below is from Pacific Islands Monthly.

Freedom of the Press is a shilling in the pocket of any Democracy. What is it worth? Is it something to fight for? Or is it a crusade?... Called "Democracy" is wielded only by the idle, like a goliath, but it does not always work. Corruption, envy, power-hungry, despotism, rudeness, revolt of the nationals... by agents of corruption and power-hungry, directed by the most stupid and the least, through the mass media. It is not a new idea, and it is not to be feared. What is it that the Australian or any other brand of Democracy is any better than our Democracy? Our own system of Conservatism is more democratic than the dictatorship of the vote against the majority. What Freedom of Speech is there? In Freedom of the Press when my individual and human rights are denied? And why is it so often denied?自由は、独裁と一致していたが、個人の自由は常に保証されるべきである。民主主義は、少数派の権威に従うものである方が良い。民主主義は、個々の自由を保障するものである。民主主義は、個々人の権利が常に守られるべきである。
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.

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Meanwhile the Canadians are having a tough time convincing their southern neighbours that sulphurous air which wafts up 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.
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THE POLITICAL ECONOMY OF NUCLEAR POWER IN THE PHILIPPINES

"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 Zaranik of the Nautilus Pacific Action Research Center look at the background to the building of the reactor and electricity schemes in the country, and the growing opposition to the Marcos regime's nuclear program.
The first revelation to shake the deal was the payment of a multimillion-dollar 'agent fee' by Westinghouse to the Philippines' dictator Ferdinand Marcos' kinsman, Hérmínio Dáni. Dáni also owned 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 was 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, this area is riddled with faults. Technical incompetence and subcontractor kickbacks also indicate shoddy construction and inadequate quality control, solving inescapable hazards to those intrinsic to nuclear power operation in an area where over 7 million, largely malnourished and immobile, Filipinos live within a 50-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. Faced with increasingly vociferous international and elite Filipino opposition (especially in the churches and universities clustered around the Philipines Movement for Environmental Protection) which could not be easily contained, Marcos suspended reactor construction twice and ordered a safety review commission. The commission whitewashed the risks, and its findings were treasured by critics and siting practices, and demanded that Westinghouse reconfigure. 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'.

It is difficult to establish how effective, or the social costs to extract from the population. The effects on surrounding communities, who live in the path of the future reactor, have been incalculable.

The nuclear deal provoked a broad-based resistance in the Philippines which has become the centre of an export-oriented industrialisation, conflicting class interests, and US-Philippine relations. We explain why nuclear power was adopted—an analysis not easily generalisable to other Third World countries which have chosen the nuclear option.

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THE PHILIPPINE NUCLEAR LESSON

The export of a 600 megawatt Westinghouse reactor to the Philippines reveals the factors at play and the odds against the deal. The site—the coast 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, this area is riddled with faults. Technical incompetence and subcontractor kickbacks also indicate shoddy construction and inadequate quality control, solving inescapable hazards to those intrinsic to nuclear power operation in an area where over 7 million, largely malnourished and immobile, Filipinos live within a 50-kilometre radius.

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Electrification Administration surveys reveal that where electricity is available, the benefits accrue to a small rural and urban elite. As RAND Corporation analyst, Guy Pousker, concluded in a report State Department, "Electrification in the Philippines can hope to achieve the availability of power in the village, regardless of the number of effective demand among the rural populace who will then be able to afford electric amenities in their homes.

Furthermore, as USAID consultant Judith Tindler has remarked, "Electricity has been pronounced as the fuel of the economy and it is the major tool of economic development for the Philippines ."

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

During the period of martial law, decisions are being made to move the country forward economically. If these decisions are firmly needed and will be accepted by the majority of Filipinos, then the program will move forward, and the obstacles to this development may be reduced. On the other hand, if martial law is ended prematurely, the economic decisions are already made, and the load may prove too huge."

Nuclear power coincides with the centralization 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 43 utilities, the expropriation of the giant Manila Electric Company from Eugenio Gordon Associates bluntly warned that 'total electrification' perpetuates the regime's emphasis on electrification for export-oriented development program. There is a prima facie case that the mere provision of more centralized electricity will not benefit most Filipinos under the current regime. This conclusion does not entirely preclude an attempt to electrify the Philippines for a development strategy dictated by creditors. A similar situation exists among national economies. The Philippines 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's encouragement of electric generating capacity in the Philippines. Rather, our analysis demonstrates that the outcome of current electrification and development strategies is a dark future for the majority.

14 Chain Reaction

15 Chain Reaction
“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 counterinsurgency campaigns.

Peace-and-security lighting also makes rural areas inhospitable to rebel forces and directly protects the properties of wealthy 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. Cooperative 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 major crops and cycle industries, practically all major urban areas of the Philippines have been electrified. Nuclear exports have always been seen as a way to reinforce USA international political leadership by diffusing technological dependence throughout a global capitalist economy. &

At the same time, the nuclear industry was on the verge of collapsing in the USA. The full range of the Westinghouse overseas technology industries, practically all major US firms, and an extended US military-industrial complex, all of which were dependent on the sale of nuclear power, were in dire straits. Nuclear exports were dependent upon the Philippines, which was dependent on the USA military-industrial complex, which was dependent upon the sale of nuclear power. &

Nuclear exports, therefore, are oriented towards local opposition to the Bataan plant. The US State Department, Marcos’ take on the status and rental of the Philippines, and USA state and raised on state subsidies, the industry has always been seen as a way to reinforce USA international political leadership by diffusing technological dependence throughout a global capitalist economy. &

The Philippines is in turn linked to a pan-Pacific network, the Nonalignment Movement, and the Nuclear Free Pacific and Independent Movement (NFPM). The NFPM stands opposed to nuclear power plus electrification, and in particular its corollary of capitalist technological advancement, the ‘Communist equals Soviet power plus electricity’. The NFPM was formed in response to the USA’s attempts to impose nuclear power on the Philippines. It sees our determination to advance nuclear technologies in an era of socialist transition in the Philippines. The Philippines Coalition is in turn linked to a pan-Pacific network, the Nonalignment Movement, and the Nuclear Free Pacific and Independent Movement (NFPM). The NFPM stands opposed to nuclear power plus electrification, and in particular its corollary of capitalist technological advancement, the ‘Communist equals Soviet power plus electricity’. The NFPM was formed in response to the USA’s attempts to impose nuclear power on the Philippines. It sees our determination to advance nuclear technologies in an era of socialist transition in the Philippines. &

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AFTERWORD

The Filipino struggle directly contradicts Lenni’s philosophical position: “Communism equals Soviet power plus electricity.” In analysing the subordination of nuclear technological decision making to the struggle for class power, in a period of post-revolutionary struggle, the Filipinos have drawn lessons from the struggle - and their politics - invite a philosophical polemic, ‘must do everything possible to counter this movement’. The Philippine struggle is an extension of the anti-imperialist, anti-nuclear resistance as part of a global anti-nuclear arms race. The Philippines Coalition is in turn linked to a pan-Pacific network, the Nonalignment Movement, and the Nuclear Free Pacific and Independent Movement (NFPM). The NFPM stands opposed to nuclear power plus electrification, and in particular its corollary of capitalist technological advancement, the ‘Communist equals Soviet power plus electricity’.

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 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 of the imperialist countries over the Filipino people by a USA-backed government, intensify their exploitation, and accentuate the social conflict enraging the country.

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Dyeing concern

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 colours have been used for thousands of years and synthetic hair colourists for nearly a century. But only in the past twenty years has dyeing become widespread. By 1971, 1978, the Union of Australian Women (UAW) organised a campaign directed at the Victorian state government calling for action on the suspect chemicals.

In 1978, the UAW recognised, 'women face many pressures to change their hair colour will enhance their appearance, older and Australian media to evidence suggesting that chemicals...

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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. 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.

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 the top of the list is the book one-person operation, working with a limited amount of equipment and chemicals, often from the family station wagon. At the other extreme are the operations with a fleet of appropriately 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 Antipast (Aust) are national with branches in all the major metropolitan areas. The vast majority are small to medium-sized businesses.

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 of some pest control operators and government regulatory bodies in Sydney.

The quality of these operations varies greatly and professional responsibility is not necessarily reflected in the size of the organisation. Without local and appropriate policing, both larger and smaller companies have in the past used systems for cost cutting. A basic fact facing the urban community is that the present utilised tools of pest control are some of the most hazardous compounds to which humans can be exposed. Where appropriate, these are 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, however, has not been the subject of a greater concern, because urban pesticide application takes place in a myriad of small operations, generally unmonitored and uncontrolled. The level of rural chemical use is relatively low by comparison, yet the environmental and human contamination from urban usage has been shown to be 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. Raising the possible contamination from domestic 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. 21 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 decreasing risks to humans and the environment and decreasing cost, are the synthetic pyrethroids, 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 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 characteristics 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, yet dispersed into little species and stored in fatty tissues, and become concentrated in the human food chain. Ever equal concern to both operators and the general public is the fact that delayed and often irreversible effects may follow when organochlorines were used. The following exposure to these chemicals. These include mutagenic, carcinogenic and teratogenic effects as well as damage to all kinds of organs and body 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 are arsenic, one of the most toxic chemicals known; it is also cardioxic.

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 acircumscribed 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 of organochlorines may be used as a preventative measure.

Backyards get flooded with organochliones in an attempt to get rid of flies and eaves of houses are sprayed to prevent harmless spiders from constructing webs. Many companies, backed by their salespeople, are using their services playing on people's fear of the funnel-web spider, a danger exaggerated out of all proportion. That pesticide control advice is erroneous.

Ground dwelling spiders, thus, do not suffer any from the application of pesticides, despite the large quantities of organochlorines, they use the normal pesticides, they use them a greater hazard. The treatments do however destroy a good proportion of the soil microfauna necessary to maintain healthy soil as well as render it too polluted for vegetables and other food plants for human consumption.
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, very wrong, told it's fine once a day.

Although it is illegal, organochlorines are not uncommonly applied indoors, particularly against termites and common ants — the obligatory screen treatment is so rarely effective that they are tempted to use organochlorines. One particular company, considered by some to be the most experienced in the industry, deliberately flouts the pesticide Act and the Department of Agriculture’s pest control is licensed to use organochlorines. In their experience, termites in factories and warehouses spray the surface of concrete slabs with organochlorines. This company has found that the normal procedure of drilling the slabs and injecting the organochlorines too time consuming so they have resorted to this particularly hazardous practice (less-efficient procedure).

Other procedures are also questionable. Internal treatments against such pests as German cockroaches, flies, carpet beetles, clothes moths etc. require that specific areas be treated after the pest, treatment generally involved use of liquid sprays and dusts. Recently there has been a trend toward use of pesticidal aerosols and mists which are 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 ‘gassing’. Clients frequently complain of difficulty breathing the night or day following spraying of their home. Some evidence seems to indicate the aerosol is particularly residual on porous, textured surfaces such as blankets, carpets and sheers. 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 and the lack of any scientific curing measurements is high. At whose expense?

As the industry stands, experience and training does not on the whole lead to social and environmental responsibility. It is to be hoped that the dichlorvos can, and do, pick up bed habits, and training is often carried out by operators and ‘technical experts’ who themselves flout existing legislation. Operators can be given the full responsibility of a vehicle containing an arsenal of highly hazardous chemicals with as little as one week’s experience.

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 doesn’t appear to extend far.

Which operators 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 1975. This act, referring to both the agricultural and urban sectors, deals with such matters as registration, labelling, packaging, use, storage and so on. This legislation is far from adequate, particularly with respect to registration chemicals. Effective enforcement is also lacking. The Codex Commission, which promotes the object of ensuring that only правильно registered chemicals are applied in the community has been described as ‘nonsensical’. Experiments have been done in other countries, eg organochlorines, thallionic 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 such matters as pesticides, the setting up of vehicles, and only a recommendation not legislation — that organochlorines, should not be used in areas of 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 adds 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 backyard. It is generally accepted that a worker who is at greatest risk. In the case of gas used in an aerosol spray, it has been found that the droplet size produced increases due to rapid determination of the gas 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 items such as pest control 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 backyard. It is generally accepted that a worker who is at greatest risk. In the case of gas used in an aerosol spray, it has been found that the droplet size produced increases due to rapid determination of the gas through normal use. This consequently causes the aerosol to be more residual since the chemical takes longer to evaporate.

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Choice magazine (Australian Consumers Association) self-regulatory associations were set up in

several states. In New South Wales however only one­child of pest control firms are members of the United Pest Control Association (UPCA). Economic

factors play a significant role. Pest

is a highly seasonal business with the most work in summer which

finds companies operating in fusious competition, desperately wanting one another. During winter months, single operators often look for alterna­
tive work such as gypsying. Many unlicensed, unemployable youths and 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.

Non research is being conducted on nonorganochlorine alternatives

organochlorine formulations in Australia. An example can be given of a safer, alternative formulation available in the United

States of America which is not yet actively promoted by the Department of Agriculture. Only persistent enquiry followed by vigorous lobbying on the part of manufacturers, Dow Chemical, that this formulation (chlorpyrifos, a residual organophosphate) is proposed for registration against termites in NSW. At present the introduction of this chemical appears more a public relation exercise on the part of Dow as the price of the formulation will be twice that of the cheapest and is twice commonly used and one of the most hazardous compounds, aldrin. At 0.04 per litre, for 24 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

alterna­
tive subjects for discussion among many of the peace movement here in Australia will be lost.

The Toxic and Hazardous Chemicals Committee of the Total Environment Centre (Sydney) has formed a subcomiittee to consider safer alternatives for termite or borer infestation. Alternative to chemical treatment should be allowed to where possible as a basic policy.

The visit by a USA naval fleet, including the world's largest war­

ship, to Perth in July 1983 was described by the media as 'a peacemaking visit'. However the role of the thirteen warships making up the fleet (three of which are nuclear-powered) and its 2000 nuclear weapons and 9000 sailors is far from peaceful.

Mark Delmage looks at the reasons behind the USA military build­up 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 establishment of bases in Central America, Alaska, Hawaii and South-East Asia. Of particular interest to the Indian­Pacific 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 Filipinos. The intent of the USA was not to liberate the Filipinos from 377 years of Spanish rule but to gain a foothold in a territory that since the end of Spanish rule in 1898 has been described as 'the key to the Pacific'. Today the Suic naval base is one of the largest in the world and, together with the Philippines, Japan and Taiwan, makes the Pacific a significant region of the US imperialist drive.

Until recently the Indian Ocean had remained largely a question of representation for the USA naval forces. However with the establishment of the North West Cape communication base in Australia and the naval base on Diego Garcia in the Indian Ocean this widening of the Indian Ocean region means that the peace movement here in Australia will need to be aware of this international activity.

In the wake of the recent deployment of nuclear warships to the Philippines the momentum of the peace movement against nuclear weapons and the ANZUS treaty and gives de­

facto support for an American military buildup 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 at first appear logical and progressive. However if these are to serve support for client American states such as the Philippines and military support for the Indonesians at the expense of the East Timorees we must realize 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. Doubtlessly there is already widespread awareness and concern for many of the issues, yet they remain unfamiliar subjects for discussion among many sections of the peace movement.

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

The widening of the debate is not simply the prerequisite of the peacemaking visit, but is a condition of 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 communication 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 Violent Exploitation (WAVE); Annique Disarmament (WAND); 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 middle-class to unionist. Some members have been involved in the Women's International League for Peace and Freedom (WILPF), which is a fairly well-organised 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-makers.

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 hierarchically and bureaucratically 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 people felt that male-dominated politics was not addressing those questions women saw as important: the exploitation of the Pacific and Indian Oceans; the contamination of uranium from nuclear testing; the lack of recognition of land rights; defence spending at the expense of social need; violence against women and children; unemployment; and a 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 took 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. We were very excited because there were coup attempts 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.

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

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 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 which relates particularly to WAND. Was the group formed because women experienced problems within AICD?

Diane Well, I think it's the same as with any other group - where 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 any way or are they the same?

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Have the objectives of WAND developed in any way or are they the same?
The media has been particularly sym­pathetic to women’s actions in the disarmament movement. Do you think this is because they are able to capitalize 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 concerned about the specific issues around the peace movement and the issue of land rights.

Mavis This also came through very clearly in the Pacifist Peace Action Project. It was always Lorraine Ells, mother of four children, never Bill Ells, father of four children. The point I’m making is that within the movement there is this general perception that women are 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.

Amique There is a different element of feminism that for some people is particularly of things like the Save our Peaceful 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. We then realized that it was necessary to get permission from the traditional owners to camp there. Lately a very acute awareness has been developing about the area between the land rights struggle and the peace movement. 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 black women to engage in a white Anglo-Saxon type of action.

Annique WAAGV came smack up against this recently in trying to plan the action at Pine Gap. The idea had been developed in Canberra, but we hadn’t really addressed any other issues except what WAAGV had proposed. We then realized that it was necessary to get permission from the traditional owners to camp there. Lately a very acute awareness has been developing about the area between the land rights struggle and the peace movement. 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 black women to engage in a white Anglo-Saxon type of action.

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Amique I think that’s a very important point - it’s one of the Lynch pins of reality, since almost everybody does think that the media latches onto - women as mothers, women looking to the future - is the ‘women as carers’ image. But there’s a sense of continuity which seems stronger among women than men.

The area where feminists have moved together seems to me to be woeful. In Sydney, in 1974 as I recall, the women’s movement held a conference on women and violence and it was decided to advertise this as a meeting of various aspects of violence one of which was the atomic 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 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 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 will be 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 as women take control more signifi­cant and then I think the media will take a different attitude.

Amique Yes, it’s seen as much more of a denial 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.

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Limits to growth

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 greeneries 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 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.

Three 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 live 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 20 times as much as the average Ethiopian - and uses 35 times as much energy as the average for people in the poorest 40 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 luxuries and non-essentialities, while Third World people must go without what they desperately need. It also shows much of the Third World's productive capacity is devoted to supplying goods to developed countries, when many of those lands, 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 mildly, unsatisfactory, and this has been development which has built and enriched Third World ruling groups, multinational corporations and consumers in developed countries but which has not only done very little for most people in the Third World, 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 compelled to grow up greedy and brutal Third World regimes. We insist that the key to development is to increase the volume of business turnover and thereforescarce 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 arms, 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 there is for everyone'. There is no simple answer to this. Resource extraction and consumption are fundamental source of these difficulties. The more we pursue affluence and growth, the greater the likelihood that the poorest groups will simply so that the poor may simply live.

Similarly, the more we pursue affluence and growth, 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 resources. 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 as high as 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 energy and environmental capacities of the rich countries to be drastically slashed, which therefore do not entail any loss of material consumption and are not even likely to develop the industries needed by the poor.

The conventional approach has not seen that the Third World must go "de-develop" towards prosperity... instead, poor countries have sunk into levels of debt that now threaten to wreck the world's 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 difference is not just in standards but in a complete reversal of priorities so that the poor may simply live.

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

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

The main problem is that the main market mechanism is not capable of responding to the needs of the poor. The market mechanism is designed to produce what the relatively rich want, but the relatively rich want what is profitable, and the market mechanism only responds to what is profitable. For example, it still costs less per barrel than 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 is not capable of responding to the needs of the poor, the market mechanism will not produce what the poor need.

We decided to cease producing some of the most inexcusable non-necessities like sports cars, speedboats and hair dryers. 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 can be produced is determined by what makes most profit. Consequently there is massive production of what is produced, who gets it and what can 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 as 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 doing anything to save 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 if you are concerned about saving the global environment, as distinct from this forest or that wild river, then you must join the whole messy heap of viciously political problems which involve the nature of our socio-economic system and the struggle to bring about better ways of organizing our affairs.

Take for instance the problem of deforestation. Deforestation is a huge and complex problem requiring immediate attention. However, the most serious of all threats to the global ecosystem is not the single most effective response to that problem would be to cut down only the unnecessary production that is destroying the world. Why are rainforests being destroyed at such a huge rate? For each kilogram of food an American eats she/he in effect consumes 113 kg dry, which is equivalent to four hectares of forest. This is tragic if we scrap capitalism but remains determined to have affluence and a rising GNP we will end up with more or less the same set of limiting growth problems we have now. The required response to this is not to `in-crease` fundamental value change away from commodification which means concentrating on wealth and power and towards finding satisfaction in mutual giving and growing things for direct use, sharing, cooperating, helping, making things last, being part of a warm and supportive neighbourhood, and in personal and cultural crops and wastes are not returned to the soil. Our energy-intensive self-mixing form of agriculture means it is 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 world if we do nothing to turn off the expansionist engine, because even if we succeed the economy will only move on to devour some other wild world. 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 can generate not only environmental problems but all the other limits-to-growth problems.

Marxist social theory is indispensable for understanding why we have these serious problems, yet Marxists fail 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 limiting growth problems we have now. The required response to this is not to `in-crease` fundamental value change away from commodification which means concentrating on wealth and power and towards finding satisfaction in mutual giving and growing things for direct use, sharing, cooperating, helping, making things last, being part of a warm and supportive neighbourhood, and in personal and cultural crops and wastes are not returned to the soil. Our energy-intensive self-mixing form of agriculture means it is 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.

By Andrew Blakers and Peter Penn

Many of the battles of the environment movement are essentially over projects involving energy development, environment is at the root of the threat to each of the major World Heritage areas in Australia; rainforests in the Kaku region, oil in the Barrier Reef, hydro-electricity in South West Tasmania. In Chain Reaction 33, Don Shropin pointed out that environmentalists need to be more concerned with initiating and promoting appropriate energy policies. These policies should be directed to energy conservation 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 55kW wind generators in northern Tasmania to match both the output (110MW) 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 electrically

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 estimate)
  - Henty-Anthony scheme: 2.60 c/kWh

- Coal
  - Thermal power
    - Western Tasmania: 3.60 c/kWh (estimate)
    - Wind
      - North-West Tasmania
        - wind farm: 2.60 c/kWh (University of NSW estimate)

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

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 13,800 hectares of prime wilderness, including the anthropological sites and ancient rainforests of the Franklin Valley. To match the output from the dam would require 4000 wind towers, allowing crops to be grown between them. The 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 300 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 use one USA utility alone, Pacific Gas and Electric, is for delivery by 1986.

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 $115m within Tasmania over the 60-year project life. It is estimated that the cost of the dam is only $420m. The major reason for the difference is that the Gordon below Franklin dam scheme requires considerable massive investment outside Tasmania.

The wind potential in Tasmania is large enough to support wind energy resource. Wind was considered by the Hydro Electric Commission of Tasmania in its 1980 report, Gordon River Power Development, Stage II. The report's method of analysis was incorrect. The estimate of the cost of the wind generator and its siting costs (in South West Tasmania) were unrelistic. The onshore wind potential of the Tasmanian wilderness is that the planned 7000 wind generators are nearer in size than the one-off, fully loaded, currently available machine.

Southern Australia derives 70% of its electricity from burning Cooper Basin gas. Southern Australia's share of the resource runs out in 1987. Decisions have to be made this year on whether to obtain electricity after 1987 because of the length of time required to develop conventional power sources. Southern Tasmania has a long coastline in the roaring forties', and has excellent wind potential. It is estimated that the large scale application of wind generators would produce electricity at a lower price than burning coal or imported gas from New South Wales or the poor quality local coal. The South Australian government is interested in the potential for large-scale wind generation, particularly for the manufacturers and engineers 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 costs within six months. The potential of 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 NERDCO may 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 energy requirements. The project is feasible administratively and the management 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 must be difficult to persuade cabinet to accept the proposal.

Two medium-sized wind generators will be very badly 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 Tasmania.

Mainland potential

The southern states of Australia all have excellent wind potential. Both Victoria and Western Australia support the experiment with wind generators. A machine of advanced design was recently installed at Ballarat at a cost of around $630,000. This corresponds to 3.6 cents per kWh at the 1980/81 retail price. The Tasmanian wind conditions using Hydro Tasmania's electric commissioning procedures of analysis. The price of locally mass-produced wind generators in ten years is likely to be less than that of one-off, fully loaded, currently available machines.

Wendy Reader

Action

An extensive campaign is required to accelerate the introduction of wind energy to Australia. The emphasis of the campaign needs to be directed to two main points, with the immediate goal of a wind generator in each state to allow the state electricity authorities (hand-in-hand experience) if you can help in lobbying activities, please contact:

- New South Wales:
  Tel: (02) 598 6104 (h), (02) 267 7762 (w)
  Media: 167 Goulburn St, Sydney (PO Box 268)
- Victoria:
  Tel: (03) 398 6104 (h), (02) 267 7762 (w)
  Media: 167 Goulburn St, Sydney (PO Box 268)
- South Australia:
  Tel: (09) 398 6104 (h), (02) 267 7762 (w)
  Media: 167 Goulburn St, Sydney (PO Box 268)
- Queensland:
  Tel: (07) 398 6104 (h), (02) 267 7762 (w)
  Media: 167 Goulburn St, Sydney (PO Box 268)
- Western Australia:
  Tel: (09) 398 6104 (h), (02) 267 7762 (w)
  Media: 167 Goulburn St, Sydney (PO Box 268)

Reviewed by Keith Redden


The explosion of the peace movement into 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 written anything about the war (right or left in some cases) thinks they have something to say about World War Three or the movement to prevent it. Almost all the major journals have devoted an article to the issue and it has now become mandatory to ignore its existence.

The reasons for this are obviously. Firstly, it is the most pressing and important issue of our age, one that should have, and has attracted, the attention of all thinking people. To this extent the growth in literature related to the movement has been significant. Though it is so easy to understand and analyse things that are stable. And movements for social change are (by their very nature) unstable. However, the scale of things. As they develop and grow they located in many places, from Chinese campuses and Third World independence struggles to the student and workers movements of the sixties and demonstrations of other places. Today, in the writings of many intellectuals, the role of intellectuals is coming to the fore.

The writings of this school have long involved their role in providing a movement for peace, political and institutional. The WesternAustralian government is interested in the potential for large-scale wind generation, but unless there is a concerted effort this environment will not be considered seriously enough. The State Electricity Commission of Victoria, for example, has spent a good deal of time investigating wind energy. However, they have concluded that the wind potential is not high enough to be considered seriously.

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 NERDCO may 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 energy requirements. The project is feasible administratively and the management 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 must be difficult to persuade cabinet to accept the proposal.

Two medium-sized wind generators will be very badly 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 Tasmania.

Mainland potential

The southern states of Australia all have excellent wind potential. Both Victoria and Western Australia support the experiment with wind generators. A machine of advanced design was recently installed at Ballarat at a cost of around $630,000. This corresponds to 3.6 cents per kWh at the 1980/81 retail price. The Tasmanian wind conditions using Hydro Tasmania's electric commissioning procedures of analysis. The price of locally mass-produced wind generators in ten years is likely to be less than that of one-off, fully loaded, currently available machines.

Wendy Reader

Action

An extensive campaign is required to accelerate the introduction of wind energy to Australia. The emphasis of the campaign needs to be directed to two main points, with the immediate goal of a wind generator in each state to allow the state electricity authorities (hand-in-hand experience) if you can help in lobbying activities, please contact:

- New South Wales:
  Tel: (02) 598 6104 (h), (02) 267 7762 (w)
  Media: 167 Goulburn St, Sydney (PO Box 268)
- Victoria:
  Tel: (03) 398 6104 (h), (02) 267 7762 (w)
  Media: 167 Goulburn St, Sydney (PO Box 268)
- South Australia:
  Tel: (09) 398 6104 (h), (02) 267 7762 (w)
  Media: 167 Goulburn St, Sydney (PO Box 268)
- Queensland:
  Tel: (07) 398 6104 (h), (02) 267 7762 (w)
  Media: 167 Goulburn St, Sydney (PO Box 268)
- Western Australia:
  Tel: (09) 398 6104 (h), (02) 267 7762 (w)
  Media: 167 Goulburn St, Sydney (PO Box 268)

Reviewed by Keith Redden


The explosion of the peace movement into 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 written anything about the war (right or left in some cases) thinks they have something to say about World War Three or the movement to prevent it. Almost all the major journals have devoted an article to the issue and it has now become mandatory to ignore its existence. It is the most pressing and important issue of our age, one that should have, and has attracted, the attention of all thinking people. To this extent the growth in literature related to the movement has been significant. Though it is so easy to understand and analyse things that are stable. And movements for social change are (by their very nature) unstable. However, the scale of things. As they develop and grow they located in many places, from Chinese campuses and Third World independence struggles to the student and workers movements of the sixties and demonstrations of other places. Today, in the writings of many intellectuals, the role of intellectuals is coming to the fore.

The writings of this school have long involved their role in providing a movement for peace, political and institutional. The Western Australian government is interested in the potential for large-scale wind generation, but unless there is a concerted effort this environment will not be considered seriously enough. The State Electricity Commission of Victoria, for example, has spent a good deal of time investigating wind energy. However, they have concluded that the wind potential is not high enough to be considered seriously.
than to the dreams of those who would force anything new into their inherited nineteenth century straitjacket. The plethora of material available leaves readers the choice of a vast array of choics, which this review hopes to make a little easier. It is too much for anybody to read everything, but fortunately the work of a few is inconsequential and useless 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, technology, and strategies in strategic doctrine, and virtually anything 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 are relevant to peace workers. Davis provides information necessary for understanding, argument and any serious approach to peace activism. One publication that has always proved useful, and which is reviewed in this late review, The War Arzja, by Michael Kidron provides a useful guide to weaponry, and his major work in The Nuclear Arms Race: A World War in the Making 1945-1985 is a separate world map, 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 which range from perspectives covering the whole range of perspectives in a range of countries. These are the books and articles that occupy most of the room on the bookshelves and which are the subject of this pamphlet and this argument. Mostly they take as their starting point the existence of the Cold War, and the arms race, and attempt to explain and understand them. There are many of them, and one of the most highly regarded authors of them is E P Thompson who has written extensively on the subject. He initially came to wide public attention with his pamphlet The自觉 of the Crisis of 1963, and his major work in The Making of the Modern State. His The Making of the Modern State is in some ways the essential text in this field. It is the work of 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 1976, 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), he was involved in the 'equals' 50s and early 60s he dropped out of the movement to concentrate on his academic career. He pleads guilty, along with the rest of his generation to abandoning this movement in despair after a series of major setbacks. The immediate cause of the revitalisation of CND was the decision to ban Nuclear 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 Wing in the pamphlet).

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 other writings from this period is the title of the second pamphlet of this review, The Poverty of Theory. It seems that these two works on the titles of other books are a variation of the British government’s civil defence publication Protect and Survive. Thompson seems to love these titles, while the character from which they were taken, ‘The Poverty of Theory’ comes from Marx’s The Poverty of Theory, itself a variation of Proudhon’s The Poverty of Property, and his major work in The Poor Man’s Aristocracy, The Highest Stage of Capitalism.in some ways the essential text in this field. It is the work of 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.

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Office of Technology Assessment. It describes objectively, dispassionately and scientifically the best available information on the whole range of effects that might result from a nuclear war. A third component—the worst possible scenario: From massive, immediate biological and nuclear destruction to a future based on controlled nuclear devastation. And then, in the next chapter, we discover what is likely to happen, how and why, and it is bound to surprise and shake preconceived ideas for almost everybody, and is a valuable tool for any argument on the topic.

38 Chain Reaction

The effects of nuclear war— Hiroshima, 1945.

There is one other genre that bears some mention. This is the outcome 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 if you survive the day you will go on to lead a much fuller life'. Most of them are either, or all of the above, have big business, with the backing of well-known multinational corporations (in varying degrees) governments. The author was moved to write the 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, in common, the ability to move genes between organisms, to reprogramme one organism with hereditary instructions taken from another. Because such genetic business will touch all aspects of our lives, it is well worth being within that context, and each chapter is designed to form part of a whole picture, unfortunately it does not happen.

The history of biotechnology is traced through its rapid growth, and its connections with corporations and academic institutions. Chapter four, and five provide a detailed and meticulous description (for me, too many of) how biotechnology works—from the single cell, to gene splicing, (then recombinant DNA, and then DNA, in gels or sections, in tubes), in applications. Such applications, in insulin, in growth hormones, in insulin and monoclonal antibodies (derived from goats, normally) (antigen which induce just one kind of antibody), vaccines and gene therapy are just a handful of the methods currently used to medically useful molecules available.

control and finally redesign nature, our world. That is why I have written this type of research and technology enjoyed such a meteoric rise at this particular time in history. Biotechnology is a control—controlling the natural world and its life by redesigning and creating a new man-made nature (unsurprisingly, and perhaps not a male preserve). The ever-present will to expose, denounce, condemn and destroy that post-nuclear world would decrease the chance of survival. But the only real survival is to understand, and then to act. Keith Redgem is an incisive attacker of po poolly and a veteran of the Stop Omega Chain Reaction.


Reviewed by Barbara Blackadder

This book, as one of the 'Science in Society's series of films, de signed 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 (in varying degrees) governments. The author was moved to write the 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.

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RALLY FOR DISARMAMENT

FOCUS ON WATSONIA
SUNDAY, OCT. 23rd

PND Peace Train for Watsonia departs
1.30pm Flinders St. Platforms 2 & 3
Rally 2.30pm Elders St Reserve, Watsonia
MARCH TO WATSONIA BARRACKS 3pm
BRING A CAMERA

People for Nuclear Disarmament