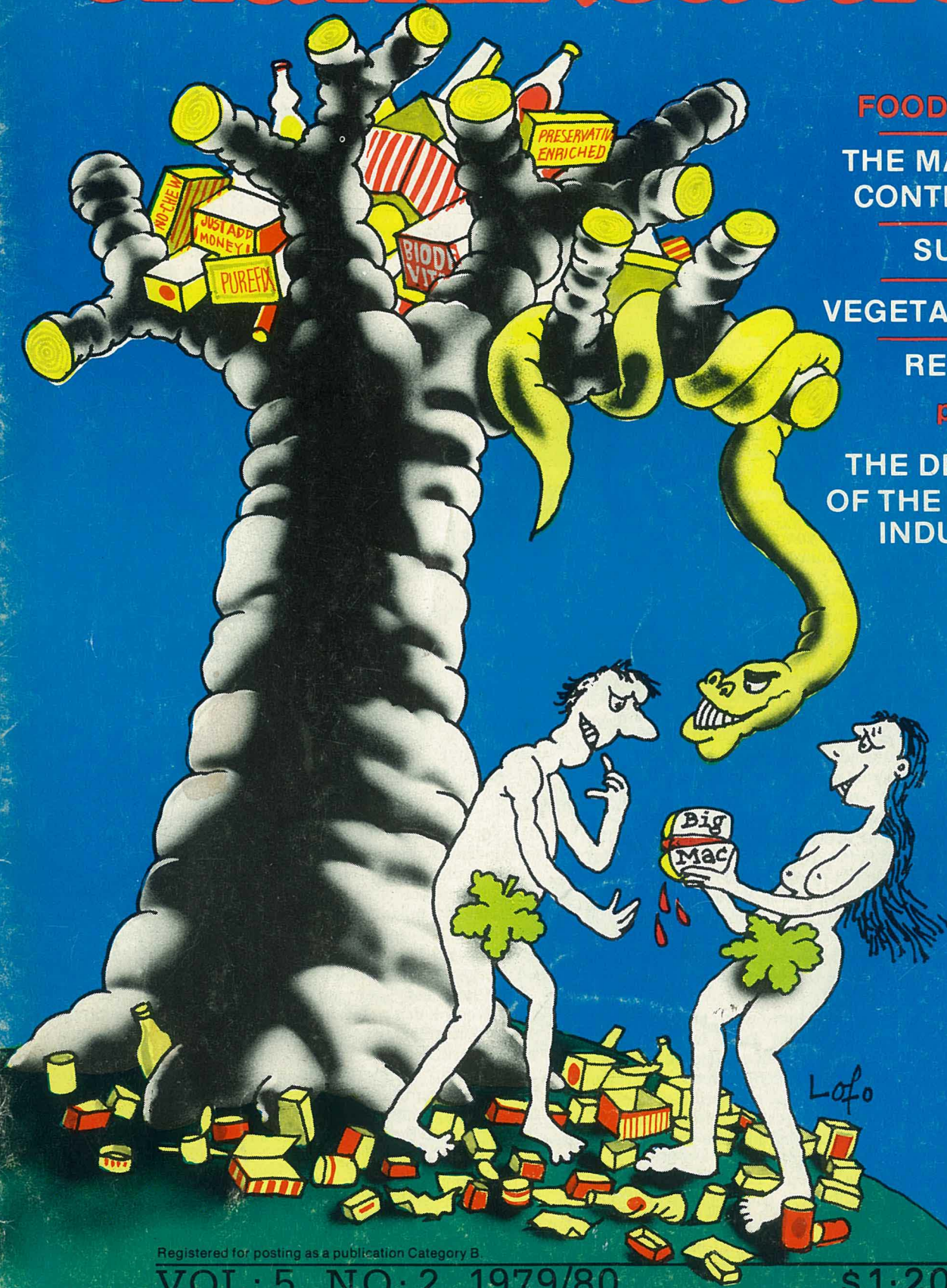


FRIENDS OF THE EARTH'S

chain Reaction



FOOD SPECIAL

**THE MARGARINE
CONTROVERSY**

SUGAR

VEGETARIAN FOOD

RECIPES

plus

**THE DECLINE
OF THE NUCLEAR
INDUSTRY**

Registered for posting as a publication Category B.

VOL · 5 NO · 2 1979/80

\$1·20



special gourmet issue

Now there are advertisements on TV for **instant omelette mix** — it saves you the trouble of breaking eggs and adding milk! You can also buy **frozen take-aways** (no need to go out at night to get the dinner — just take it out of the fridge and cook it!) This kind of advertising is aimed at the housewife: she is encouraged to feel that cooking is a complicated business, much too difficult for her to master, and that the family will like convenience products more than her cooking anyway.

The McDonald's chain has two types of advertisement. One, showing a family having dinner at McDonald's is aimed at the mother: it shows happy children and a father who is just about to take a hearty bite of a huge Big Mac. At other viewing times advertisements, featuring Ronald McDonald the famous clown, are shown. These are directed at children, the idea being that the children will pester their parents so mercilessly that the parents will succumb and take them to McDonald's. The two advertisements go hand in hand.

There is nothing basically wrong with the idea of convenience foods and take-aways. It's nice to break the routine and go somewhere for a meal occasionally, and apart from places like the Pizza Hut and McDonald's there are probably not many places where a family with a handful of young children can go.

However there are strong grounds for objecting to the heavy advertising of convenience foods. Parents are being pressured into buying all kinds of lollies, Coca Cola, thick-shakes, French fries and take-aways, when deep-down they are not convinced that this selection makes up a balanced diet for their children. Young people are learning dubious eating habits that may give them indigestion, acne and a weight problem for years to come.

"Convenience" foods offer convenience at a price. They are generally made from cheap but filling and tasty filling ingredients — sugar, grease, salt, batter, etc. But take-aways aren't cheap! It is generally more expensive to live on take-aways than to cook at home.

Not surprising, we are now experiencing a backlash against convenience foods. There is an enormous amount of latent hostility towards the American-owned giants, such as McDonald's.

Tuck-shop committees in some schools are trying to fight back against the deluge of lollies by providing non-tooth-rotting alternatives such as dried fruit and nuts. At the same time there seems to be a renaissance of interest in adventurous cooking: Chinese cooking, Lebanese food, home-baked bread etc. This represents a really positive change in lifestyle which should be encouraged. People are realising that cooking need not be tedious — and food is something that everyone is interested in.

Some people believe that "you are (literally) what you eat" — that diet determines your mental, physical and even spiritual state. For example Zen macrobiotics is based on balancing the opposing principles of yin and yang, and all foods are classified as either yin or yang, except for brown rice, which is right in the middle — the perfect food. Macrobiotics is a total philosophical system.

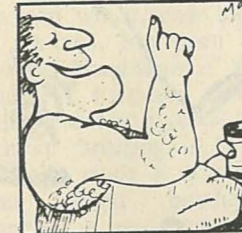
Other schools of thought hold that diet is the all-important factor in health, and advocate fasting or giving up variously, butter, meat, eggs, dairy products, mucus-forming foods etc. as a first step to health. One thing became clear when we tried to collect information for this issue: there is enormous interest in food and as many current theories as there are Heinz varieties.

We found it very hard, however, to reach any solid, factual conclusions as to which foods are best for health. Is it better to eat margarine or butter? What causes heart disease? What effect does eating meat have? How important is vitamin C? In every case there was controversy. It seems certain that diet is not the only factor in heart disease and cancer, the chronic diseases of the affluent world. Diet is only one aspect of lifestyle: stress, exercise (or lack of it), and probably mental attitude towards being alive are equally important to health.

But diet is certainly an important factor, and despite the huge variety of foods that are now available the Western diet overall seems to be worse, in terms of excess fat, sugar and salt, than it was twenty years ago. Instead of broadening people's interest in food the whole thrust of modern marketing and advertising is towards "convenience foods". The emphasis is on the packaging and the image, which draw attention away from the ingredients.

The real tragedy is that people are discouraged from developing their tastes in food and cooking. The consumer is reinforced in the belief that cooking is a tiresome chore, not a creative skill.

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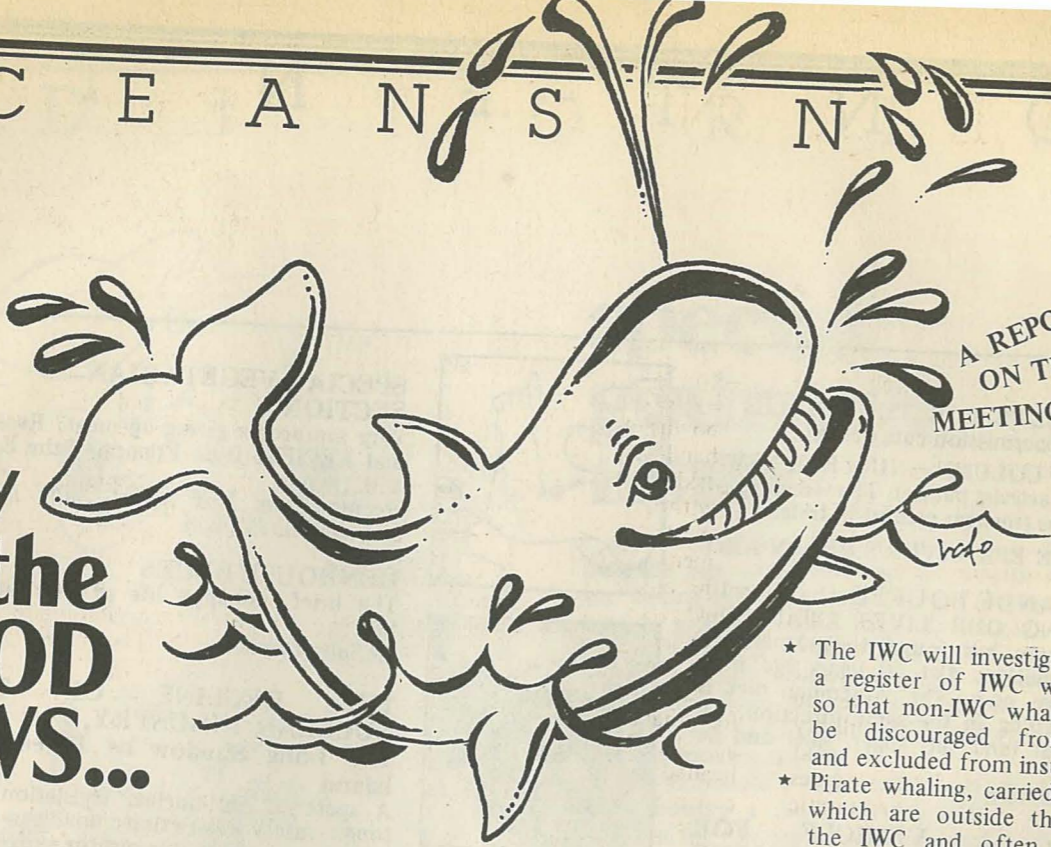
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COVER: Rolf Heimann (front). Michael Vale (back).
EDITED by: Barbara Hutton.
GRAPHICS: John Nicholson, Mike Russo, Jill Redwood, Michael Vale, Barbara and Rolf. Photographs courtesy Community Aid Abroad.
LAY-OUT: Sally Doyle, Barbara, Rolf, Diana, Sue Wilks, Peter Shaw.

CHAIN REACTION, 366 SMITH ST, COLLINGWOOD 3066. Phone (03) 419-8700.

Printed by Waterwheel Press, 159-165 High Street, Shepparton.

Now for the GOOD NEWS...



A REPORT ON THE 31ST IWC MEETING IN LONDON

If the awful inevitability of environmental protest had not yet hit home to the whaling nations who attended the International Whaling Commission meeting at Canberra in 1977 (when a giant white whale was seen floating on Lake Burley Griffin and later turned up, fully inflated, in the corridor of the delegates' hotel) or in London in 1978 (when protestors splashed "blood" on their suits) this year's IWC meeting in July must finally have convinced them. This was the year of the mega-protest, from inside and outside the Commission.

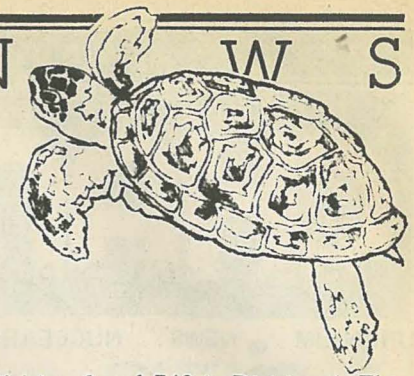
What's a whaling nation to do when the formerly safe opening session features speeches by two new anti-whaling nations (the Seychelles and Sweden), and an anti-whaling statement read on behalf of all the observing groups?

The last straw was John Denver, singing "I Want To Live" across a crowded meeting room. Well, the IWC (never one to miss out on the profits from the whale craze, with t-shirts, badges and postcards for sale) had the rights to the tapes of that session - so at least they may be able to make a few dollars selling copies to John Denver record collectors.

There were 23 nations in the Commission this year. The list of new nations read: South Korea, Spain, Peru and Chile (all whalers) and two conservationist forces - the Seychelles and Sweden.

The big news: All factory ship whaling, except when taking minke whales, has been indefinitely banned.

- * The Indian Ocean north of 55° south has been declared a sanctuary for ten years, with a review of the situation in five years time.
- * Peru and Chile received quotas for sperm and bryde's whales but these quotas will be phased down to zero by 1982 (the quotas were 153 bryde's whales and 30 sperm whales).
- * North Atlantic quotas have been raised for sei and fin whales (to accommodate Iceland and Spain) but lowered for sperm whales, even though Spain received a quota of 273 sperm whales.
- * Permits will have to be reviewed by the Scientific Committee before they are issued.
- * Southern Hemisphere minke whale quotas have been raised to 8,102 despite a minority report which estimated, on the basis of information pooled from two areas, that the quota should have been 25% lower.
- * The need to find more humane killing methods was seriously considered for the first time after a Canadian scientist conducted post-mortems on whales killed by Icelandic whalers. Cold grenades, used on minke whales, were especially condemned.
- * The IWC will investigate setting up a register of IWC whaling ships, so that non-IWC whaling ships can be discouraged from operating and excluded from insurance.
- * Pirate whaling, carried on by ships which are outside the control of the IWC and often killed indiscriminately, was a big issue but no-one in the IWC seemed to know how to handle it. Documentation on the matter was provided by several groups, the most damning account being the "Pirate Whalers" report, presented by the US Monitor consortium.
- * Japan has formally banned all non-IWC whale imports, thus making it much harder for pirate ships and nations who will not join the IWC to sell whale products, especially meat.
- * The UK delegation supported an indefinite moratorium and announced plans to work through the European Economic Community to obtain a Common Market ban on whale products. It said that if no Common Market ban has been declared by the end of 1979 Britain would organise her own ban.
- * The Netherlands will ban whale imports by December 1979.
- * The observer scheme, (under which observers from other nations go to sea with the whaling ships to see that IWC quotas and regulations are not ignored) will be extended. Observers will collect data on humane killing methods and for scientific research. There will be more observers in more areas.
- * More experts on whale biology and population dynamics will be added to the groups working on a review of present management procedures.



* IWC members have been encouraged to supply catch data on krill, tiny shrimp-like creatures which are the main food of baleen whales, and are also being harvested as a protein-source by Poland, Russian and other nations. The data will be handed over to the U.N. Food and Agricultural Organisation. The scientific working group was urged to study the effects of krill fishing on whales, and especially on the chances that depleted populations of whales will ever be able to recover. The IWC will try to send an observer to the next Antarctic Marine Living Resources Meeting, organised by the Antarctic Treaty nations.

* The quota for the endangered bowhead whale, now hunted only by eskimos, has been set at 18 bowheads landed or 27 struck (the hand-held harpoon used by the eskimos often injures the whale without bringing it to shore). Australia made a very long statement about bowheads and proposed a zero quota for these whales. The USA, Canada and Russia agreed to help in bowhead research.

Altogether, this was a better year for whales than for the whalers - for a change! Australia's delegation, headed by Professor Ovington, was consistently in favour of protecting whales.

Recent News:

* A meeting of the Working Group is to be held to discuss the implications of a world-wide ban on whaling.

Russia has asked for a postal vote among IWC commissioners on setting a quota of 765 male sperm whales in the Southern Hemisphere in

Division 2 and 743 in Division 4. The U.K., France and Australia have already voted "no".

On 19 September Britain placed controls on the import and export of meat, offal, fat and oil of all kinds, spermaceti wax, ambergris and the teeth of all whales and porpoises. This means that importers will now require a licence. They may still be able to obtain licences to import sperm whale products as sperm whales are not listed on the CITES endangered list as yet.

- Jodi Adams, GREENPEACE
Thanks to the Marine Action Centre (MAC)

bulletins 5,6 & 7 for the information. The MAC newsletter is available from 1 Marshall Street, London W1 U.K., for £5 (U.K.)



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Wake of the Whale

Wake of the Whale

text by Kenneth Brower
photographs taken in the wild
by William Curtsinger.
published by
Hutchinson/FOE.



A magnificent achievement in underwater photography: Curtsinger has followed marine mammals for 10 years, pursuing harp seals under the ice in the gulf of St Lawrence, photographing killer whales, dolphins, Alaskan walrus, sperm whales, and the complex courtship of the rare right whale.

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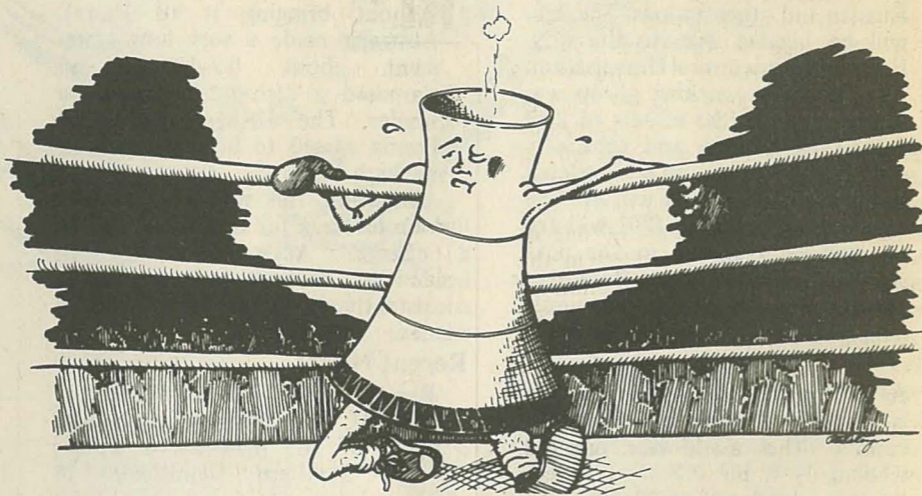
CHANCY

URANIUM . . . NEWS . . . NUCLEAR . . . NEWS . . . URANIUM . . . NEWS . . . NUCLEAR . . . NEWS . . . URANIUM . . . NEWS . . .

"CHINA SYNDROME"

BLOWS AUSTRALIANS OUT OF THEIR MINDS.

In the past few months thousands of Australians have experienced the seat-gripping, eye-opening cinematic hit "The China Syndrome". All over the country this movie has been literally packing 'em in. Hollywood's gift to the anti-nuclear movement has not only been a successful education vehicle, but also a financial bonanza for its distributors. Not wanting to miss out in a cut in the profits, one anti-nuclear activist was overhead to say to a manager of Hoyts; "... when are you going to send us the cheque?"



ANTI-TRUST.

Much coverage was given to the US Anti-trust suit during October. Initial publicity however began a few years ago when F.O.E. received impressive documents evidencing the existence of a uranium producers' cartel. Now it seems Westinghouse wants damages for the losses it claims were incurred when the price of the Australian uranium it included as part of a package deal with each reactors sold leaped — allegedly due to the existence of the cartel.

However, the Australian Government has intervened fearing that the suit will jeopardise the "National Interest," and also that if it is successful a precedent will be set whereby private interests in the US can take out actions against Australian companies.

PAUL JACOBS & THE NUCLEAR BANG.

In the early 1950's the US Army, in an attempt to demystify nuclear warfare forced some of its troops to watch A-Bomb tests in the Nevada Desert. Shielded by little more than hands over their eyes, they experienced hor-

rific levels of radiation from the fall-out.

In the newly imported US film "Paul Jacobs and The Nuclear Gang," we follow Jacob's investigations thirty years later into astonishing levels of radiation-linked cancers and leukemias amongst both the residents of St. George and the soldiers. This film is not to be missed.

"Paul Jacobs and The Nuclear Gang" is available from M.A.U.M. (03) 419 1457.

HAS HIFAR RUN OUT OF STEAM?

Sydney's Lucas Heights reactor made front page news in the dying days of October. When closed down for a routine check it was discovered that at least three of its seven bellows were leaking heavy water. Of this latest development Dr G.L. Miles (Deputy Director of Operations) told us to fear not, and that "more things can go wrong with an old car".

Authorities appear to be taking this as their chance to replace Hifar with a bigger and deadlier foreign model. The

hot favorite is shaping up to be the French "swimming pool" reactor, which uses highly enriched and highly dangerous weapons-grade uranium.

HOW GREEN IS YELLOW?

Only recently released, the US Report of The President's Commission into Three Mile Island seems to lay the blame for the reactor accident squarely on the operators of the plant. Says the Report: "It became clear that the fundamental problems are people-related . . ." Any inherent weaknesses in the design of the reactor were deemed lesser causes. The Melbourne "Age" interprets the recommendations as a cautionary "yellow light" to the nuclear industry . . . but then so was The Fox Report.

WAS IT A BIRD? . . .

WAS IT A SUB? . . .

OR WAS IT SUPERBOMB?

The US has claimed that one of its satellites detected an intense burst of light over the Indian Ocean on 22 September. Both the UN and the US State Department are investigating

suggestions that it may have been a nuclear device exploding. A South African nuclear device, that is. Meanwhile, South Africa's Foreign Minister, Mr Pik Botha insists that the blast was the result of an explosion on board a Soviet nuclear submarine. White House officials have rejected this suggestion. Two years ago South Africa assured the US that it did not intend to acquire nuclear weapons. However, last year both US and Soviet intelligence sources independently detected a South African nuclear test facility in the Kalahari Desert.

South Africa claims to be one of the biggest uranium producers in the world, with expected production in 1979 totalling 6,000 tonnes. Several large foreign-owned oil companies are presently exploring in South Africa for uranium. Conditions in the uranium mines are, to say the least, extremely hazardous. They are all underground, and virtually impossible to keep safe from high levels of radon gas. No doubt the black workers in these mines are considered expendable.

CAMPAIGN AGAINST ANZ.

On 26 October The Movement Against Uranium Mining launched its concise and illuminating dossier on ANZ at the offices of the AMWSU. This document traces ANZ's vast investments in uranium mining companies; no. one in Pancontinental, no. two in Western Mining, no. four in Peko, Wallsend, no. five in EZ . . . and the list goes on. Boards of Directors are cross-linked, and ANZ's banking services to the mining companies are outlined, as is the percentage of foreign capital in ANZ and consequently in our uranium mines. The dossier urges people currently banking with ANZ to publicly boycott the bank. According to the dossier, ANZ is an outstanding example of Australian banks and financial institutions, which are aiding the reallocation of local and overseas investment into the more capital-intensive mining industry. This is being done with utter disregard to social needs.

— By Judy Wilks

SOLAR VILLAGE REPLIES

Last issue featured a report on the Solar Village under construction at Humpty Doo near Darwin. Trevor Lee, who is co-ordinating the project, has written to tell us that:

— the village is now being built as a group of houses on 8 hectare lots with 16 hectares of communal land. The plan for a closely-spaced village with 130 hectares of community land (as mentioned in Chain Reaction) has been abandoned for practical reasons. — Each family is expected to use 9 kWh of electricity per day (not 3kWh as we reported). The 3 kWh referred to are the expected overnight consumption, which will have to be stored.

— Trevor Lee says that solar ponds (for storing heat for electricity generation) are not hard to control. Solar ponds are an ingenious idea, now in use in Israel and the USA, on a semi-commercial basis.

Next issue we will publish details of the mysterious solar ponds and how they work. Watch out for Chain Reaction, Vol 5 (3)!

Regular reports on the solar village are published in "Solarwise" energy watch magazine — available from:

"Solarwise"
P.O. Box 2720
Darwin 5794.

Half a cent too much

Early October saw the closing date for tenders for the AAEC's 50% share of Ranger. Seventeen tenders were received, the highest from Utah (USA) was still \$100 million short of the asking price of \$250 million. An extremely realistic and most generous bid of half a cent was received from a F.O.E. NSW group.

Drivers toot against uranium...

Another shipment of yellowcake has now left Lucas Heights, the Australian Atomic Energy Commission's research establishment near Sydney. But it did not go unnoticed. Shipments last year sparked off the dramatic confrontations at Glebe Island and White Bay dock area, which culminated in a series of draining court cases (and some broken ribs for the demonstrators).

This time the Sydney anti-uranium movement changed tactics. Instead of holding its protest at the docks, hidden from public view, it set up a Nuclear-Free Embassy in a small park nearby, on what must be one of Sydney's busiest intersections. The Embassy comprised a tent complete with displays, a sail-windmill made of red and yellow cloth, banners, land rights flags, and a sign calling for cars to "TOOT AGAINST URANIUM EXPORTS." And toot they did: toots ran at 600 to 800 an hour during afternoon peak hour traffic and counts taken between 11.30 pm and 12.30 am ran from 110 to 140 per hour. At least half the toots were accompanied by waves and/or shouts of support. Abuses ran at about 2 an hour during the day and less than one an hour at night.

Residents brought coffee, tea, cakes, soup, porridge; offered the use of their showers and phones and were extremely supportive. The Embassy, originally planned as a two day protest, stayed in the park for a week, staffed 24 hours a day.

Then, after a brick was thrown through the roof of the tent one night, the wharfies suggested moving the Embassy to Glebe Island, where they could keep a protective eye on it. That is where it is at time of writing. After the shipment leaves it is intended to keep the Embassy going — the next planned location is Bondi Beach. Paul Marshall, Sydney.



THE GREENING OF THE GREENS

REPORT FROM THE CARN-SORE ANTI-NUCLEAR FESTIVAL

Although there are many people of Irish descent in Australia (they comprise about 1/3 of Victorians) there is little news from their country of origin in the Australian media. A President of the United States has merely to trip over his feet while getting off a plane to make headline news – yet it takes a Papal Visit, or the assassination of a member of the Royal Family, for Eire to rate a mention in the international press.

However no such bias occurs in Chain Reaction, which is possibly the only non-religious publication in Australia to have a correspondent in Eire. LEIGH HOLLOWAY, an Australian activist, has sent a report on the Anti-Nuclear Power Show, held at Carnsore Point 150 km south of Dublin, the proposed site of Ireland's first nuclear power plant.

The Irish Republican Government plans to build at least one nuclear station at Carnsore, and the Prime Minister Jack Lynch has indicated that the European Economic Community is pressuring the Government to build two reactors of 650 MW each: this would mean a massive increase of more than 40% in Eire's generating capacity.

The Electricity Supply Board's plans are not very precise – or not very public – yet, but Brian Caffrey, Section Manager of the Board's Nuclear Project told Leigh Holloway that construction at Carnsore Point will not begin before 1986, in order to commission a plant in 1992.

Although plans to build nuclear reactors at Carnsore Point are still a long way off, opposition to nuclear power and uranium is already surfacing in Eire.

This year's Carnsore festival was the second to be held at the reactor site and was attended by about 10,000 people from all over Ireland (including the North), Europe, the USA and Australia. Buses ran from Cork, Limerick, Galway, Waterford, Kildare



and Belfast, and a special express train brought people from Dublin. There were over 1,000 tents and other people slept in marquees or under trucks.

The demonstrators held discussions on the EEC and the international struggle against nuclear power; uranium mining (uranium prospecting is going on in the Donnegal area); economic and employment implications of nuclear power, Windscale and pollution in the Irish Sea.

A special meeting for women was addressed by Petra Kelly, a prominent feminist from Bruxelles, who told of actions that women have taken on their own behalf to stop nuclear power (Petra Kelly also spoke in Melbourne and Sydney during the 1977 Hiroshima Day rallies.)

For entertainment there were stalls, puppets for the children, and some of the best rock and folk bands in Ireland.

Christine Steer from Sydney, one of the festival organisers, told Leigh fund-raising was no problem: "The only decisions are, 'Which pub?' and 'Who'll play?'"

The anti-nuclear power show was an extremely peaceful event, not marked by political intensity. The

Gardi (police) confined themselves to directing traffic, and the Electricity Supply Board (on whose land the campers were trespassing) supplied electricity for the public address system. Whether this will be so when the Government begins construction and tightens security of the site remains to be seen.

But even Brian Caffrey, an Electricity Supply Board employee remarked that the anti-nuclear movement had boomed over the past twelve months. He was concerned about opposition not only in Ireland but also in the USA and elsewhere, and doubted "whether nuclear power, in the long term, is viable".

—Leigh Holloway in Ireland.

Friends of the Earth, Victoria, have more information on this subject.

FOE Waverley have produced a leaflet for cyclists — PUNCTURE REPAIR HINTS & a GEAR CHART. If any groups would like copies contact Mick McKeon 56-3243, 6 FELLOWS STREET, HUGHESDALE 3166. Costs = \$3.50 per 100 plus postage.



EPA - CAN IT GIVE US CLEAN AIR?

The Environment Protection Authority (EPA) has recently presented its draft policy on air pollution to the public of Victoria for scrutiny. This is the first time in Australian history that a legal framework for controlling Pollution emissions in relation to the overall air quality has been set down on paper.

Air quality is (according to the recommendations of the Senate Select Committee on Air Pollution) a state responsibility, and thus the EPA's draft policy acquires great significance: it is a test case for the other states.

The draft policy, based on similar U.S. legislation, does not stick to the standards for clean air set down by the World Health Organization. The EPA has the power to define "clean air" according to what the public wants, rather than in terms of what is deemed suitable by bureaucrats/industrialists/technologists. The EPA has defined the public's requirements as the:

- a) life, health and well being of humans

- b) life, health and well being of plants and animals
 - c) visibility
 - d) useful life of buildings and other property
 - e) aesthetic enjoyment
- Having come up with this admirable definition, the EPA proceeds to discuss "Acceptable Levels" solely in terms of their health effects.

The underlying assumption is that if a pollutant does not obviously impair health or visibility, then it will have no effect with regard to the other factors. The policy seems to assume that the public is satisfied with present levels of air-borne pollutants (which are often below the "Acceptable Levels") and does not want to see any improvement. The Victorian public has not been consulted on this point!

The EPA is in a strong position and could set strict standards to ensure clean air. The number of people who want clean air far outnumbers the few industrialists who would

find the standards expensive to meet. If the Government then rejected the EPA's advice it would be obvious to the voters that the Government was more interested placating industry than serving their interests.

However the EPA has not defined the policy on strictly environmental terms. It has thrown away the chance to use its strong position, and has compromised its responsibility to ensure really clean air.

At the EPA public review meeting in September concern was expressed that the policy would not be effective. One reason for this is the vagueness of the terminology used. Guidelines are weakened by ambiguous qualifications: "may of course", "not necessarily", and "may be required". The policy is left open to broad and subjective interpretation.

The Explanatory Document tells us, "The goal of the policy is to manage emissions so that the ambient concentration of any indicator does not exceed the Acceptable Level". How do we define "ambient concentration"? Mr W. Simmons, subconsultant to Caldwell Connell Engineers (the company which prepared the draft) openly conceded that no adequate definition exists. "We would be very receptive to seeing anyone's opinion on how the word ambient should be defined . . . we're very open on that question, because it is a very controversial matter."

It's not surprising that this is a very controversial matter! The Explanatory Document explains that "The term *ambient air quality* refers to the general level of air quality prevailing in a locality or region." Thus people living in pockets of high pollution may be forced to put up with it, because the average over an undefined larger area is within the "Acceptable" limits.

Clear air must be provided for everyone, not just those fortunate enough to live in areas where the pollution is sufficiently diluted. The only way to achieve this is to introduce extensive monitoring and

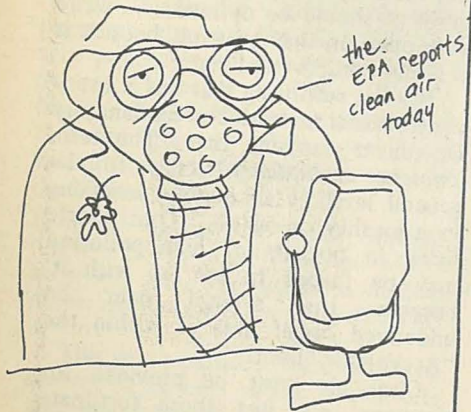
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control measures, especially in the most severely affected areas. But the EPA has compromised its stance so much that it will not be able to afford to do this.

The Explanatory Document analyses the EPA's financial position and shows that funds are pitifully "meagre". However, instead of calling for more funds the document goes on to state that one of its goals is "to make the most efficient use of the available resources". If economic compromising of environmental policy is to be done, it should be carried out by the Government in full public view, not by the statutory body whose function is to formulate policy.

The EPA's reluctance to take a firm environmental stand is shown in its attitude to pollutants such as lead, particulates, nitrous oxides and carcinogens. It allows emissions of these substances to continue, preferring to wait until research has been carried out to prove they have serious effects (the "bolting the stable door" philosophy). Instead it should restrict suspected harmful substances now, and relax the restrictions when it is conclusively proven that they are not harmful.

The charter of the EPA is to protect the environment. The potential to achieve this through exercising its political power exists, but it is obvious that the EPA is compromising its power, and in so doing is setting a precedent for the creation of similar policies in other states.



Pauline Taylor
Environmental Action Centre
118 Errol St
North Melbourne



AN ACTIVIST PAINTER

When I met Jad five years ago in Papeete I took him to be a young Frenchman eager to escape the pressures of Western Civilisation, a vegetarian and non-drinker who tried to drown his blues in cheap avocados. But Jad is also a painter. And Tahiti is no longer the place to inspire a Gauguin with its beauty and serenity.

At the time of Polynesia's discovery the conversion of heathens was a parlor game, and missionaries of all hues descended on the natives' souls like tons of bricks; most of them remain buried under the rubble to this day. Repressive churches dominate education; alcoholism is rife; delinquency is increasing. Mankind's greatest crime — the continued explosion of the world's most deadly, most poisonous weapon has been made part of French Polynesia's economy. Nuclear testing is the main target of Jad's wrath.

Jad arrived in Australia in July with an exhibition of paintings designed to project his experiences and feelings to the public.

The centre-piece of the collection is a triptych titled "Pacific Song". Most of Jad's paintings are Jackson Pollock-style abstracts, but the three paintings of "Pacific Song" are figurative. Their vivid colours and the simple symbols used make them eminently suited for eye-catching displays at demonstrations and meetings.

At a time when the closure of the public media to opinions and informations which run counter to advertisers or Government interests becomes an ever-increasing source of frustration, Jad's project demonstrates a way of direct communication that ought to be developed into a widely used, powerful new medium.

Rolf Heimann

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in the new 2 litre plastic
EASY-GOER

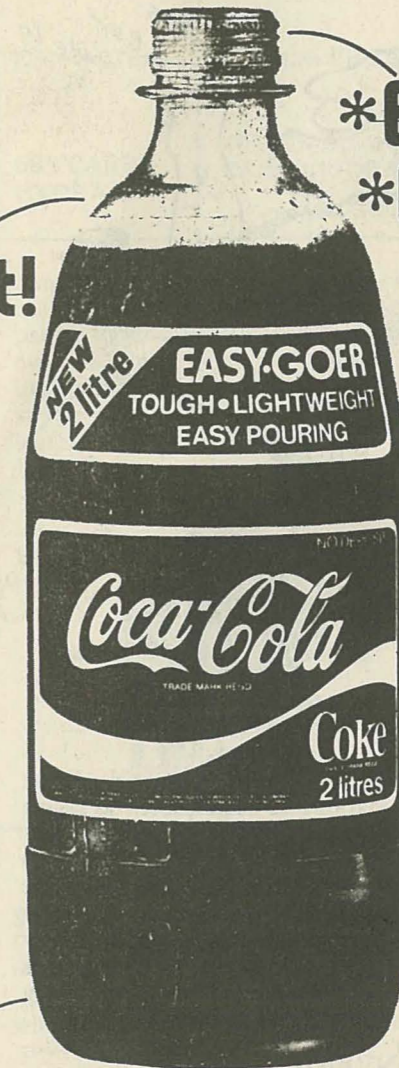
WHAT'S THE PRICE OF Coke in CHINA?

THE UNREAL THING!

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HOLDS MORE THAN YOU REALLY WANTED

HIGH SUGAR
*Lightweight!



PLASTIC
*Tough!



NON-RETURNABLE
*Convenient!

LA GRANDE BOUFFE (feasting our lives away)

In January 1977 a U.S.A. Senate Select Committee on Human Needs released a report entitled "Dietary Goals for the U.S.A."

It was compiled on the basis of submissions by the leading authorities on nutrition and conclude that:

"Changes in the diet since the early nineteenth century may be as profoundly damaging to the nation's health as the widespread contagious diseases of the early nineteenth century.

The primary changes that the report referred to are:

1. decreased consumption of carbohydrates
2. increased "consumption" of fats
3. "increased consumption" of refined sugar
4. over "consumption" of salt.

The report contained a chart which divided up the average diet according to the 3 main food categories in terms of the number of kilojoules (calories) that each group contributes to the diet.

The report suggested that the current diet could be changed to the recommended diet by:

- + reducing overall meat consumption but also increasing fish and poultry compared with red meats
- reducing all foods high in fat (especially saturated fat, i.e. dairy produce and meat)

* increasing our consumption of vegetables, whole grains and fruits and decreasing our sugar consumption.

An important side effect of the recommended diet is that the consumption of fibre would be increased. Lack of fibre in the diet has been linked with the increasing incidence of bowel cancer, haemorrhoids and also constipation. Fibre is the indigestible cell wall of plants. Foods high in fibre are wholegrains (brown rice, wholemeal flour, rolled oats) and most fruits and vegetables (especially the skins). Meat, eggs and dairy products contain no fibre.

The report also stressed the need to reduce salt consumption by about 50-85% to reduce the possibility of susceptible people suffering from hypertension.



The Australian National Heart Foundation has been quoted as saying that in the average Australian diet 40-45% of the kilojoules (calories) come from fat. Our annual Sugar consumption (per head) is only slightly behind that of the U.S.A.

Hence the Dietary Goals findings and recommendations seem to be very relevant to the Australian situation.

CONVENIENCE (FAST FOODS)

- include takeaways and any foods which require minimal preparation before consumption (e.g. re-heating).

TO manufacture convenience foods food processors may:

- * process the ingredients by washing, peeling, cooking, freezing, drying, canning, combining various ingredients and adding colours, flavours, preservatives, emulsifiers, etc.

and/or

- * refine some (or all) of the ingredients by removing an integral part of the food, e.g. milling - flour to remove bran and germ - rice to remove outer layers - corn to produce cornstarch.

Compared with properly prepared home cooked meals (i.e. lightly scrubbed vegetables instead of heavy peeling: steaming or baking of vegetables in preference to prolonged boiling) convenience food would normally be second-best nutritionally.

It is difficult to generalize but often convenience foods would have one or more (if not all) of the following characteristics:

- 1, A relatively high fat, sugar and salt content
 - these ingredients satisfy our taste buds and are relatively cheap for food processors to buy.
- 2, Low in fibre - white flour, fat and sugar are often major ingredients and have little or no fibre. Also vegetables used would have been peeled to facilitate processing and to standardise the product's texture and appearance. In many cases takeaway foods have a very small vegetable or fruit content anyway.
- 3, Lower level of vitamins, minerals and trace elements than a properly home made equivalent. High temperature cooking, storage and reheating all contribute to the loss of nutrients in the process of converting raw foods to convenience foods.

Currently around 25% of the food we consume is prepared outside the home. By 1983/84 this figure is expected to reach 30%.

To maintain a diet similar to that

suggested by Dietary Goals we would need to be very discerning about what sort of convenience foods we are eating - especially if we conform to the average and 25% of our food is prepared by someone else.

"Changes in the diet since the early nineteenth century may be as profoundly damaging to the nation's health as the widespread contagious diseases of last century."

eats a meat pie or white bread sandwich will die a miserable death. It's just that our average diet is too low in some foods (see chart) and too high in others.

It is very pleasant to enjoy a take-

CURRENT DIET

FAT 42%	{ 16% SATURATED 26% POLY & MONO UNSATURATED
PROTEIN 12%	12% PROTEIN
CARBO-HYDRATE 46%	{ 22% COMPLEX CARBOHYDRATE 24% SUGAR

DIETARY GOALS RECOMMENDED DIET

30% FAT +	{ 10% SATURATED 20% POLY & MONO UNSATURATED
12% PROTEIN	12% PROTEIN
58% CARBO-HYDRATE *	{ 40-45% COMPLEX CARBOHYDRATE 15% SUGAR

Eating: WHEN IT'S NOT "GOOD FOR YOU"

Because eating is such an intricate part of our life our eating habits are not normally changed rapidly. Our taste preferences have been developed over many years. We enjoy sharing meals with friends and family who may or may not be interested in changing their diet.

Also different people have very different likes and dislikes, so there is no single healthy diet. Even the most ardent health fanatics disagree as to what sort of diet is healthiest.

It isn't scientifically proven (to my knowledge) but I feel it must be very important to enjoy whatever you eat. It doesn't seem right to eat something that you intensely dislike and at the same time try and convince yourself that it is *good for you*. On the other hand we can change our tastes given time and a real desire to do so.

Middle Eastern food (i.e. falafel, grilled lean meats and accompanying salads) have the advantage that they are low in fat, sugar and salt. If the accompanying flat-breads were wholemeal such meals would be very nourishing. Even so, they are more nourishing than some of their counterparts e.g. hamburgers, white bread ham sandwiches, meat pies etc.

That's not to say that anyone who

away or restaurant meal and use the time we would have spent preparing food in some other way. However if our diet becomes too dependant on takeaways there is a strong chance that our health will suffer.

Max Smart



ANTARCTICA CAMPAIGN

Friends of the Earth in Castlereagh Street have an active WILDLIFE COLLECTIVE and ANTARCTICA COLLECTIVE. F.O.E. Sydney prepared the position papers on whaling, wildlife and Antarctica for F.O.E. Australia: these were sent to the recent international meeting of Friends of the Earth groups in Sweden. So, if you're interested in this area, contact: Michael Kennedy, C/- F.O.E. 232 Castlereagh St, Sydney 2000 (phone 02 235-8037).

Habitat



Magazine of the Australian Conservation Foundation.

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Friends of the Earth on air ~

Friends of the Earth is now on air in at least three cities:

SYDNEY - has a half-hour program of news and features fortnightly on Thursdays at 9.20 p.m.

Tune to FM radio 2SER-FM (the NSW Institute of Technology and Macquarie University's jointly-run radio station).

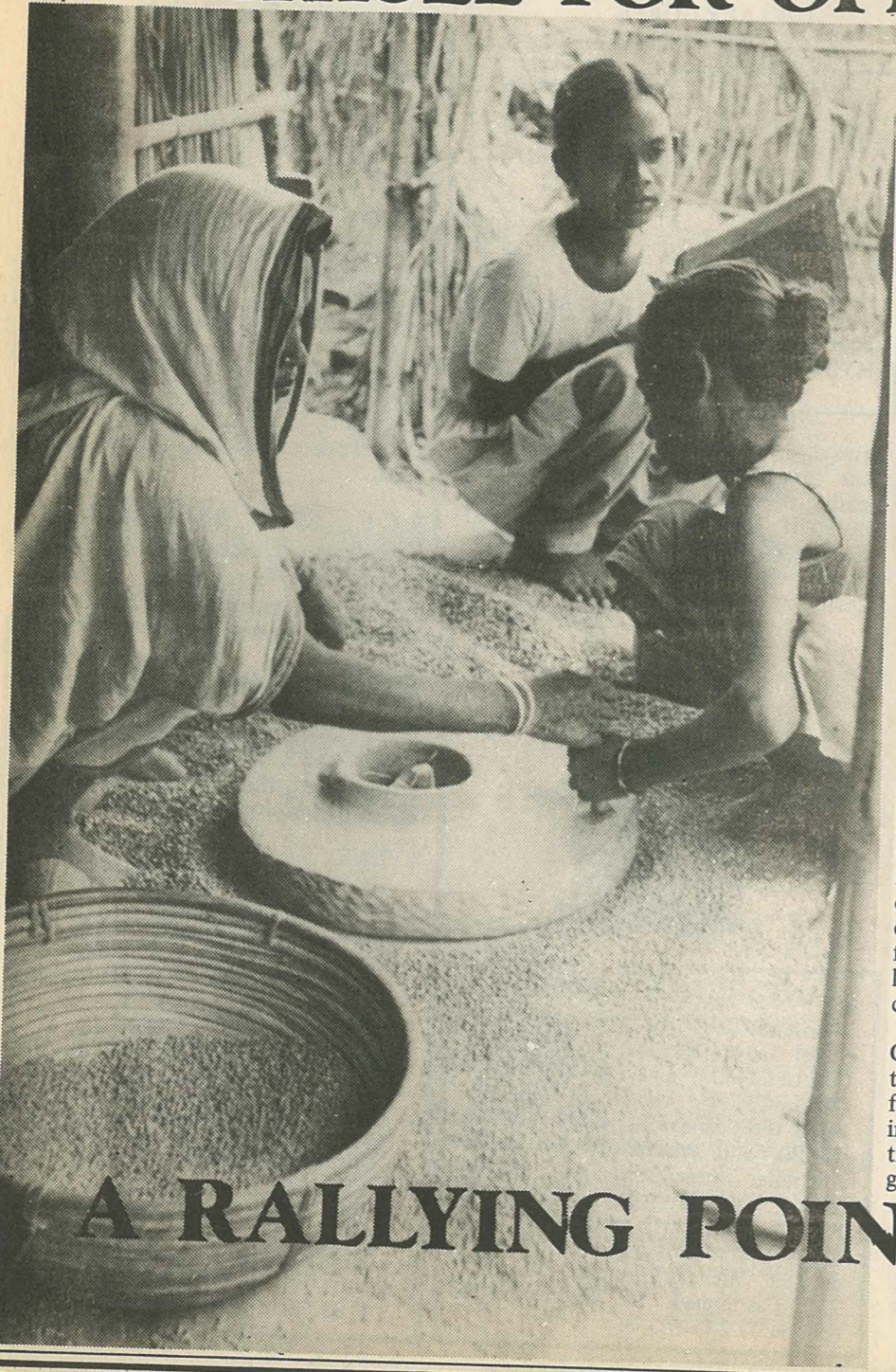
PERTH - FOE can be heard on the "Four Seasons" show, 10 p.m. every second Monday on Community Radio 6NR (after the Christmas holidays.)

MELBOURNE - FOE has a half-hour show on the "Habitat and Heritage" program, every Monday at 10.30 a.m. on Community Radio 3CR ("837 kHz on your dial").



FOOD:

A VEHICLE FOR OPPRESSION,



It has been said that "whether or not people are hungry is the first test of a just and effective economic system". That phrase could be expanded to something like "whether or not people are hungry, grossly overfed, overcharged, deceived, poisoned, polluted, devitalized — all in relation to food — is the first test of a just economic system."

Food as a medium of oppression assails people globally on all fronts: political, social, ecological, economical and biological. Some examples — Susan George in her book *How The Other Half Dies*² documents how, globally, food is controlled by the rich via such means as trading relationships, "aid" (so called) programs, financial institutions and monopolization of research and technology. Only the poor go hungry.

Food is part and parcel of the struggles for international, political, and economic influence, i.e. food is a diplomatic weapon. Since its first act of overseas food aid in 1812 the U.S.A has consistently tied its contributions to the needy to its political leverage over other governments and to the expansion of its own commercial markets³. In its current war with Eritrea on the African Horn, Soviet backed Ethiopia has used a deliberate policy of starvation of Eritreans as one means of attempting to crush Eritreans fight for national self determination.⁴ Similar tactics have been used in such countries as Vietnam and East Timor.

Australian nutritionist Dr. Greg Goldstein has recently said of nutrition in Australia — "Changes in the food industry have resulted in massive increases in the production and advertising of processed foods, and a progressive deterioration of the Australian

A RALLYING POINT FOR JUSTICE!

diet . . . the more processes that are performed on fresh foods, the more chemicals that are added, the more 'product differentiation' that takes place, the higher the profits that accrue . . . and the greater the loss of nutrient value of the fresh food."⁵

Agribusiness — a growing menace

Monopolization of food industries is leading to overcharging to the consumer. In 1972 the U.S. Federal Trade Commission calculated that oligopolies (i.e. food industries controlled by only a few companies) in 13 food lines were responsible for U.S. \$2.1 billion in overcharges;⁶ the Knox Prices Action Group, Melbourne, recently claimed one-stop-shopping i.e. in supermarkets raised food bills by a fifth.⁷

Thousands of farmers throughout the world have been rendered landless through a worldwide trend towards "bigger is best" agriculture i.e. an agricultural model based on capital and energy intensity — third world peasant farmers are bought out or evicted; big U.S. farmers and farming corporations concentrate farm ownership into fewer and fewer hands at an alarming rate. One effect of this (amongst others) is massive social dislocation and is one factor in rural poverty, unemployment and (in the third world particularly) the huge drift of population from country to often overburdened cities.⁸

The Western agricultural model based on high input of fossil fuel is wasteful, harmful and ultimately unsustainable⁹. In Australia the energy ratio for cooked food "on the table" has been averaged out to something like one joule¹⁰ of energy obtained from it for five joules of energy to get it there.

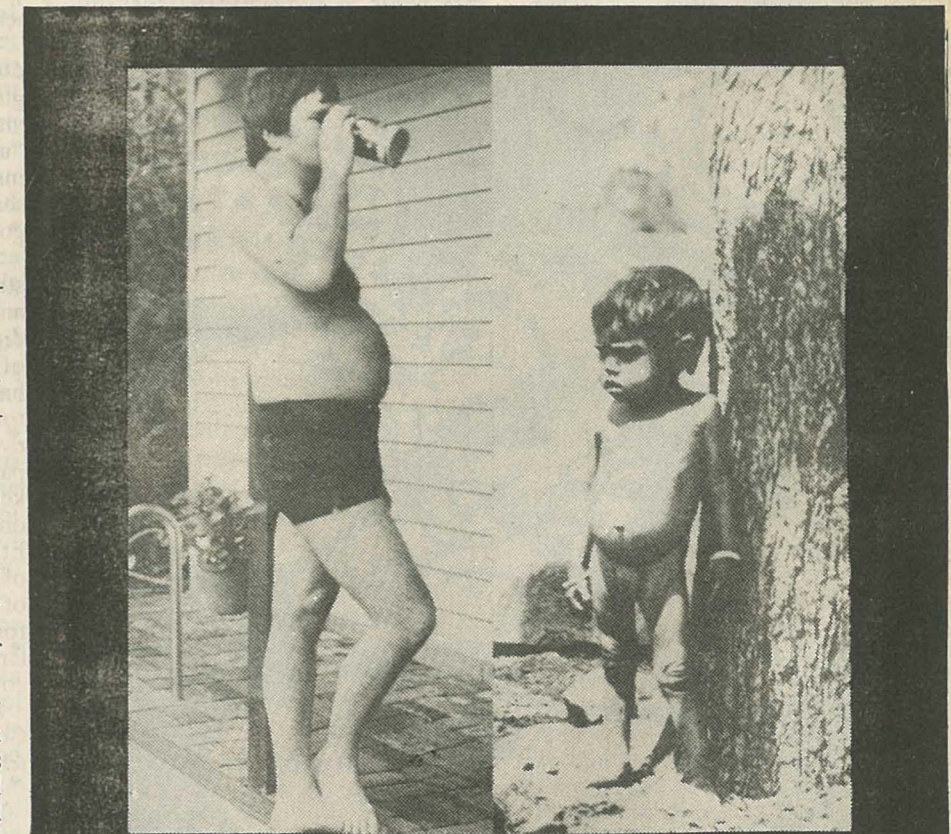
The examples are endless. But their diversity should not distract us from seeing the common thread that links them together: a tightening of control over food — both within countries and on a global scale. Manipulation of food resources for maximized profit not for human need, is the outcome. The vast majority of Earth's people can be seen as "victims in common" with a common enemy; undemocratic, profit based food systems. And "food as politics" analysts Susan George and Frances Moore Lappe (of *Diet For A*

Small Planet fame) make it clear who the leading food autocrats are: the multinational agribusiness¹¹ corporations.

In *How The Other Half Dies* Susan George documents with solid evidence how multinational agribusiness, Western governments with their food "aid" policies and supposedly neutral multilateral development organizations (such as the United Nation's Food and Agriculture Organization — F.A.O. — and the World Bank) share responsibility for causing and maintaining global hunger. "They all work in cooperation with local (national) elites, themselves nurtured and protected by the powerful in the developed world. United States agripower paves the way leads the pack and is gradually im-

posing control over the whole planet".¹²

And Frances Moore Lappe and Joseph Collins in *World Hunger - Ten Myths*¹³ state — "... multinational agribusiness corporations are now creating a single world agricultural system in which they would exercise integrated control over all stages of production from farm to consumer [the Global Farm and the Global Supermarket]. If they succeed they will be able to effectively manipulate supply and prices for the first time on a world wide basis through monopoly practices already well established on a national basis in the U.S. [and elsewhere for example in the meat, poultry and grain industries in Australia].¹⁴ Farmers, workers and consumers everywhere are



The guts of the poverty problem

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YOU CAN HELP CHANGE THE BALANCE!

FOOD : a vehicle for oppression

already experiencing the costs of food monopolization in terms of artificial shortages, rising prices, and diminishing quality."¹⁵

The problem is growing and far reaching. People's opposition needs to be the same.

FOOD JUSTICE - A FOCUS FOR AWARENESS AND CHANGE

It is a truism but worth restating that "food is life." Its presence (or absence) is a tangible daily reality for all. Globally, increasing numbers of people are becoming concerned with food reform ranging from individual diet improvement through to a radical change in world food and other commodity trading relationships. Food, as



a vehicle for social justices, has the potential to involve a wide range of people and organizations.

Organizations ranging from the school tuckshop committee through to Frances Moore Lappe' and Co's Institute for Food and Development Policy (see further on under "Food Action Groups"), from the local food co-operative through to the Freedom From Hunger Campaign and Community Aid Abroad, have a role to play.

Emphasis on "People's" Organizations

The aforementioned organizations are all characterized by being both non-governmental and non-private enterprises. A fundamental tenet of a

food justice campaign should be an emphasis on "grass roots" action by people to lobby for and institute change.

It cannot be left to governments, private industry, national health bodies, United Nations Conference's on Trade and Development (UNCTAD's) etcetera. This is not to deny that they can be vehicles for change and targets for influence. But their record is a mixed one and they have often lacked the political will, motivation or perspective to work for the benefit of the majority.¹⁶

The Food Justice Centre - a new campaign at FOE Victoria

Formed in July 1979, the Food Justice Centre presently consists of a full-time co-ordinator and several part-time staff and is based at Collingwood FOE, Victoria. In one sense it is a pilot project to measure the effectiveness of using "food" as a channel for environmental and political activism.

Its general aims can be stated as -

- The encouragement of awareness and action related to Australian and global food structures;
- promoting the understanding, via food, of the interconnection of politics, economics and ecology; and most importantly -

- The development of a larger, stronger, more radical and more unified network of people committed to changing not only the dominant food system, but the unjust social order which underlies it.

More specifically the Centre is action-orientated i.e. concerned with -

- getting material out to the public in an accessible form via conferences, lectures, public protest, media release, study groups, audio-visual material and popularly written publications;
- encouraging others to food activism by publicising various action programs here and overseas relating to food justice, for example, the Third World infant formula campaign in Australia being waged against Nestle's by the Infant Formula Action Coalition (INFACT); publicising other food justice-related organizations such as Community Aid Abroad; and involving people directly at the Centre.

The recent National Conference

"The Politics of Food - Parallels and Connections Between Australia and the Third World" held in Melbourne in November has been the first major initiative of the Centre.

Other food action groups

There are many groups that have taken up food activism generally or a specific aspect thereof. These include -

The People's Food Commission, Canada. The idea of a people's commission (instead of a government one) as a way to help Canadians understand their own food system and its international connections grew out of a meeting organized by a national Canadian Christian organization called Ten Days to World Development. With a budget of U.S. \$400,000, several paid commissioners and several hundred volunteers across Canada, the Commission conducted nationwide hearings through late 1978 till mid 1979. The commission reached farmers, low income earners, senior citizens, unionists and the general consumer. The process was seen as important in itself for participants - involving people more deeply and collectively in political decisions which affect their lives.

The People's Food Commission report was due to be published in September 1979, It will be fed back to participants and other interested people for further action. (The F.O.E. Food Justice Centre will obtain copies of this report).

The World Development Tea Co-operative. This Sydney based organization, by the importing and distribution of tea packaged in Sri Lanka (bypassing the multinational 'middlemen' tea companies such as Liptons and Brooke Bond), aims to educate Australians about the abuses in the world tea trade. The Co-op uses tea as a case study to illustrate the need for new international structures to regulate trade in other commodities besides tea - structures which will work to the advantage of the working people of third world countries.

: the Agricapital group, United Kingdom.¹⁹ They publicised the monopolistic trends in the U.K. bread

industry with its attendant decrease in quality and increase in price.

: The Infant Formula Action Coalition (INFACT) in Australia and other western countries (sometimes under differing titles, e.g. Baby Milk Action Coalition-BMAC-in Britain). These groups aim to publicise the harmful effects of infant formula milk promotion amongst low income earners in the third world (and raise the whole question of bottle versus breast feeding). In Asia, Africa and Latin America over 10 million babies fed on infant formula suffer "bottle baby disease" - diarrhoea, malnutrition, brain damage and even death - every year. Poor families have too little fuel to sterilize baby bottles, lack refrigerators, have to use contaminated water and often (in ignorance) over-dilute the formula to make it "go further."

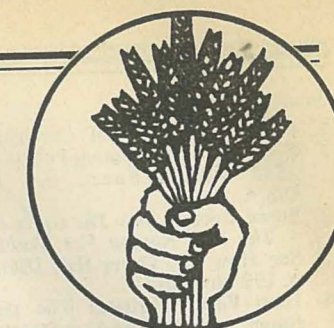
The main target of infant formula groups has been Nestle's - the largest promotor of infant formula in the 3rd world.

: The Institute for Food and Development Policy.²¹ Founded in 1975 by Frances Moore Lappe and Joseph Collins, the Institute is a non-profit research, documentation and education centre. It focuses on food and agriculture, always asking: why hunger in a world of plenty? Looking at the policies of both governments and corporations, the Institute probes: what can we do to create food security for all? The Institute also examines and reports on how people are struggling for food self-reliance around the world.

: The Knox Prices Action Group,²² Melbourne. Located in Melbourne's eastern suburbs, this consumer group monitors food prices in supermarkets and corner store outlets. It attempts to publicise these surveys, particularly through the media.

A NATIONAL FOOD ACTIVIST CAMPAIGN/ NETWORK?

The potential for strengthening food activism in Australia is there. There are enough concerned individuals and organizations in existence to further the development of, as mentioned before, "a stronger more radical and more unified network of people committed to changing the



food system."

Many organizations, individuals and movements could further their contact with one another: the environment movement, political parties, development organizations (such as Action for World Development, Freedom from Hunger Campaign and Community Aid Abroad), the political economy movement, various "left" groups, progressive Christian groups (such as Pax Christi), unions, (particularly food related unions and teachers' unions), educational groups (such as school councils and community schools), alternative agriculture groups (such as permaculture) food co-operatives, community health centres and so on. Regional and national conferences are one obvious means for strengthening contact.

The Melbourne food conference has already been mentioned. Freedom from Hunger Campaign is also organizing a national tour by Susan George (*How The Other Half Dies*), for April of 1980.²³

1980 is also federal election year, and in May the United Nations will be conducting a Special Session on progress towards achieving a New International Economic Order (NIEO). The concept of NIEO includes trading relationships in terms of commodities such as tea, coffee and grain. It also calls for the regulation of multinational corporations' business operations in the context of respecting the sovereignty of "host" countries.

The elections and the U.N. session are two examples of events which can serve as a focus of lobbying for change in food relationships - changes such as: the need for a national nutrition policy for Australia; the calling to account of the effects of Australian overseas aid and private investment in relation to democratic access to food producing resources in such areas as Papua New Guinea and the Pacific region.

What would a national campaign network based on food related issues look like? That is something for us to work out together. The first step however is to develop that proposition in our own and others' thinking.

Sources —

1. From a brochure of the Institute for Food and Development Policy, 2588 Mission Street, San Francisco U.S.A.
2. Susan George, *How The Other Half Dies, - The Real Reason For World Hunger.*
3. See *How The Other Half Dies*, op. cit. p. 192 onwards.
4. John Pilger "Eritrea: The pawn that fought back" in the *New Statesmen* July 28th, 1978.
5. Dr. Greg Goldstein "Malnutrition in Australia - The Role of Advertising" in *New Doctor* No. 12 1979.
6. Cited in *Hungry For Profits*, Jim Hightower, Crown, New York, 1975.
7. "One-stop shop food 'dearer'" *"Age"* Melbourne, 27/9/79 p.4.
8. Rural to urban migration in the Third World has been estimated as occurring at the rate of 75,000 people per day. See *New Internationalist* No. 64 June 1978 p.9.
9. See for example W.C. Clarke, "Progressing With The Past: Environmentally Sustainable Modifications To Traditional Agricultural Systems", Development Studies Centre Monograph No 11, The Australian National University, 1978.
10. A "joule" is a measure of energy. It can be converted into calories to make a food and oil (etc) comparison.
11. "Family operations and local firms have been replaced by agribusiness. Agribusiness has been defined . . . as encompassing all participants involved in the production, processing and marketing of a single farm product. Such a system includes farm suppliers, farmers, storage operators, processors, wholesalers, and retailers involved in a commodity flow from initial inputs to the final consumer. It also includes all the institutions which affect and co-ordinate the successive stages of a commodity flow such as government, markets and trade associations." Ross Hume Hall *Food For Nought*, Harper and Row USA, 1974 p.168. Agri-business can be both national or transnational in character.
12. From the publisher's synopsis, *How The Other Half Dies*, Susan George op cit.
13. Frances Moore Lappe and Joseph Collins *World Hunger - Ten Myths*, Institute for Food and Development Policy publication, USA 1978 revised edition.
14. See Paul Nankivell. "Australian Agribusiness: Structure, Ownership and Control", in *The Journal of Australian Political Economy*, No. 5, July 1979.
15. Lappe and Collins, *ibid.* p.28.
16. Both Susan George and Lappe/Collins document this in detail. In *The Profits of Doom, War on Want*, UK, 1976, reference is made to the F.A.O. organized World Food Conference in Rome 1974 - "As an indication of the real push of the Conference, perhaps of greatest significance was the presence of a delegation of 65 members of the Industry Co-operative Programme of the F.A.O. This delegation represented the agribusiness multinationals and was the largest delegation present at the Conference." p.14.
17. See *New Internationalist*, No. 72, February 1979, pp.24, 25.
18. The World Development Tea Co-Op, 262 Pitt St, Sydney. It has tea distributors in the various states. They can be reached through State Action for World Development (A.W.D.) offices. There is also a film for hire from South Australian



A.W.D. entitled "The Cost of a Cup of Tea". Ph (08) 43-5310.

19. Agricapital are based at Friends of the Earth, London, 9 Poland St, London W1V3DG.

20. In Victoria, INFAC can be reached at 412 McKinnon Rd, East Bentleigh, 3165.

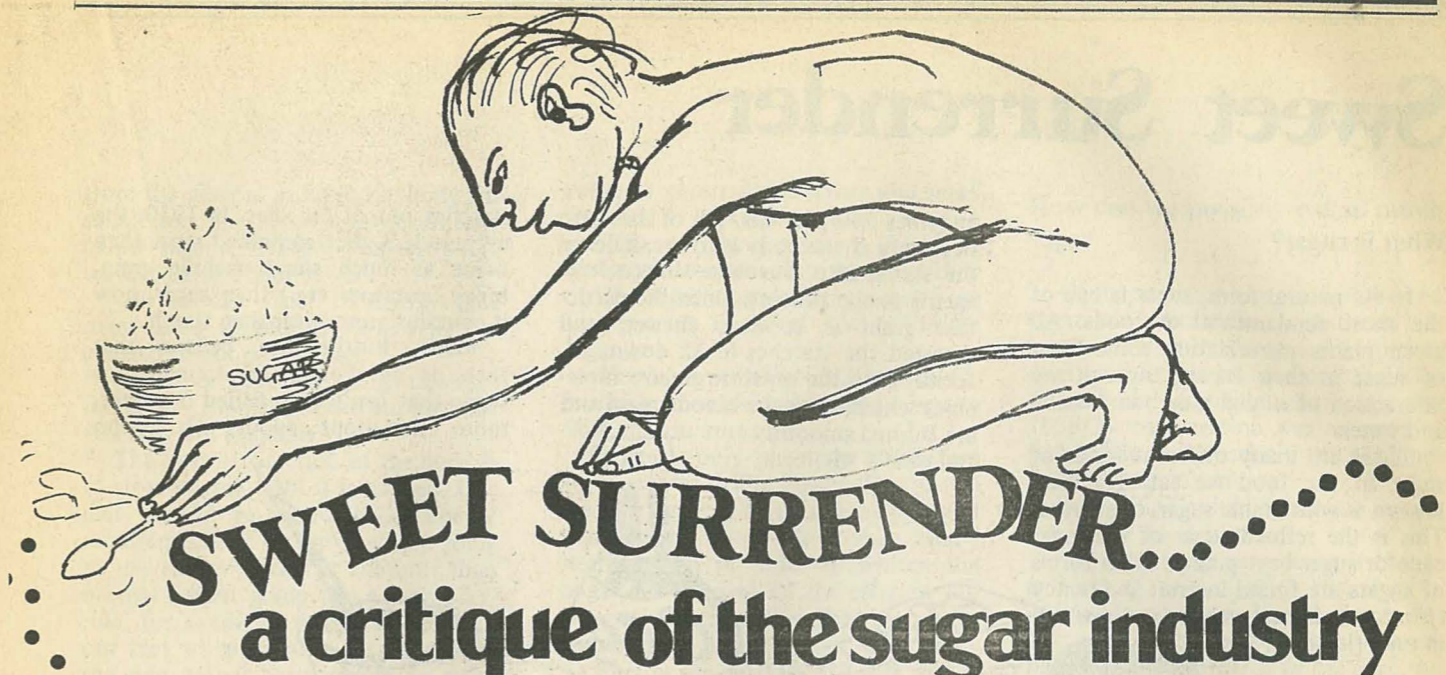
21. The Institute for Food and Development Policy, 2588 Mission St, San Francisco, USA.

22. Contact Kathy McCallum, Knox Prices

Action Group Secretary, 14 Kia-ora Pde, Ferntree Gully 3156.

23. Contact Sandra Sargent C/o The Ideas Centre, 1st floor, 69 Clarence St, Sydney 2000 Ph. (02) 29-3228.

by Ben Witham, Co-ordinator of Collingwood F.O.E's new campaign project - the FOOD JUSTICE CENTRE.



TOO MUCH SUGAR!

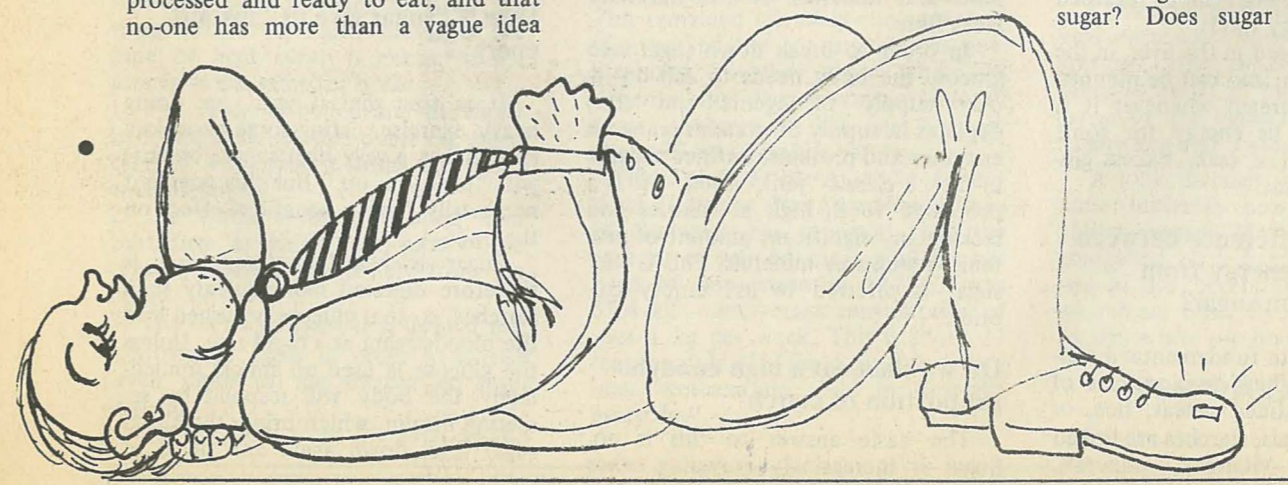
- "You are what you eat" - a warm and homely philosophy. One naturally thinks of warm ovens, wafting smells, pride in a meal carefully prepared and lovingly eaten . . . ah yes, romance at its best!
- For our own sakes, we had better hope that we are, in fact, not what we eat. As John Hindle recently observed in the *Nation Review*: "Surely if we did become what we ate, we'd turn into people-sized packs of bio-chemical oddments . . . Today we consume chemicals with mindless enthusiasm and suicidal gusto. Every time we have a meal or a snack we gulp down a side order of assorted chemicals. It's very frightening."
- Frightening indeed! The fact is that the majority of the food that people now eat comes to us pre-packaged, processed and ready to eat, and that no-one has more than a vague idea

about what is actually in it. The food companies are not very keen to encourage people to think about the type of food they eat; their major concern is to get people to watch their advertisements, digest the half-truth and distortions contained in them and then go out and buy their product . . . "Game set and match" to the food companies as their profits soar at the expense of our health.

Most people have a general notion about how much sugar they eat - maybe a couple of teaspoons on our breakfast cereal and then what we have in our tea and coffee - but consider it is not enough to worry about. The reality of the situation is that, on average all Australians consume a staggering 30 teaspoonfuls of refined sugar each and every day! Try measuring this into a bowl and have a good look at it: it is a very sobering sight.

Most of this sugar comes in pre-packaged, processed foods and thus we have no idea that we are actually eating it. A brief glance through the shelves of a supermarket reveals how difficult it is to find any type of prepared food product without sugar in it. It is used not only in sweet baked goods, desserts and soft drinks, but also in sauces, many baby foods, almost all fruit drinks, salad dressings, canned and dehydrated soups, frozen T.V. dinners, bacon and other cured meats, some canned and frozen vegetables, most canned and frozen fruits, fruit yoghurt and breakfast cereals.

In this article we will have a look at what all this added sugar is doing to us, and how sugar is in fact used by the body. We will also try to answer some of the most frequently asked questions about sugar: how much is really necessary in a proper diet? Is brown sugar better for you than white sugar? Does sugar give us instant energy?



Sweet Surrender

What is sugar?

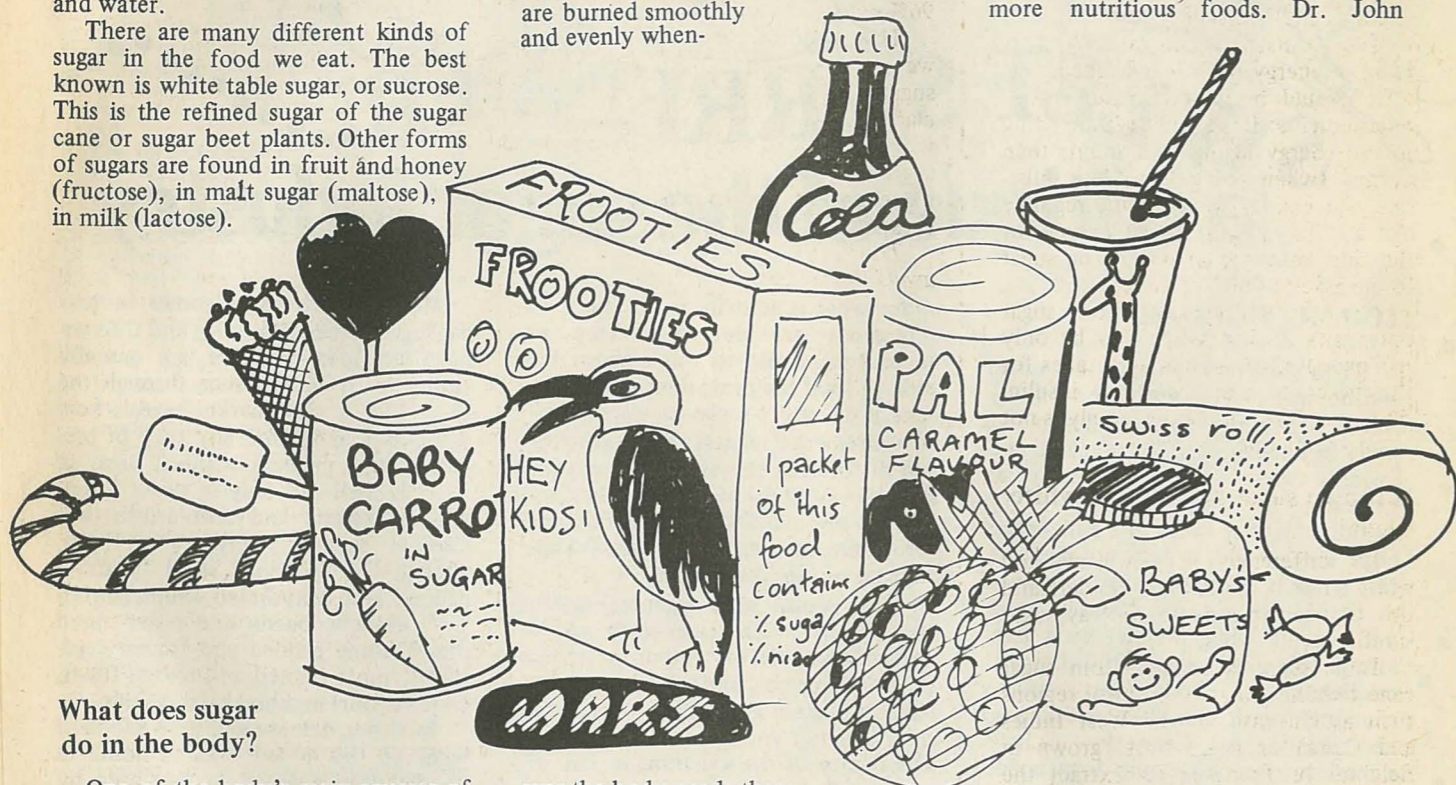
In its natural form, sugar is one of the most fundamental of foods. All green plants manufacture some form of sugar in their leaves, through the interaction of sunlight, carbon dioxide and water.

There are many different kinds of sugar in the food we eat. The best known is white table sugar, or sucrose. This is the refined sugar of the sugar cane or sugar beet plants. Other forms of sugars are found in fruit and honey (fructose), in malt sugar (maltose), in milk (lactose).

enzymes and proteins. All of these are necessary if the body is to break down the starch into glucose — they act as agents in the process. Once the particular grain is cooked, chewed and digested the starches break down uniformly into the separate glucose molecules which enter the bloodstream and are burned smoothly and evenly when-

starches out of our diet. In 1910, the average U.S. diet contained more than twice as much starch (whole grain, bread, potatoes etc.) than sugar; now it contains more sugar than starch.

Many nutritionists believe that there is no dietary requirement for sugar that can't be satisfied by other, more nutritious foods. Dr. John



What does sugar do in the body?

One of the body's main sources of energy is glucose, which is produced by the breakdown of carbohydrates or starchy foods. Starches, such as potatoes, pasta, and flour; and sugars (sucrose, fructose etc.) can be regarded primarily as energy foods.

Glucose is stored in the liver, in the form of glycogen, and can be pumped into the bloodstream whenever it is needed to give us energy for some demanding physical task. Excess glucose is stored as fat.

Is there any difference between obtaining our energy from starches or from sugar?

There are quite fundamental differences between these two sources of energy. In unrefined wheat, rice, or other whole cereals, starches are linked together with vitamins, minerals,

ever the body needs them.

Compared with these unrefined starches, table sugar requires extra effort by the digestive system. Table sugar is refined and thus it lacks vitamins and minerals. It also naturally lacks fibre.

In order to break down sugar into glucose the body needs to call on its own supply of agents and thus depletes its supply of vitamins, minerals enzymes and proteins. Refined sugar is in fact, a classic "junk" food — it is a processed food, high in calories and lacking any significant amount of protein, vitamins or minerals. This is why sugar is referred to as "empty calories."

Do we then eat a high enough proportion of starch?

The basic answer to this is no. Sugar is increasingly crowding other

Yudkin believes that "All human nutritional needs can be met in full without having to take a single spoon of white or brown sugar.

Doesn't sugar give us "instant energy?"

It is true that if you are doing heavy exercise, eating some chocolate (which has a very high sugar content) will "pick you up." But this does not necessarily have a beneficial effect on the body.

Sugar is heavily refined, and is therefore digested more quickly than starches, so that glucose is pushed into the bloodstream at a rapid rate. Unless the glucose is used up almost immediately the body will respond by secreting insulin, which brings the blood sugar level down again and helps to

store the glucose as fat in the body. In some cases the blood-sugar levels falls below normal, leaving you with less useable energy than before.

The sudden "hit" of energy that sugar gives should be viewed in the context of our overall diet:

* relying on sugar for energy depletes the body's supply of minerals, proteins vitamins and enzymes.

* The normal function of the body is to store energy until it is needed. Our diets should be linked to our energy requirements: if we know we are going to use energy in higher amounts than normal (when going for a long bike-ride, for example) we should regulate our diet so as to store up energy for the ride, rather than relying on sugar for an instant "hit" of energy.

* The "instant energy" from sugar only lasts a short while, maybe only ten minutes, or as long as it takes for the body to start secreting insulin. Thus this form of energy supply is not a continuing one.

Is brown sugar better than white sugar?

The difference between brown and white sugar is minimal. To understand this we need to look at the way sugar is refined.

Table sugar is derived from sugar cane (which grows in tropical regions such as Queensland, the West Indies and Cuba) or sugar beet (grown in Belgium or France). To extract the juice the sugar cane stalks are cut, crushed and washed. The juice, containing about 15% sucrose, is then filtered and clarified with lime.

Sugar beets are sliced and put under a shower of hot water to flush the sugar out of the plant cells. Once the cane or beet syrup is extracted the process is the same for both:

1. The syrup is boiled and the sugar is crystallised. At this point the sugar crystals will separate from the thickened molasses.
2. The whole solution is spun in a centrifuge, at which point most of the crystals separate completely from the liquid.
3. The liquid (molasses) is treated and centrifuged again in order to extract even more of the sucrose or sugar crystal.

In this final form the **MOLASSES**

contains about 35% sucrose and small amounts of iron and calcium.

This is the common form of molasses available in supermarkets.

The sugar crystal that emerges from this process is called raw or brown sugar.

This is the **BROWN SUGAR** that is available in supermarkets and contains 96% pure sucrose.

There is only one stage left before we arrive at white sugar. The brown sugar is again spun in a centrifuge and clarified with lime. It is then mixed with carbon in order to whiten the sugar and remove all the calcium and magnesium salts. The final step is to crystallise it once again.

This is the **WHITE SUGAR** that is available in supermarkets and is 99.9% pure sucrose.

Raw, or brown sugar, is hardly more nutritious than white sugar. It is still 96% sucrose compared with 99.9% in white sugar. By way of analogy, if a man strips off all his clothing except for his socks you could argue that he was still dressed, and you would win on a technicality. Likewise the difference between raw and white sugar is a mere technicality: no manufacturer of raw sugar claims that his product is more nutritious than white sugar. Basically, brown sugar is a different colour from white sugar, and that's all.

Do we eat too much sugar?

Over the last few generations, our sugar intake has increased remarkably. Individual consumption of refined sugar in the U.S. in 1700 was about 2 kgs per year, or 1 teaspoonful a day. This remained relatively constant until the turn of the century. It has now increased to the stage where in America, the average consumption of sugar is about 65 kgs per year, or about 33 teaspoonfuls per day.

The picture in Australia is not much healthier. The Australian Bureau of Statistics has reported that the amount of refined sugar available per head of population in 1975/76 was 55.4 kg — an average consumption of over 1 kg per week. This is about 27 teaspoonfuls of refined sugar for every man, woman and child in Australia every day!

How can we possibly eat so much sugar?

Of the total consumption of refined sugar in Australia, two-thirds is accounted for by processed food products and beverages, and one third by direct sale to the consumer. In 1938/39 the position was reversed — two thirds for household use and one-third for manufacturing.

John Hindle highlights the implications of this situation:

"The problem with sugar is that it is hard to know where the stuff is hiding. It's a basic ingredient. A Big Mac may look as if it is free of sugar, but the ghastly stuff is in the bun, the sauces and the pickles. There's no escape. We have to assume that sugar is hiding all around us.

"Big food manufacturers care less about our health than they do about their profits. And, if the use of sugar is likely to assure increased sales, they will not hesitate to use sugar.

The food companies certainly do not hesitate to use sugar in their products. One of the most obvious is in breakfast cereals. Choice magazine recently tested 30 breakfast cereals for sugar content: the lowest in sugar was Nabisco Shredded Wheat (2.2% by weight). The highest, with an alarming 52.2% was Kellogg's Honey Smacks.

For an average serve of Froot Loops or Honey Smacks there is about 3 teaspoonfuls of sugar already in the cereal. Choice magazine found that many people like their cereal sweet and add as much as 40% (or 2 — 3 teaspoonfuls) to Kellogg's Corn Flakes and Sanitarium Weet-Bix.

Choice states that, "by adding your own sugar you can control the amount you get. Also, it costs up to seven times as much to buy sugar added to cereal by the manufacturer as it does to buy and add it yourself."

A look through the accompanying table indicates how pervasive this hidden sugar is. Manufacturers are not compelled to indicate the sugar content of the food on the label, and thus we remain blissfully ignorant of what we shove into our bodies.

(see overleaf)

THE OTHER SIDE OF THE SUGAR TRADE

the bitter taste of landlessness



The sugar story would be nowhere near complete if it was confined to a study of the consumption patterns of people in the industrialised countries of the world. The sugar industry is a multi-million dollar concern, the effects of which are felt by all countries across the globe, whether they be as sugar consumers, or sugar producers.

Sugar was cultivated in India as early as 325 B.C., but it was not till the thirteenth century that Marco Polo returned to Europe with a near-white sugar. Soon most of Europe's upper classes had at least heard of sugar, though it was quite scarce. Sugar was served on rare festive occasions, or used as a medicine in the treatment of gout.

It remained a scarce luxury until Columbus brought sugar cane to the Caribbean in 1493 as he searched for cane-growing country to feed Europe's expanding sweet tooth. The West Indies were the perfect place, and with the introduction of Africans shipped to the West Indies as slaves, the sugar plantations flourished.

The first sugar refinery in North America was built in the colony of New York in 1689 and a trade developed between New England and the West Indies. This became a mainstay of New England's growing prosperity. In exchange for such commodities as lumber and horses, colonial merchants imported rum, molasses and sugar. Colonists soon began to sweeten their breakfast gruel with a bit of cane

molasses, but individual consumption of sugar cane in 1700 was only about 4 pounds per year.

But Marco Polo and Columbus are mere lightweights in the chronicle of sugar, compared with the twentieth century food processor. Within the span of a few generations, the food industry has converted sugar from a household luxury to a major component of the average person's diet. World production of sugar has climbed from 8 to 84 million tons between 1900 and 1975. This has had a profound effect on those Third World countries which grow the sugar to support this mass consumption.

In two previous editions of C.R. (Vol 4, No 2/3; Vol 4, No 4) I have looked at the structure and origins of the present world trading order and the effects that it has had on Third World countries. It is not necessary to go over this ground; suffice to say that the present world order was forced on the third world primarily by British and European, and later by Japanese and American colonial policies. The economies of the Third World countries were oriented towards producing raw materials and foodstuffs to satisfy the demands of the colonial powers and they have become locked into a situation where they have relied on one or two commodities for the generation of foreign exchange necessary to buy the manufactured products of the industrial world. The production of sugar is but one of numerous examples of this.

Today the U.S. public consumes 11 million tons of sugar per year, roughly half of which is imported from the Dominican Republic, the Phillipines and Mexico. A large proportion of the arable land in these countries is devoted to the production of sugar. Ralph Nader has observed this situation in the Dominican Republic where: "Gulf and Western draws more and more acreage into sugar cane at the expense of land devoted to growing domestically consumed foods. The sugar is exported for foreign exchange that is significantly squandered among the political and economic elites. At the same time, land availability to meet local needs of hungry, undernourished people is reduced."

The general health of the people of the Dominican Republic is not good. Food prices are twice as high as ten years ago, and many Dominican families are now eating only one meal a day. A 1969 study by a Columbia University doctor showed over half of the sample of 5,500 Dominicans were anaemic and "showed chronic malnutrition since birth". Contrasted to this situation is the composition of the country's exports: sugar (which represents over 50%) tomatoes, cucumbers, onions, peppers, avocados, vegetable oils and beef.

The American multi-national, Gulf & Western, owns 275,000 acres in the Dominican Republic, as well as the world's largest sugar mill. The company directly controls at least 8% of all the cultivated land and also contracts with local farmers to grow sugar. These contracts oblige the farmer to plant every inch in cane — nothing is left for subsistence. In this way the amount of land under sugar cane has doubled in the last twenty years.

The Dominican Republic gives a stark illustration of the obstacles faced by people in the Third World who try to break out of a situation that leaves them hungry while their land is used to grow food for the rich consumers of the world. Susan George continues the story "Coercion is not unknown if persuasion fails. In March 1974 the people of a village near G & W's sugar mill seized a few hundred acres that were about to be planted with cane. Sympathetic merchants provided tractors and seeds and the people planted food for themselves and demanded that the government keep its legal promise to turn over land to the poor. Because powerful landowners wanted to plant cane to sell to Gulf & Western, the army was called in and the people's food crops were ploughed under. Such tactics are only to be expected in a nation where the President, Mr Balaguer, can make a statement like this one: 'Central Romana (the name of the G & W sugar mill) has a contract, and provisions of contracts supercede national law. This is a legal principle (ex-President Bosch, who supported the sharecroppers) should know.'"

— from "How the Other Half Dies"

Does this mean that we cannot eat sweet food?

It's still possible to eat sweet foods without having to eat refined sugar. Fresh fruits such as apples, pears, bananas, and dried fruits like sultanas, raisins, dates, are all naturally sweet foods which can be eaten by themselves or combined with other foods in cooking. Honey can be used as an occasional sweetener in both cooking and coffee, and some people use lemon juice in black tea. With a bit of innovation, it is possible to have lots of fun eating and cooking without sugar and experimenting with different combinations of foods.

Isn't it true that we have a natural taste for sweetness?

Many people argue that we have an inborn taste for sweetness. However, whatever natural desire we have for sweetness, has been reinforced to the point where we prefer the artificial sweetness of breakfast cereal to the natural sweetness of fruits.

Advertising plays a crucial role, in shaping people's expectations of their food and their resultant taste preferences. Children are beset by the irresistible message that "sweetness adds life" and are one of the major targets of the food companies. A study published last year by the Age (24/5/78) stated that between the hours of 4 and 6 p.m., the main viewing hours for children, 41% of advertising was for sweets, cereals, biscuits and fast foods. Nearly half of all food advertising is for confectionary.

Food advertising and early conditioning in children — where sweetness is used as a reward for goodness — have led us to believe that sweet food is good for us, and the sweeter the better.

As one writer commented:

"When it comes to sugar, much of the food industry apparently operates on the assumption that the consumer has three taste preferences: sweet, sweeter and sweetest."

As John Hindle points out, this brings us to the most serious point that can be made about food: its politics! The whole debate about food is not just a question of whether the



from *The Food and Health of Western Man* by J. Mount.

		Added Sugar (in Teaspoons of Table Sugar)
BEVERAGES		
Cola drinks	12 oz bottle	9
Fruit flavoured	12 oz bottle	11
Ginger Ale	12 oz bottle	7
PIES		
Apple	Average Piece	8
Cherry	Average Piece	8
Lemon	Average Piece	7
Pumpkin	Average Piece	4
CAKES		
Chocolate iced	4 oz piece	10
Doughnut, Glazed	one piece	6
MILK PRODUCTS		
Ice cream	½ cup	3
Malted Milk Shake	10 oz glass	5
LOLLIES, SYRUPS ETC.		
Hard lollies	1 oz	7
Chewing gum	1 stick	½
Icing (white boiled)	1 oz	6
Molasses	1 oz	6
Syrup (table blend)	1 tablespoon	3

Added sugar in your food

food is, or is not, nutritious. Important though this aspect is, it is also vital to see the political consequence of the way food is produced and sold.

The most disturbing aspect of the food industry is that we are steadily losing control over what we eat. We know less and less about the ingredients of manufactured food. Many people would be horrified if they knew, and the food companies are far from keen to disclose precise information about their products.

Our eating habits are linked to our lifestyles and value judgements. Our lifestyles are being pushed in the direction of convenience — we eat whatever is the easiest to buy and prepare; we do as little cooking as possible and rely on fast take-away foods; we do not even think about what we are eating. In the name of convenience we have given power over our food supply to companies who care less about our health than their profits.

More and more people are being "sucked in" to accepting a situation in which companies and governments have control over their daily lives. Important matters are left to "the experts" — people don't think about food because the food companies know best, just as many of us don't think about uranium mining or unemployment, preferring to leave it to scientists or the Government to make the decisions.

Our aim in writing this article is not to berate people and demand that they immediately stop eating sugar before they collapse with some bodily seizure. A far more important goal is to encourage people to think about their daily lives — in this case, to ask more questions about what they eat. Collectively we must find ways of regaining control over what we do with our lives.

—Peter Leman & Max Smart

THE MARGARINE CONTROVERSY

According to the Australian Dairy Corporation, Australians now eat 5 kg. of margarine per head each year, as compared to 3.5 kg. of butter. Ten years ago we ate more butter than margarine. The removal of margarine quotas in the late sixties and the very effective promotion of butter as a health-food have encouraged the trend to margarine consumption. But is margarine a health-food?

To answer this question we first need to know how margarine is made.

All fats are a combination of carbon, hydrogen and oxygen, arranged in various different combinations. Most fats consist of three molecules of fatty acids and one of glycerol.

POLYUNSATURATED fatty acids are found in vegetable and fish oils, and are known as the "essential fatty acids," because the body cannot manufacture them but must have them in order to utilize cholesterol and saturated fats properly.

Polyunsaturated fatty acids contain two or more pairs of carbon atoms, joined together by double bonds. Each of the carbon atoms is capable of taking up a hydrogen atom at the bond.

MONOUNSATURATED fatty acids are found in olive and peanut oils, and are abundant in most other fats as well. They have only one pair of carbon atoms joined by a double bond: thus they can take up two hydrogen atoms.

SATURATED fatty acids cannot take up any hydrogen atoms — they are saturated with hydrogen.

Saturated fatty acids are found in butter, animal fat and coconut oil, and can also be manufactured by the body.



At room temperature saturated fats are solid, whereas the unsaturated fats are generally liquid. So, to produce a spreadable butter-substitute from unsaturated fatty acids some of the oil must be hydrogenated — made into saturated fat. This is done by subjecting the oils to high temperatures (360°F) and pressure in the presence of a catalyst — finely powdered nickel. The hydrogenated fat is then mixed with other oils to make margarine.

Polyunsaturated table margarine contains at least 40% polyunsaturated fat to 20% saturated fat, whereas ordinary table margarine contains only about 25% polyunsaturated fat and 40% saturated fat (the balance in both cases consists of monounsaturated fat). Some table margarines state on the label that they are made of "100% vegetable oil." That does not mean the oil is unsaturated. As well, margarine contains colouring and additives.

Butter, according to the Australian Dairy Board, is made only from fresh churned cream and salt, and legislation forbids the addition of colouring or anti-oxidants. It is all saturated fat.

The margarine Vs. butter controversy

Many authorities believe that diets high in saturated fats and cholesterol contribute to arteriosclerosis and heart attacks. However there is considerable controversy as whether this is in fact true.

Some findings indicate a relationship between high serum cholesterol levels (i.e. cholesterol in the bloodstream) and heart disease. Since saturated fats have been shown to influence the level of cholesterol in the blood, nutritionists and health bodies such as the National Heart Foundation, have recommended lowering the amount of saturated fat and cholesterol eaten and increasing the proportion of polyunsaturated fats, which are needed to "process" the saturated fats. They advise using margarines which have a ratio of two-to-one of polyunsaturated to saturated fats; cooking with oil rather than butter, and restricting dairy fats, cheap cooking margarines and hard margarines.

Opponents of this view point out that cholesterol-reducing diets and drugs have not brought down the rate of heart disease. They claim that some vegetable oils and hardened fats could cause more damage to the arteries than butter and other naturally-occurring animal fats.

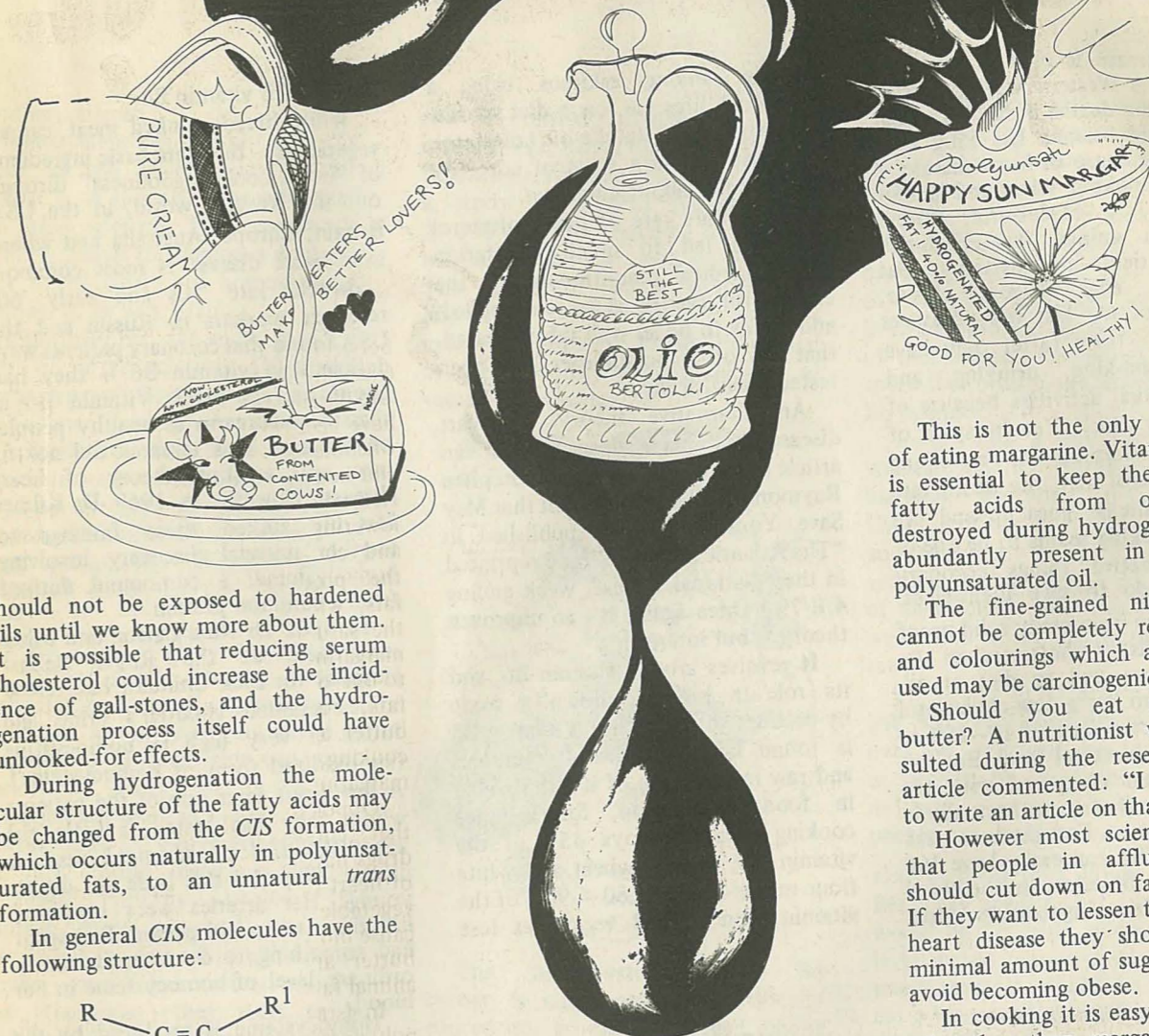
In Israel, where the diet is high in poly-unsaturated fats the rate of heart disease is high. The Masai and Somali nomads in East Africa, in contrast, have high intakes of saturated fats but a low incidence of heart disease.

It is worth noting that the Masai are physically active people.

One scientist, Sir John McMichael, believes that heart disease is not caused so much by faulty diet as by wear and tear, heredity, infection, and other factors.

The level of cholesterol in the bloodstream is controlled by an internal body mechanism and may or may not be influenced by diet: it's an individual thing.

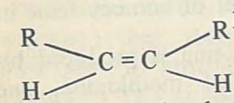
McMichael believes that some vegetable oil products might even aggravate heart disease, and that the public



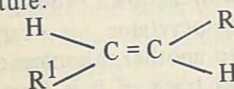
should not be exposed to hardened oils until we know more about them. It is possible that reducing serum cholesterol could increase the incidence of gall-stones, and the hydrogenation process itself could have unlooked-for effects.

During hydrogenation the molecular structure of the fatty acids may be changed from the *CIS* formation, which occurs naturally in polyunsaturated fats, to an unnatural *trans* formation.

In general *CIS* molecules have the following structure:



While *trans* molecules have this structure:



Both molecules contain the same atoms, and may be used in biochemical reactions instead of normal fatty acid molecules. However they are not the same — the difference in the arrangement of atoms means that the chemical reaction can go so far and no further. In this way the *trans* molecules prevent natural fatty acids from being taken up: this has the same effect as a deficiency of essential fatty acids.

"The level of cholesterol in the bloodstream is controlled by an internal body mechanism and may or may not be influenced by diet."

"McMichael believes that some vegetable oil products might even aggravate disease and that the public should not be exposed to hardened oils until we know more about them."

This is not the only disadvantage of eating margarine. Vitamin E, which is essential to keep the unsaturated fatty acids from oxidizing, is destroyed during hydrogenation. It is abundantly present in cold-pressed polyunsaturated oil.

The fine-grained nickel catalyst cannot be completely removed. This, and colourings which are sometimes used may be carcinogenic.

Should you eat margarine or butter? A nutritionist who was consulted during the research for this article commented: "I wouldn't like to write an article on that topic!"

However most scientists do agree that people in affluent countries should cut down on fats of all kinds. If they want to lessen their chances of heart disease they should also eat a minimal amount of sugar and salt and avoid becoming obese.

In cooking it is easy enough to use oil rather than margarine. But what should you spread on your bread? We leave it to the readers to judge for themselves the relative merits of butter and margarine.

— Diana Schneider

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NEW HOPE FOR HEART

The Vitamin B6 Theory

Heart disease is one of the main killers in the Western world, causing about half the deaths in the USA each year. Medical science has long held that a major cause of heart disease — along with smoking, stress and lack of exercise — is cholesterol, found generally in animal fats. High-risk coronary patients are advised to cut out butter, eggs, bacon, cheese, . . . some of the last few pleasures remaining to them (after they have given up smoking, drinking, and strenuous sexual activities because of the coronary risk). Yet in spite of widespread enthusiasm for prescribing a low-cholesterol diet, the death rate from heart disease goes up and up. Giving up smoking seems to be one of the few effective things coronary patients can do to save themselves.

In fact there is no really solid proof that high levels of cholesterol in the bloodstream are due to diet at all. People who go on a low-cholesterol diet can expect a drop of 10–15% in their serum cholesterol level. But this is minor, when compared with the huge variations that occur naturally in cholesterol levels. For instance residents of the USA can easily have 100 or 200% more cholesterol in the blood than New Guinea highlanders. Most

amazing, among eskimos living a traditional lifestyle, on a diet of raw meat with a huge intake of cholesterol, the most common form of coronary disease is just about unknown.

The failure rate of low-cholesterol diets has led to much frustration among medical practitioners, but the cholesterol theory is so entrenched, and seems to be so well substantiated, that few other possibilities have been tested scientifically.

An alternative theory of heart disease has been described in an article by Edward Gruberg and Stephen Raymond ("The Vitamin Pill that May Save Your Life", first published in "The Atlantic Magazine", and reprinted in the "National Times", week ending 4/8/79.) Once again, it's an unproven theory — but interesting.

It revolves around vitamin B6, and its role in breaking down a toxic by-product of protein. Vitamin B6 is found largely in fruit, vegetables and raw meat. Much of it is destroyed in food preparation, for instance cooking meat destroys 45% of the vitamin B6, milling wheat and white flour means a loss of 80 – 90% of the vitamin, and canned vegetables lose

2/3 of their vitamin B6.

White bread, cooked meat, canned vegetables — these are basic ingredients of "home-cooked goodness" throughout the Western world, in the USA, Britain, Europe, Australia and wherever heart disease is most common.

In the late '50s and early '60s research workers in Russia and the USA found that coronary patients were deficient in vitamin B6 — they had about half as much Vitamin B6 in their bloodstreams as healthy people, on average. This research did not fit into any existing theory of heart disease. However in 1969 Dr Kilmer McCully linked these findings to another unusual discovery involving homocysteine, a compound derived from a common protein:

In 1962 Dr Nina Carson and other researchers at the Royal Belfast Hospital for Sick Children had tested some retarded children's urine and found it very high in homocysteine (an oxidized form of homocysteine). A few years later one of the patients whom they had tested, a little girl aged 9½, died of advanced vascular disease. Why did this little girl die so young? Her arteries were hardened like those of an old person. Perhaps it had something to do with the extraordinary level of homocysteine in her blood.

Homocysteine is produced by the breakdown of methionine, one of many proteins in our everyday diet. Normally the breakdown process goes further: homocysteine is rapidly converted into another, harmless compound and no trace of it is found in the bloodstream.

However vitamin B6 is necessary as a facilitator to break down homocysteine. When B6 is deficient, homocysteine accumulates in the bloodstream (this shows up in urine tests). Recently physicians at Prince Henry Hospital in Sydney have found that coronary patients tend to have much higher levels of homocysteine in their blood than other people

PATIENTS?

tested as controls.

Homocysteine should not normally occur in the bloodstream at all. When it is, it appears to be associated with atherosclerosis. The exact mechanism by which this happens does not seem to be clear, but homocysteine is known to be very toxic.

Atherosclerosis, the most common form of arteriosclerosis (hardening of the arteries) begins when patches of the inner lining of the artery wall are stripped off. Cells from the inner wall then start to multiply, as if to patch up the gap, causing the artery to harden. Cholesterol and other fats build up on the damaged surface (called an atheroma) and narrow the artery.

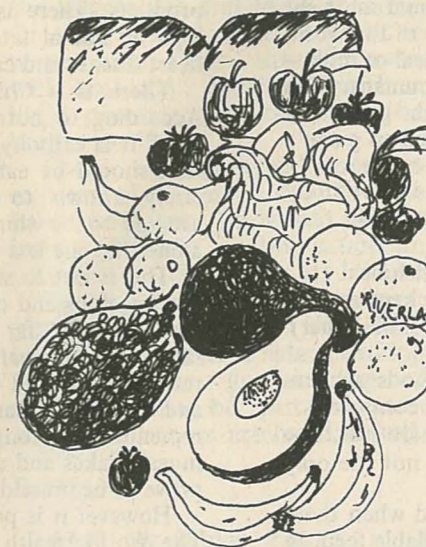
Blood clots tend to get stuck at the narrow point, causing sudden, disastrous shortages of oxygen further on. If the artery supplying blood to the heart is blocked, this can cause heart attack. If the artery to the brain is blocked a stroke can follow.

Atheromas are extremely common, and are found even in young, apparently healthy people (for example, quite advanced atheromas were found in young GI's killed in the Korean war). Even young children have atheromas — they seem to be an inevitable part of growing up in Western countries. This could be due to deficiencies of vitamin B6 in the mother's milk: the level of Vitamin B6 in milk closely reflects the amount in the mother's diet.

Further support for the vitamin B6 theory is given by other medical observations which would otherwise seem like isolated causes of heart disease. One example is the connection between heart disease and the contraceptive pill.

Women on the pill have lower levels of vitamin B6 in their bloodstreams than other women. This has become known over the past ten years. It now appears that they have a much higher

risk of coronary disease than other women. The Royal College of General Practitioners in England recently made a study of 23,000 pill-users and 23,000 controls, matched by age and marital status but not on the pill. The death-rate among women who had taken the pill for five years or more was found to be ten times that of the controls, entirely because of vascular conditions.



The homocysteine/vitamin B6 theory is not formally scientifically proved nor generally accepted among doctors. It certainly does not mean the green light to coronary patients to gorge themselves on fried eggs and bacon, camembert and paté de foie gras. Even if the homocysteine theory is found to be correct, cholesterol may still be an important factor contributing to the problem. However the new theory holds out hope of life for these people, and vitamin B6 is non-toxic. It certainly would not hurt if people adopted a diet higher in vitamin B6.

WHAT TO DO ABOUT IT?

High vitamin B6 foods include raw beef, chicken and other meats. How-

ever these are also very high in methionine, the protein which breaks down to form homocysteine. (Besides, how many people apart from eskimos eat their meat raw?) Milk products, butter, cheese, yoghurt and white bread appear to give you the worst of both worlds, being relatively low in vitamin B6 and having a fair amount of methionine. Wholemeal bread has more than four times as much vitamin B6 as white.

Foods with a very high ration of vitamin B6 to methionine include bananas, avocados and tomatoes. Other foods, such as oranges, apples and lettuce are not strikingly high in vitamin B6 but have a very low level of methionine and thus balance out well. And these are normally eaten raw.

According to the article by Gruberg and Raymond, virtually all Americans over 60 years of age are deficient in vitamin B6. Pregnant and nursing mothers, women on the pill, and people on high-protein diets should

also increase their intake of vitamin B6. They suggest that 10 mg per day would be desirable, adding that "this level would require a vitamin supplement since it would be difficult to eat a Western diet which has sufficient B6." The National Times later published a letter warning people not to take vitamin B6 on its own without the rest of the B complex. The whole vitamin B complex is required for metabolism, and if there is a disproportionate amount of one of the B-groups vitamins it can cause a deficiency in the others.

I personally would prefer to make up my vitamin B6 in avocados and am hoping to see the day when avocados will be provided free, like school milk, by a benevolent government for the health of the nation.

— Barbara Hutton
— Thanks to the "National Times".



VEGETARIAN COOKING

why people give up meat

Recently the Meat Marketing Board has launched a massive TV advertising campaign: "Feed the Man Meat". Ten years ago it would have been unthinkable to advertise meat: everyone ate it. However recently meat prices have gone up so much that some people are giving up meat altogether, and finding they can live quite well without it.

Most of the world's people eat only a tiny fraction of the amount of meat put away by North Americans and Australians and have been living on a low-meat diet for generations, since prehistoric times.

If everyone on Earth wanted a beefsteak for dinner, that would be just too bad: they couldn't have it. There would not be enough pasture to raise the cattle required.

To produce 1 lb. of meat protein, an animal must eat about 8 lb of vegetable protein. In many parts of the world that protein is supplemented with corn, fishmeal or milk — foods that would be appreciated by hungry humans. Rich farming land, which could produce enough grain and vegetables to feed many people is instead used to graze a few head of cattle (see "Food — for Profit or People?", Chain Reaction 4, No 2-3). Eating meat is definitely becoming a preserve of the rich, and already denies food to those who need it most.

In Australia cattle are not hand-fed with fishmeal etc.: they roam free, eating grass. But pigs and chickens are lot-fed (notice the "Dairy Fed" pork in your local butcher). The trend is catching on.

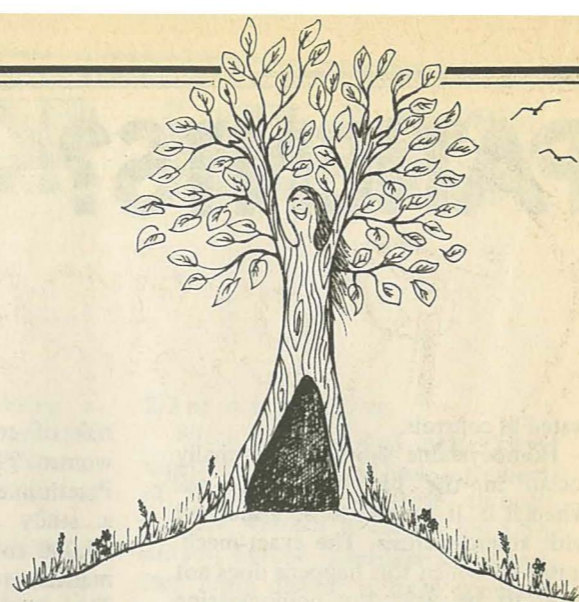
It's worth noting that some vegetarian foods such as lentils — not to mention tea, coffee, carob, coconuts etc. — are imported from countries where people do not have enough food or land to grow them. Meat is not the only luxury food.

Cattle can have a devastating effect on land when there is a drought, or too many animals for the available feed. In Australia only 5% of the available land is used for crops. Much of the rest is dry land, only marginally suitable for sheep and cattle. The scant vegetation is gradually being eaten out, causing erosion. Native animals lose their habitat and disappear; the sand dunes inch forward.

The ecological argument is not by itself sufficient reason to give up eating meat: it's a good case for going out and poaching some sheep or potting a few rabbits. But if people in the USA and Australia ate *less* meat, there would be no reason to run cattle on marginal land. (Doug Anthony wouldn't be pleased!)

As well, there are moral arguments against killing animals when there is other food available. Peter Singer's book "Animal Liberation" describes in gruesome detail how animals are raised in overcrowded, inhumane conditions for slaughter. Domestic animals are killed as cleanly and painlessly as is practicable, but there still remains the possibility that animals experience fear, pain, and loss when another member of the flock or herd is killed.

Last year there was an inquiry into the methods used to kill whales, and a great deal of evidence was presented to suggest that whales feel grief and pain. If whales do, what about other animals?



As the chairman of the inquiry, Sir Sidney Frost, remarked: "It's very easy to put up with someone else's pain."

A few decades ago, nutritionists advocated an extremely high protein diet involving plenty of eggs, meat and dairy products. There is mounting evidence that this rich diet, high in animal fats and low in fibre, is a major factor in heart disease and cancer of the colon.

There is a Chinese saying that meat makes you fat. According to nutritional lore as passed on by "Woman's Day" it is carbohydrate that makes you fat, and lean meat that should be eaten by dieters. Yet, for reasons not precisely known to Western science, vegetarians tend on average to be thinner than meat eaters. For this reason alone they are less vulnerable to heart attacks.

This is not to say that all vegetarians are healthy. Some live on chips and chocolate, are anaemic and have holes in their teeth. As far as health goes, it's probably more important that you eat wholesome food (not too much salt, refined sugar and flour, or animal fats; plenty of vitamins and minerals) than that you do or don't eat meat. And remember the long-term effects of a diet of fruit yoghurt, muesli flakes and alfalfa sprouts are not known. They may prove to be more disastrous than an overdose of All-Bran!

However it is possible to be healthy on a vegetarian diet. The World Health Organization now recommends that 5% of calories in the diet should come from protein. This is easy to achieve on a vegetarian diet: even oats are more than 5% protein. Things to watch for if you're a vegetarian are that you have a range of foods and get enough calcium, iron and vitamin B12 (without which you may become anaemic).

The main barriers to giving up meat are psychological: people have been brought up on meat and fear that they will become sick if they give it up. Or they just like the taste. Or they cannot think of anything to cook that does not involve meat. Therefore we have included a few sample recipes from vegetarians who swear they are edible and support life. Even if you do eat meat (as I do) it's worth experimenting with vegetable cookery. The vegetable should be more than a wilted, overboiled pile of grey stringy matter on the side of the plate!

Some of the world's most delicious gourmet foods are vegetarian — from fresh strawberries and nectarines, apricot pie and almonds, to French quiches, Italian minestrone, Lebanese felafel, Greek spanacopitta (cheese and spinach with flakey pastry), mushrooms, artichoke hearts, and asparagus tips in butter sauce. So read on . . .

Recipes

Cooking Vegetables

In general, the more vegetables are cooked, peeled and cut up the more they lose in terms of vitamins, minerals and flavour. Crisp or leafy vegetables in particular can be cooked in a very short time.

Boiling

When boiling vegetables such as baby carrots, spinach, cabbage, peas, beans, brussel sprouts, cauliflower, broccoli, etc. make sure the water is bubbling first, before you throw in the vegetables. Don't use too much water, keep the lid on, and they will cook quickly and keep their flavour.

Only the woody vegetables — big potatoes, gnarled and ancient carrots etc. — need to be thrown into cold water and brought to the boil. Even so, there is no need to peel them. When they are cooked the outer skin will slide off easily.

In general many of the nutrients in fruit and vegetables are concentrated just below the skin, and are cut away during peeling. Peeled vegetables are also more likely to become mushy and lose nutrients to the cooking water.

Steamed vegetables retain more flavour than boiled vegetables because they are not in direct contact with the water.

Steaming

There are various types of steamers. One relatively cheap kind looks like a colander but is made up of a number of collapsible leaves which allow

it to fit into different-sized saucepans. "Vita-Saver" steamers are one example. Unfortunately these steamers are an awkward shape: if you put too much water in the saucepan it reaches the vegetables and leeches them. On the other hand too little water may mean the saucepan will boil dry. However with a little practice you can find the happy medium.

Other steamers (more expensive) have holes in the base and are designed to fit inside the top of the saucepan containing the water.

To cook with a steamer, place the vegetables that take longest in first. Faster-cooking vegetables can go on top of these or can be put in later, when the others are half cooked.

Baking

Any vegetables baked in a little oil seems to gain flavour. Try whole onions (they become really sweet), parsnip, carrot, eggplant etc. Whole-baked vegetables taste better than cut-up vegetables but take longer to cook.

Frying

Finely slice or chop the vegetables of your choice. Onions (or leeks) and garlic can be fried in vegetable oil first — to bring-out their full flavour. Then add the harder vegetables (like carrots, beans, parsnips etc.), and a little later the ones that take less time to cook (e.g. cauliflower or broccoli flower-ettes). Thinly-sliced cabbage, bean shoots etc could be added just before the other vegetables are cooked.

Keep stirring the vegetables and add more oil if necessary to stop them from sticking to the pan.

Options:

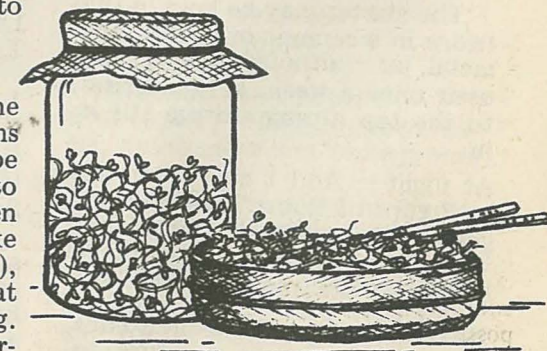
Add pre-cooked rice and a little more rice just before the vegetables are done to make fried-rice and vegetables.

Pre-cooked peas or any left-over vegetables could be added at the last minutes.

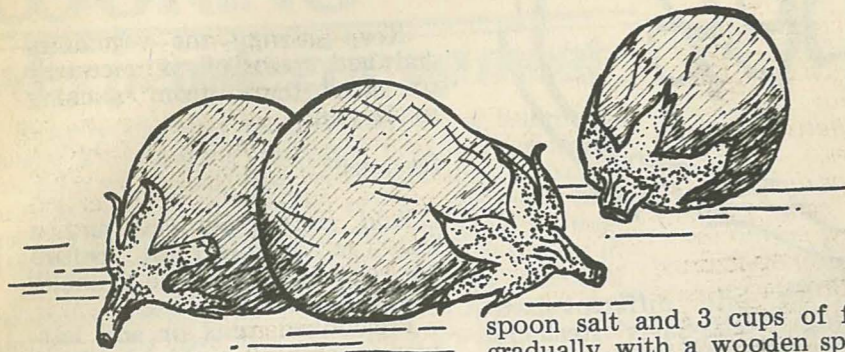
Soy Sauce can be added at the table or just before serving. Don't add it at the beginning: it coagulates and sticks to the pan.

To make bean sprouts

Almost any seed or legume can be sprouted to yield crunchy tasty little morsels full of energy and bounce. Cover about a handful of seeds with warm water and soak overnight. The next day drain and wash your seeds and return to the jar. Cover with a wet piece of cloth and keep in a dark place e.g. cupboard. Rinse the seeds well each day, keeping the cloth damp so the seeds don't dry out too much. Within 3-4 days the sprouts will be ready to enjoy. On the last day put the sprouts in a sunny place to develop the chlorophyll — this generally produces nice green sprouts. Try mung beans or alfalfa seeds or fenugreek seeds.



Recipes



Egg plant delight — great for a snack

Slice eggplant ½" thick, cover each side with salt and leave for 10 minutes. Wash. Spread one side with tahini and place a slice of tomato on top, season with pepper. Grill for a few minutes until eggplant is cooked.

Sourdough Bread

This is the easiest of bread to make and yet has a deliciously distinctive taste. There are two ways to make your starter:

- (i) Combine 1 tablespoon of dry yeast, 2½ cups warm water, 2 tablespoons honey and 2½ cups wholemeal flour. Let it ferment for 5 days, stirring daily.
- (ii) any sour food, e.g. two day or older rice or other grain, fruit, vegies or milk. Mix with 2½ cups of wholemeal flour and enough water to make it spongy. Leave the mixture for 3–4 days until it smells distinctly sour.

The starter may be kept in the fridge in a ceramic or plastic, not metal, jar — although it should be used once a week. If liquid rises to the top during storage stir it in.

At night — Add 1 cup of starter to 2 cups of flour. Then mix together while adding 2 cups of water a bit at a time. A thick batter should result. Beat well.

Next morning — Take 1–2 cups from this spongy mixture to replenish starter and store for next batch of bread.

Take the remaining mixture and fold in ¼ cup oil, ½ tea-

spoon salt and 3 cups of flour gradually with a wooden spoon. When dough comes away easily from bowl, turn onto floured board and knead for 5 mins, adding more flour as necessary. Form into loaves and place in oiled pans. Slit tops. Allow two hours' rising in pans. Brush tops with water. Place in preheated oven 425° for 20 mins. Brush tops with water again, turn oven down to 375° and continue baking for 1–1¼ hours. Test for readiness by turning out of pan and tapping the bottom of loaf. If it sounds hollow, it's ready to cool, then enjoy.

You can use other grains, rye for example, even grind your own, substituting 3 cups for the wholemeal flour in the morning addition.

Bread

— Plain whole meal, makes 5 lb loaves (or 2 big 2½ loaves)
 3lb 100% wholemeal flour
 2 Tablespoons dried yeast (or 1oz fresh/compressed yeast)

1 tablespoon sugar
 1 tablespoon crude molasses or honey
 1 desertspoon salt.
 ¼ pint warm water
 ½ pint of very hot water
 ½ pint of cold water
 2oz margarine or butter.

Set oven at 200° or ¼ gas and put bag of flour and tins in oven. Have a large mixing bowl ready-warmed. Have ready also a small basin, pint measure, wooden, table and desert spoons and butter-wrapper or oil for greasing tin.

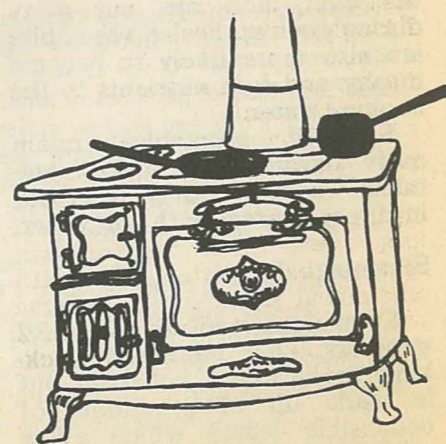
Into the small basin pour ¼ pint warm water and dissolve sugar in this (if the water is too hot it will kill the yeast — it should be luke warm or blood temperature). Next add yeast, stir about, cover and leave in warm place for 10–15 mins. Take tins from oven and grease well: corners edges etc. Take flour out of oven and leave on low heat. Into dry bowl tip the flour then the yeast mixture (it should be frothing) into a well in the centre. In pint measure put molasses/honey, salt and butter/margarine and pour very hot water on top. Tip this all into the mixing bowl and mix until you have a soft dough.

Tip dough onto floured board and knead about 30 seconds. Divide into loaves, press them well down into tins and leave to rise. Cover with damp cloth and place in warm place such as the drawer under the oven. The dough should reach the top of the tins or double in size after about ¾ of an hour.

Have oven preheated to 525° (gas 9) by the time the bread has risen to the top of the tins (or double in size).

Place risen loaves in the oven and turn down to 400 (gas 7) after 10 minutes. Small loaves should be ready in 30 minutes. Turn oven off and leave larger ones another 10 minutes.

Loaves should sound hollow when tapped if they are cooked.



Lasagne

1 packet of lasagne
 2 cups cooked soya or kidney beans
 4 peeled and sliced tomatoes.
 1 tblespoon tomato paste
 2 chopped onions
 2 cloves of garlic, minced
 1 sliced green pepper
 1 tablespoon parsley
 2 tablespoons olive oil
 ½ cup red wine (optional)
 2 cups chopped silver beet or steamed brussel sprouts cut into halves
 2 cups Ricotta cheese
 1 cup grated Parmesan
 Salt

Pepper

½ teaspoon basil

Cook pasta in lots of salted water with a pat of butter to prevent sticking. Season beans with salt and pepper, basil and tomato paste. Make a sauce by cooking tomatoes, onions, garlic, peppers and parsley either by frying in olive oil and wine or steaming. Butter a baking dish and make layers of the ingredients, beginning with pasta, then beans, tomato sauce, green vegetables, Ricotta cheese and Parmesan. Repeat layers, garnish with parsley and cook in a hot oven for 30–40 minutes.

Falafel

1½ cups cooked mashed chick peas
 1 cup soaked bulghur wheat
 ½ cup finely chopped onions
 2 teaspoons crushed garlic
 1 teaspoon cumin seed
 1 teaspoon coriander seed
 ½ teaspoon salt.
 1 tablespoon peanut butter

Fry onion, garlic, coriander, cumin in olive oil. Add wheat, chickpeas and peanut butter and mix. Leave for a hour or two, roll into balls, flatten, cover with wholemeal flour and fry. Serve with tabbouleh salad made of 2 cups parsley, 1 cup soaked buck-wheat.

Meal in a soup pot

1 cup brown rice or lentils
 1 cup wholemeal macaroni or spaghetti, broken into small pieces,
 3 cups diced mixed vegetables, e.g. carrots, parsnips, onions, celery, potato, corn etc.
 1 cup chopped leafy vegetables, e.g. Brussel sprouts, cabbage, endive etc.
 ½ teaspoon dried oregano, or 2 — 3 sprigs fresh oregano or thyme or basil.
 1 — 2 crushed chili peppers (optional).
 pinch salt and pepper.

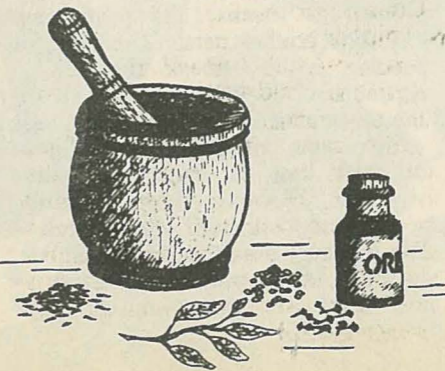
1 teaspoon vegemite or miso.
 3 or 4 teaspoons grated cheese, Parmesan for preference.

Handful of bean sprouts

Start with rice or lentils in a large saucepan with 7–8 cups of water or stock. Cook until almost tender then add pasta and mixed vegetables. Simmer for 10–15 mins. and add green vegetables, herbs and miso or vegemite. When ready to serve, stir in cheese and beansprouts. Serves 3–4 people.

Lentil Burgers

Cook 2 or 3 cups of lentils for ½ hour. Mash and add some marjoram, and thyme, 1 tablespoon tamari (soy sauce), some curry powder if desired. Add 1 cup of mashed potato or pumpkin. Make into patties, coat with flour and place on greased oven tray. Bake at 400° for 20 minutes. Delicious served in a wholemeal bun with salad or sauce.



Try making your own curry powder. Most commercially packaged curry powders use a combination of 15–20 spices. By mixing and grinding in a mortar and pestle you could use fewer spices, maybe 8–10 for each particular curry, thereby, trying different combinations to suit your taste. Herbs and spices to choose from include coriander, cumin, turmeric, chili and cayenne pepper, allspice, cloves, fenugreek, ginger, mustard seed, poppy seeds, paprika, saffron, garlic, cardamom, sage, tamarind, nutmeg, anise, cinnamon and other spices. e.g. lemon grass and blachan in South-East Asian curries, curry leaves for Indian curries.

Begin with turmeric and chilis and add any other combination. Grind spices as you require them and cook slowly in butter or oil to blend the flavours of each spice before adding other ingredients.

Curried rice

Prepare rice for 2 people. Meanwhile fry in oil 2 chopped onions and some curry powder. When onions are cooked add: rice, handful raisins or currants, 1 tablespoon honey, 2 diced apples, 1 cup diced mixed vegetables (optional). Mix and heat through. Serve with large salad.

Honey/Curry Stir fry

½ cup sunflower seeds
 rice for two people
 1 tblespoon honey
 1 tblespoon curry powder
 2–3 cups of mixed chopped radish, onion, capsicum, beansprouts etc.

Toast sunflower seeds in frypan until brown. Combine with rice for serving.

Heat honey and currypouder in a splash of oil. Add vegetables and fry for 5 minutes. Serve with rice.



Muesli

Muesli was originally invented as a health food but is now popular even with people who couldn't care less whether it is good for them or not — it just tastes nice and has a better texture than most breakfast cereals. Muesli consists basically of uncooked grains (e.g. rolled oats, wheatgerm, bran), and nuts sweetened with chopped dried fruit. Some people add sugar or honey, but it isn't necessary.

You can buy packets of **Toasted Muesli, Muesli Flakes** etc. in supermarkets, but these products are generally loaded with sugar. Home-made muesli is easy to make and it's much cheaper.

Your mix Muesli

Experiment with various combinations of the following ingredients to determine what you like best:

Rolled oats, dessicated coconut, bran flakes or Allbran, wheatgerm, chopped nuts (e.g. peanuts, brazil nuts etc.), dried fruits (raisins, sultanas, prunes etc.), fresh fruits (bananas, apples, stone fruits) and milk or skim milk powder. Add water/milk poured on top.

Except for some form of liquid none of these ingredients is essential — it just depends on your taste.

Once you have worked out your favourite mix you can make-up a week or so's batch all at once.

Options:

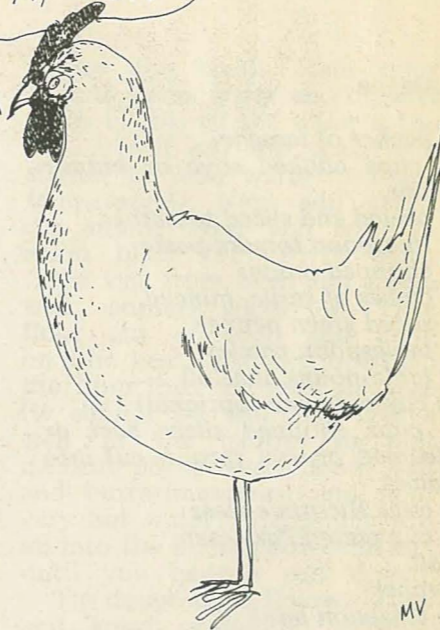
- Chop or grate fresh fruits and add them just before eating.
- soak the rolled oats in milk/water overnight — they go mushy but very creamy.
- soak the dried fruit overnight — it is softer and not so chewy.

HEN HOUSE BLUES

Since the 1950's Australia's poultry industry has steadily been moving down the path of intensive farming. With more large companies investing in farms and the stranglehold the Egg Board already has on egg production, the old idea most of us still have of farm animals leading pleasant and contented lives is fast receding into the past. The modern poultry farm is more like a factory production-line with machines called chickens laying eggs continually throughout their brief unhappy lives.

It is standard to keep hens in long rows of wire cages three or four tiers high, called battery cages or hen batteries. Victoria apparently has no laws to control the area of living space of laying chickens or the number of hens confined to a single cage, but the Department of Agriculture's spokesperson for poultry says they recommend that three birds, of average weight 4½ pounds, be kept in a cage measuring 15" x 20". This means that each bird has less than a square foot in which to live out her life, thus completely suppressing the hen's natural desire to stretch and flap her wings, walk around, perch, scratch the earth, bathe in dust, and nest. Nor are the hens part of a flock. Thousands of chickens are kept together, making it impossible to establish a pecking order, an integral part of their social life in a natural environment. All this adds up to extreme stress which manifests itself in the hens in pecking and fighting and sometimes even in cannibalism. Of course this means that egg production lessens, and profits are lost. The poultry person's remedy for pecking is to debeak the hen, a particularly dastardly practise involving the removal of the tip of the beak with a hot knife. A Department of

SOMETIMES I FEEL THEY ONLY WANT ME FOR MY BODY!



MV

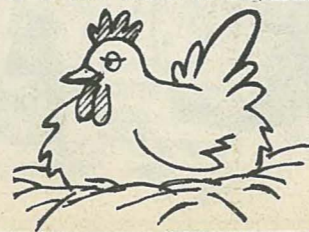
Agriculture official assured me it was a painless operation, but a British Government committee found otherwise. There is a thin layer of highly sensitive soft tissue, resembling the quick of a human nail, between the horn and bone of the beak. The hot knife cuts through this complex of horn, bone and soft tissue, causing severe pain.

So the answer to this cannibalism is to remove one of the birds' most vital parts, whilst doing nothing to remedy the unnatural conditions which caused it in the first place.

And the reason for this suffering? — to feed us all more and more eggs and meat. We of the Western world are known to eat much more protein than we need and suffer from obesity and heart disease associated with high intakes, while there are millions of people on this earth with not enough to eat at all. Millions of tonnes of the world grain harvest go in feeding intensively-farmed animals and birds, at a vegetable-protein-to-animal-protein conversion ratio of eight-to-one.

Is it worth inflicting these conditions on chickens for cheap eggs? Free range eggs laid by happy hens in a more natural environment are undoubtedly of better quality having stronger shells and there are no dubious additives in the hen's diet. Fight for free range eggs and liberate the chook!

— Sally Doyle.



The Decline of the Nuclear Industry

PART TWO

THE LONG SHADOW

of 30 MILE ISLAND



MV/79

Decline of the Nuclear Industry ~

Since the accident at Three Mile Island in May this year, opponents of nuclear power have tended to assume that nuclear power is effectively dying — or, alternatively, that the impetus behind it is so great that governments and corporations will not allow any slowing down in the progress of the nuclear juggernaut.

Neither assumption is quite right. The nuclear industry is down, but not out. It is in a uniquely vulnerable position, where the activities of the anti-nuclear movement will critically affect it. In the USA it is faced by unprecedented political opposition and its economics look worse by the day. The American financial community is fast losing confidence in nuclear energy. A similar situation exists in West Germany, Sweden and Japan. But in Britain, France and the USSR nuclear programs are being pushed energetically ahead with little organised resistance. Some executives in the U.S. are making defiant statements, and the industry has launched a "fight back campaign", starting with a massive media blitz.

Is the eventual triumph of nuclear power inevitable and its difficulties just temporary setbacks, as people on both sides of the debate assume? Or is the "nuclear brontosaurus" on its last legs? To find out, let's look at the industry's position in the US and elsewhere.

USA: Anti-nuclear Legislation . . .

According to Senator Morris Udall, who has taken a close interest in the nuclear industry, "Confidence in nuclear energy has been shattered." His colleague, Senator Schweiker, claims that "nuclear energy is going to be on trial as never before." A series of sweeping congressional investigations of nuclear energy has started since the Three Mile Island accident. The most important is probably that of Senator Hart's subcommittee on nuclear regulation: overseer of the Nuclear Regulatory Committee (NRC), which is to focus on the effectiveness of NRC regulatory activities and nuclear emergency response plans.

A number of bills advocating a nuclear moratorium are in the offing

at state and federal levels, and, according to the NBC media network public support for a moratorium on nuclear construction has rocketed to 65% since the Harrisburg crisis.

Senator Hart has sponsored a bill calling for a five-year moratorium on new plant construction permits. This will not affect reactors already under construction, but a similar bill before Congress, the "Nuclear Safety Review Act" would halt the licensing of 92 new completed plants and prevent 37 construction permits from being granted, pending a three-year study of reactor safeguards by the Office of Technology Assessment.

There has also been a spate of legislation at state level, making reactor construction impossible in many parts of the USA. Even before the accident at Three Mile Island there were de-facto moratoria on plant construction in California, Iowa, Montana, New York, Vermont and Wisconsin, either because state public-utility commissions refused to authorise new plants (as at Wisconsin) or because of local legislation. Since the accident legislation restricting nuclear power has been passed in three more states, and anti-nuclear citizens' initiatives are in the pipeline in Arizona and Washington. In addition:

- * Connecticut has banned further reactor construction until the state's Environment Protection Agency can determine that there is a reliable way to deal with high-level waste,
- * A moratorium bill has been passed through the lower house in the state of Oregon, and it is now before the Senate,
- * Pennsylvania has passed a moratorium bill through its Senate.

Legal or de-facto moratoria now apply in eight states, with obvious effects on reactor orders, and the nuclear industry's ability to reach its growth targets.

Pennsylvania may be about to start shifting from nuclear power to coal. Governor Thornburgh, who gained something of a hero's reputation during the Three Mile Island crisis now comments "I wonder what might have happened if just a fraction of the billions we've spent on atomic

power had gone instead into the search for clean and efficient ways in which to use the gifts of coal and other resources . . . As I've said before, I have doubts about the future of nuclear power in our society." He continues, "Not all the renown in the world can erase the awareness of these good people (of Pennsylvania) that something out there is powerful and strange and not entirely under control. We must assure ourselves that it can indeed be controlled, or risk losing it as a promising answer to our energy needs."

Overall, the nuclear industry has lost a lot of ground in the U.S. There is no longer a consensus in Congress that it should go ahead, and nuclear moratoria look like halting new plant construction in about half the states of the Union.

. . . and stiffer regulations.

The nuclear industry is also facing much tougher safety regulations, which will raise capital costs and force repeated shutdowns. The industry was hoping for "streamlined" licensing procedures and licensing stability". But now a mass of new congressional and NRC regulations seems about to leap upon horrified nuclear officials, producing sick balance sheets, shutdowns, and high blood pressure. One official grieved, "I don't think we are going to see licensing stability come out of this at all."

Worse still, plant managers and operators are more jumpy since the Three Island accident. According to one industry source. "Now, they will be tempted to take the plant off-line at a cost of \$300,000 a day or more, every time an alarm goes off."

The tightening of safety regulations started on 3 May, soon after the accident, when the NRC said that it wouldn't be issuing any more operating licenses till it had considered the effect of the accident on its licensing requirements. This delayed the licensing of 6 Westinghouse and 2 General Electric reactors by at least three months. Harold Denton, hero of Three Mile Island and chief of the NRC's licensing division, described this move, un reassuringly, as "suspended animation". Some NRC

commissioners wanted to go further than Denton and suspend construction work as well as new licenses. This would have delayed work on 88 reactors and hammered a large nail into the nuclear economics coffin.

The NRC is not merely responding to pressure over the Three Mile Island accident. It has announced that it will reconsider a previously rejected Union of Concerned Scientists' petition on faulty electrical connections which, if granted, will shut down "dozens" of plants. And on 2 June it ordered 33 Pressurized Water Reactors to be shut down within 90 days to check cracked steam-generator pipes. About this time 19 plants (26% of US nuclear capacity) were shut down. An NRC task force which proposed immediate shutdowns for plants violating NRC safety regulations noted that this would mean an additional 30 shutdowns a year, costing \$300,000 — 600,000 per day, per plant. The screams of corporate anguish seem to be making little impact on the NRC's tougher stance since the Three Mile Island crisis.

The "licensing reforms" sought by President Carter to aid the nuclear industry have been rejected by Congress and Senators Udall, Hart, and others involved with nuclear-related Congressional committees have spoken in favour of much tougher requirements. The NRC itself has voted 3-2 against speeding up licensing.

No more blank cheque for nuclear power

On 17 July the nuclear industry heard more bad news. The Senate had refused to water down a bill which would shut down all nuclear plants is states that do not have NRC-approved emergency response plans to handle nuclear accidents by mid-1980 (that's next year.) It would also prohibit the NRC from issuing licenses to plants without such plans. The Edison Electrical Institute complained, "we were very upset about it. It's a major step backwards." Peter Franchot of the Union Of Concerned Scientists was jubilant: According to him the bill was "A significant victory. The industry picked this as a significant issue, and lost. We're very pleased. It means



"OH, MY GOD—IT'S A MELTDOWN!"

An executive who chooses the nuclear option is, in effect, because of the huge capital costs, betting his company that the facility will be built . . .

no more blank cheque for nuclear power."

The long-term effect of these stiffer safety regulations and more stringent enforcement by the NRC will be a rise in costs and lower capacity factors. In other words, nuclear plants of a given size will cost more and produce less electricity. According to well-known nuclear economist, Charles Komanoff, "The events at Harrisburg have pushed nuclear power beyond the brink of economic acceptability."

Nuclear capacity factors (the actual output of a power station compared with what it could produce if running at full capacity all the time) have plunged since the Harrisburg fiasco. The year of 1978 was the best even for nuclear capacity factors, with plants averaging 66% of full capacity. This year the average is down to 59.4%. Babcock & Wilcox, who were responsible for the Three Mile Island reactors, lead the decline with an average capacity factor of 49%, following the shutdown of all their reactors after the accident.

Prospects don't look too good — 33 more plants are due for shut-

down already, and the granting of the Union of Concerned Scientists' petition will mean more. Komanoff expects nuclear electricity to cost twice as much as electricity from coal-fired stations by 1986-7.

The financial fall-out since Three Mile Island has hit the industry very badly. According to Karl Walske, president of the Atomic Industrial Forum, there won't be any new orders till the financial problems are solved. The industry is deeply perturbed by the refusal of the Pennsylvania Public Utilities Commission to pass the accident costs on to consumers. The owners of the Three Mile Island reactors, General Public Utilities (GPU), say they are on the verge of bankruptcy. According to one strongly pro-nuclear utility official, "It certainly looks like the Commission is taking the stance that the ratepayers should share in the benefits but only the stockholders should share in the loss. If that kind of attitude prevails in Pennsylvania and other commissions, then I am sure we would have to seriously reconsider (nuclear power)."

Wall Street has suddenly become jittery about things nuclear, and it is significantly more difficult for utilities to raise money to build plants. The Bank of America has announced that it won't make any more loans for nuclear-related con-

~ The Long Shadow of 3 Mile Island

struction projects, and is "reviewing" its entire investment portfolio in that area. Utility stocks have dropped and according to *Business Week*, "Many Wall Street counsellors are not sanguine about a market comeback, and have been steering their customers away from utility stocks." An editorial in *Electrical World* claimed that "An executive who chooses the nuclear option is, in effect, because of the huge capital cost, betting his company that the facility will be built and operated for at least a major portion of its economic life. GPU may have lost that bet . . . This brutal lesson will not be lost on the industry." It sure won't — and the lesson will have its greatest impact on future orders.

No new orders for 5-6 years

The authoritative industry journal *Nucleonics Week* confirms that utilities have had their confidence in nuclear power shaken. An industry source says he sees no new orders for 5-6 years. The question in everyone's mind is whether the industry can hold out that long. The most optimistic industry people say the Three Mile Island accident has added about a year to the "hiatus" in orders, which they now believe will pick up in 1982-3. However, according to one optimist, "I have always been an optimist . . . and I have never been right yet."

Cancellations of orders are in the wind. For example:

- * The Power Authority of the State of New York (PASNY) is dropping out of a project to build a 1200 Megawatt monster at Cemonton, N.Y., partly because of the accident and partly because the cost of the project has gone up from \$1.5 billion to \$3.1 billion.
- * Detroit Edison has delayed its "Fermi-2" reactor for a year and halted construction on two other units, pending NRC instructions.
- * Long Island Lighting Co. (LILCO) has delayed its Jamesport reactor.
- * The Tennessee Valley Authority, largest electricity generator in the USA, has delayed ordering two nuclear plants and stopped construction work on four others

because they won't be needed in the 1980's. It says public opinion could force it into a moratorium on nuclear plant construction.

Observers continue to predict the withdrawal of General Electric from the reactor business.

The industry fights back

At the end of 1978 the U.S. had 90 plants under construction, amounting to 99,000 Megawatts of power, and 32 plants on order (37,000 Mw). There were 72 plants already operating, supplying 52,000 Mw of electricity.

This means that if there were no further orders and no cancellations the USA would have 192,000 Mw of nuclear power, three times its present capacity, by 1995. About half the plants on order or under construction have been affected one way or another since the big accident, but only 3000 Mw of plant can

It is becoming clear in Sweden, Germany, Austria and Switzerland that the industry is in serious trouble. In Austria it has been officially terminated . . .

can be said for sure to be cancelled (though more cancellations are highly probable), leaving about 189,000 Mw. So the industry has a lot of impetus yet, unless really massive cancellations or moratoria hit it in the next one to two years.

The General Accounting Office suggests that an immediate moratorium on new plants would leave the USA with an eventual capacity of only 64,000 Mw in the 1980's if plants now at least 75% completed went ahead. If all plants under construction were allowed to operate the US would have an eventual capacity of 151,000 Mw from nuclear power.

These figures give the nuclear industry at least some sense of security. There is still optimism, though maybe misplaced, amongst some reactor vendors. According to one: "I think that most people in the industry or outside it but affected by it, view TMI only as a sobering occurrence, one for reflections on, but not abandonment of, nuclear power." Typical comments have been "We see nothing to be discouraged

about nuclear power in the long haul", and "as far as this company is concerned, we see nothing to stop us going ahead with our program of expanding our nuclear commitment." These comments may be nothing more than whistling in the dark, but they indicate that at least some people have not given up yet. In October (79) the industry launched a massive \$1.5 million media blitz aimed at restoring its tarnished image, to include pro-nuclear advertisements in women's magazines and press and TV statements by nuclear industry executives. A "counter offensive" by the nuclear industry seems to be in the offing.

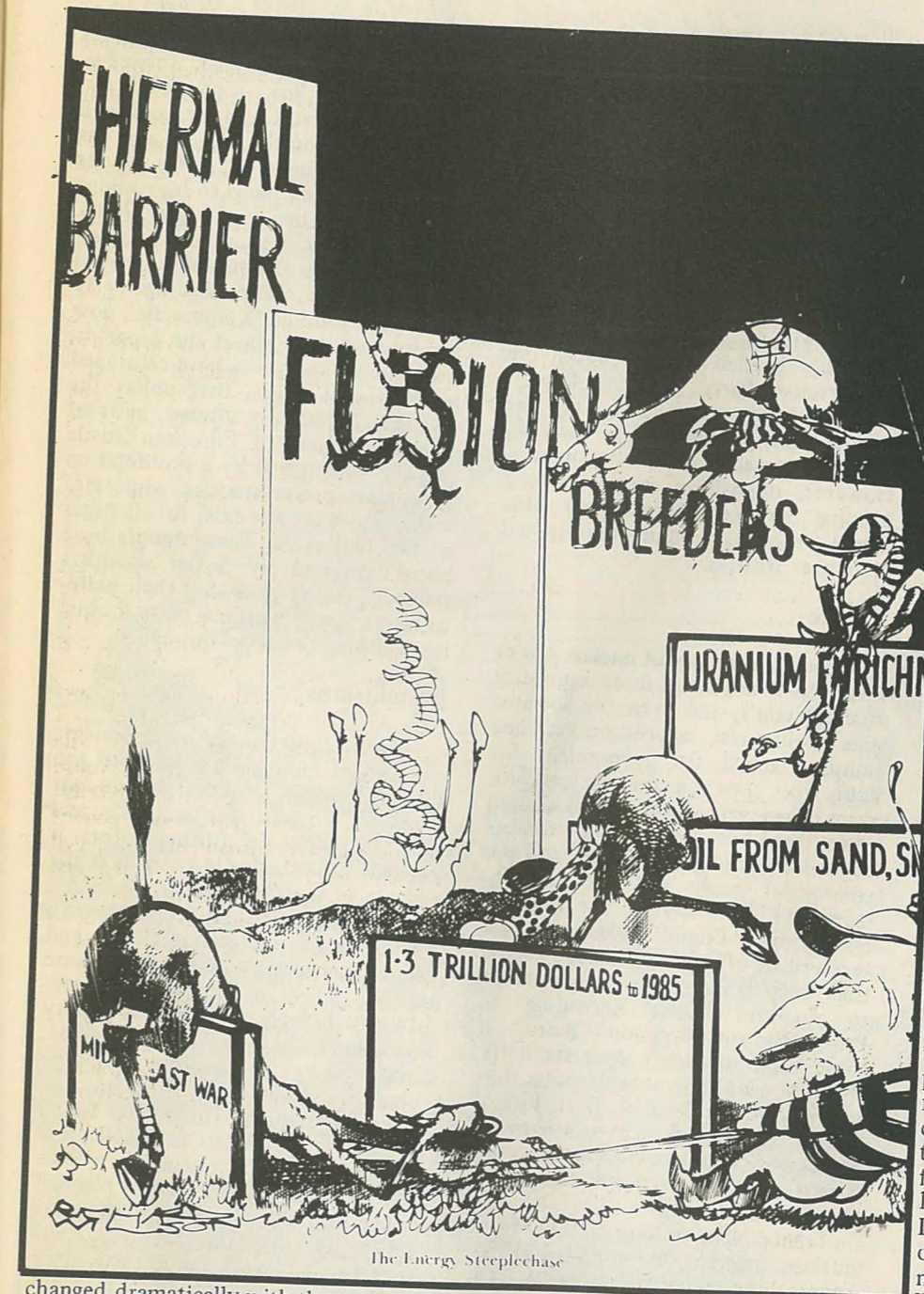
Developments outside the US.

It is becoming clear in Sweden, Germany, Austria, and Switzerland, the industry is in serious trouble. In Austria it has in fact been officially terminated, with the passing of a law excluding the use of nuclear power for energy production. This follows the passing of a referendum last November to close down the Zwentendorf plant. However Anton Benya, president of the Austrian trade-union movement, and president of the national parliament, has called for a new referendum to reverse last year's anti-nuclear decision.

The nuclear industry is in difficulty in Japan, but there is no immediate prospect of its being abandoned there. France, Britain, and the USSR plan ambitious nuclear programs in the face of relatively weak opposition, although there is doubt about the realism of these programs.

Sweden

It is in Sweden that things look most hopeful for the anti-nuclear movement, and blackest for the industry. Sweden has a substantial nuclear industry that produces 20% of that country's electricity — more than the 13% produced in the US. It has 6 working reactors, 4 under construction, and another two on order, and there have been plans for another 6. However, the political status of nuclear power in Sweden



changed dramatically with the news of the Three Mile Island crisis, and on 3 May the major political parties agreed to put two alternatives to the people next year.—

- 1) That the reactors now under construction and on order be built and started up.
- 2) That no further reactors be built, and the industry be phased

Germany

The once ambitious West German nuclear program is also in trouble, and industrialists in

firms involved in the nuclear industry are starting to issue dire warnings, conjuring up visions of economic collapse, breadlines, and dole queues.

West Germany now has 10 working reactors, 14 reactors under construction (or held up in various stages of construction), but only 3 on order. The German nuclear industry has had no new domestic orders for major nuclear components since 1975, and no new overseas orders since 1977. Germany's biggest nuclear plant-builder, KWU, had a backlog of orders worth \$13 billion, but lost \$2 billion of that when Iran pulled the plug out on the two reactors it was building at Bushehr. Much of the 6 billion backlog is "frozen" by court-imposed construction bans and local opposition.

The Gorleben reprocessing plant, on which the German nuclear industry has pinned its hopes for waste disposal (a legal requirement before construction can go ahead), has been indefinitely postponed since the refusal of the state government of Lower Saxony to approve its construction. The Christian Democrat premier of Lower Saxony, Ernest Albrecht, said that even if there were no technical reasons for refusing state permission for the plant's construction, "The double question remains: Whether the construction of such a facility is indispensable, and whether it can be carried out politically." The Social Democrat federal government remains committed to nuclear power, though with somewhat diminished fervour since the accident, but large sections of the Social Democrat party and a number of Social Democrat state governments such as that of Baden-Wuerttemberg oppose nuclear energy. Even some of the traditionally pro-nuclear trade-union leaders are beginning to waver.

And the German anti-nuclear movement seems to be gaining strength. The largest demonstration ever to happen in postwar Germany took place on 15 October, as 100,000 anti-nuclear demonstrators converged on Bonn.

Japan

Japan reacted to the Three Mile Island accident with largescale shutdowns of its Pressurized Water Reactors (similar to the Three Mile Island reactor) and opposition to nuclear power in Japan has grown. Many Japanese local governments are now urging the suspension of nuclear plant construction, for example:

* Governor Yukio Hayashida of Kyoto prefecture said he would halt Kansai Electric Power Co's plans to build two monster 1200 Mw reactors in his prefecture.

* Wakayama prefecture has announced it will refuse to allow construction of Kansai Electric's Hidaka plant, another twin-1200 Mw reactor job.

* Court injunctions against construction are now being sought against another three plants.

The Japanese Ministry of International Trade and Industry (MITI) has announced that it will cut Japan's 1985 nuclear growth target from 33,000Mw to 30,000Mw. This minimal drop leaves us with a 1985 figure that is still unrealistic. Given a ten-year lead-time, the additional 11,000 Mw would have had to be ordered 5 years ago. The present local opposition to nuclear plants means that even the 19,000 Mw committed capacity is unlikely to be completed on schedule.

Britain

Britain at present has 33 reactors in operation, and a capacity of 8,094 Mw — just under Japan's capacity last June. It has six reactors under construction — and till recently, had none on order. Britain also has substantial excess electricity generating capacity, which puts an expanded nuclear program in a decidedly dubious light. But the advent of the Thatcher Government has changed the situation.

The Conservative government has given vigorous support to the nuclear industry by ordering two additional Advanced Gas Cooled Reactors, to be

on line in 1985-6. Nobody has bothered to explain how a reactor can be on line in 1985-6 if the usual time from ordering to completion is ten years. On 2 July, the government announced it was upping its target from two reactors to five, including a Pressurized Water Reactor at Torness. Work is supposed to start in 1982.

Though Britain boasts distinguished nuclear critics such as Amory Lovins and Walter Patterson, and has anti-nuclear groups such as SCRAM and the 'Stop Urenco Alliance', both the Conservative Party and the Labour Party are pro-nuclear, and only the Liberal party is opposed to the continued expansion of nuclear power. However, opposition seems to have become stronger since Three Mile Island, centering around the proposed reactor at Torness.

France

France's advocacy of nuclear power has been if anything, more aggressive than Britain's, and even the socialist and communist opposition at one point attacked the government for going *too slow* on the nuclear program. However, since the Harrisburg crisis, there have been growing doubts expressed about the program, and the communist party and the environmentalists have called for a referendum. The French government has renewed its efforts to persuade people that there is no economic alternative to nuclear power. According to Prime Minister Raymond Barre, "if some countries don't understand the absolute need for nuclear energy, they will pay the price later. Both France and Britain have plans to proceed with breeder reactors, and the Superphenix breeder project at Creys Malville is the most advanced.

France plans to have 40,000 Mw of nuclear power on line by 1985, approaching present US capacity. It is planned eventually to produce half France's electricity from nuclear power. To do this, France plans to bring five reactors on line per year. Whether this is actually possible is of course, another question.

Russia

Russia has always been strongly in

favour of nuclear power and there has been virtually no criticism of its ambitious nuclear program. Russia has 7,721 Mw on line — just over the capacity of West Germany, and well behind Japan and the U.K. It also has reactors totalling 17,828 Mw under construction, and plans to have about 35,000 Mw on line by the late 1980's.

For the first time, cracks are starting to appear in the monolithic soviet nuclear facade. The leading party theoretical journal, 'Kommunist', now admits to doubts about the program. Two energy specialists have cautioned in its august pages, that unless the program is radically altered, parts of the environment of European Russia may be endangered by a proliferation of nuclear power stations, while safe technologies do not exist for all stages of the fuel cycle. These doubts have been expressed by Soviet scientists privately before now, but their publication in a major official party journal is something of a breakthrough.

Conclusions

There is some danger that opponents of nuclear power may become too complacent in looking at nuclear power's obvious difficulties, and conclude that no further effort is needed. Indeed, the industry is in big trouble in the US, Sweden, Germany, and Japan. The diseconomies of nuclear power are getting clearer and clearer, particularly in the US, where nuclear power is increasingly hamstrung not only by tougher safety regulations, but by outright moratoria. Capital costs for reactors look like rising beyond the \$3.1 billion predicted before the Three Mile Island accident by W. Mooz of RAND, and capacity factors particularly in the large 1150-1200Mw plants planned looked like falling to 55% or less.

Outside the US, Germany has reached a stalemate in nuclear plant construction. Sweden has a good chance of voting to phase out nuclear power next year. The Japanese program looks like running into more citizen resistance, and Japan will be affected by the same capital cost and capacity factor problems as America is.

But the game is not yet over. The immediate prospect is for a cessation

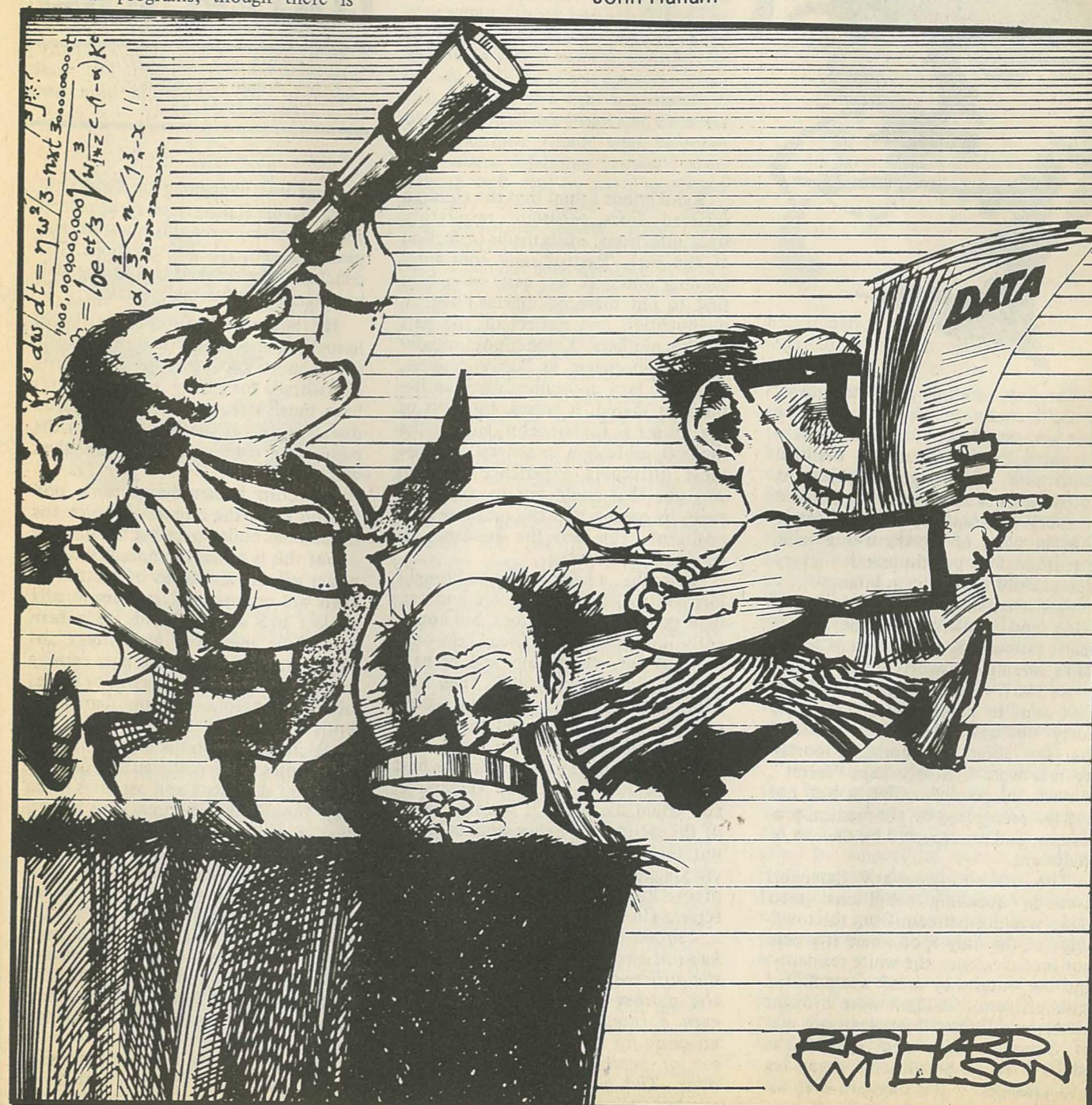
of the industry's expansion in the US, Germany, and Japan. Actual decommissionings and closures are only on the horizon in Sweden and of course, Austria. Nuclear power has started a 'fight back' campaign in the US — with what prospect of success is hard to tell. Britain and France are pushing ahead quite vigorously with entirely irrational programs, though there is

increasing resistance in France. The nuclear 'brontosaurus' is not dead yet — or else the carcass is twitching pretty vigorously. It is wounded and down. Maybe it will die. The anti-nuclear movement worldwide may be in a position to administer successive coups de grace over the next 2-5 years.

John Hallam

Cartoons by Richard
Wilson stolen from the
**DOOMSDAY
FUNBOOK**
(Wit of the Ecologist)

available FOE Collingwood
- \$5.90



EVERY SECOND CHILD

THE LITTLE GRAVES AT COLLARENEBRI

EVERY SECOND CHILD
by Archie Kalokerinos,
Nelson, 1974, \$8.50

Kalokerinos found that the children suffered from persistent respiratory tract infections, otitis media (infection of the ear), "gastro", and constantly running noses. It was easy enough at first to put these conditions down to malnutrition and neglect on the part of the mothers. Kalokerinos initially saw the aborigines as "dirty, careless, ignorant, lazy and unhealthy," an impression shared, it seems, by most of the nurses at Collarenebri, and by the medical profession in general. But the most disturbing experience for him was one that could not be explained away by saying that the mothers were negligent. This was the incidence of sudden infant deaths.

Typically, a baby would be brought into Outpatients with a cold and perhaps vomiting or diarrhoea, but apparently not seriously ill. The child would be kept for observation and perhaps given a shot of penicillin. Then suddenly it was all over: the child would collapse, go into shock and die.

Even children who had been kept in hospital for months, given the best care and nutrition, were vulnerable, and could die without warning. Most of the victims were aboriginal babies — but there were some cases of sudden unexplained deaths among white children. One of these is graphically described (in Chapter 6):

"From the age of two weeks she had not been really well. At six weeks she suffered from mild otitis media. Her mother was very concerned. But even a careful examination revealed no cause for concern. I gave an injection of penicillin and walked to the door. The baby was dead before I reached it."

What was happening to these children? Archie Kalokerinos spent several years agonizing over this question and piecing together his observations. The conclusion he reached is controversial, but seems to me to make sense.

He believes that aborigines, who have been in contact with Europeans for at most 200 years (in many parts of Australia for a much shorter period) have much less resistance to imported diseases such as chicken pox, and the commoner colds, influenza etc. than white people.

Newborn babies derive some protection from the immunity which the mother has built up during her lifetime — but this is a passive immunity which wears off. By six weeks of age the infants are unprotected, and are usually subject to a series of colds, bronchitis etc. Virus infections also attack the mucus membrane of the gut, causing loose bowels and "gastro." Babies often suffer from colds and diarrhoea both at once.

Bacterial infections move in when the viruses have prepared the ground. Constant diarrhoea and parasites mean that though the children may be getting enough to eat the food is not absorbed, and malnutrition results.

The typical aboriginal diet is lacking in fresh fruit and vegetables, hence vitamin C deficiencies. Babies are deficient in vitamin C from the womb, and the mothers' vitamin deficient milk does nothing to counter this. Add to this the habit of weaning aboriginal infants onto Sunshine Milk (another Nestle's product!)*

Sunshine Milk is ordinary powdered milk, to be added to tea or coffee — it

is not a baby formula. However many aboriginal mothers are unaware of the difference. They do not realise that Sunshine Milk is deficient in vitamins and will not, by itself, keep their baby alive.

But diet is not the whole problem. Because of their low inherited immunity aboriginal children are likely to be sick far more often than white children. Sub-standard living conditions make the problem considerably worse. Constant infections further deplete the children's scarce reserves of vitamin C (Vitamin C is utilized in fighting infections) and thus they cannot ward off even mild infections. They may be

were not alone in suffering from a shortage of vitamins. Twenty nine per cent of the whites tested were to some extent deficient in vitamin C and there were deficiencies in other vitamins as well. Kalokerinos describes several cases of white infants suffering, according to his diagnosis, from scurvy.

He found that in these cases of scurvy an injection of 200 mg of vitamin C had dramatic results. Children who were in shock and appeared to be on the brink of death would be sitting up smiling within twenty minutes. (By the way 200 mg is not a massive dose. Two hundred and fifty mg vitamin C tablets are available from most chemists

Kalokerinos found that children with severe infections required penicillin as well. But by itself penicillin, especially when taken orally, could have disastrous results. When they come in contact with a gastrointestinal tract which has been damaged by parasites antibiotics can cause havoc, and should only be used on babies with gastroenteritis in specific cases.

Kalokerinos is also opposed to immunizing children whose reserves of vitamin C have been lowered by infection. He believes the shots can put a further drain on the children's vitamin C levels, resulting in death. Thus, when a massive immunization program was carried out in the Northern Territory in 1970 the death rate doubled, almost reaching 500 per thousand in the worst-hit areas. Health officials have cursed at the way aboriginal mothers are inclined to flee into the bush rather than trusting their babies to white doctors. But if the baby is likely to have no more than a 50/50 chance of survival after being immunized, can the mothers be blamed for going bush?

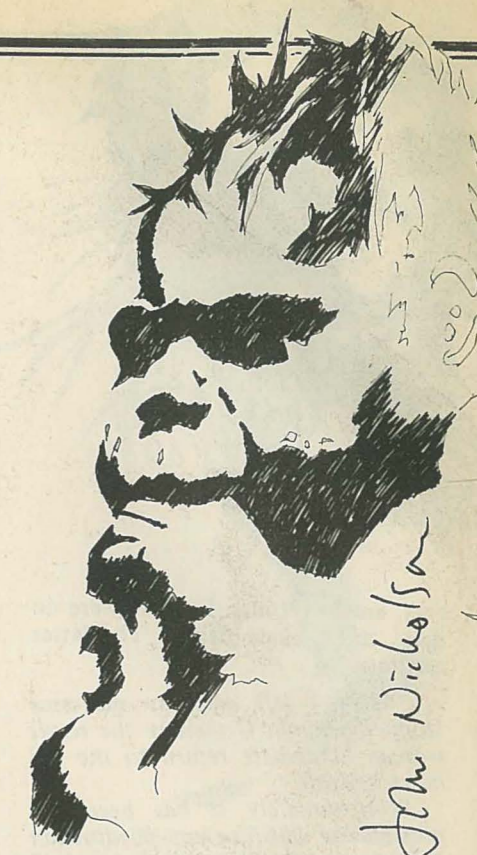
Archie Kalokerinos is often criticised as being a vitamin C fanatic, who sees vitamin C as a panacea and does not consider the aborigines' living conditions as a cause of disease. This is not the impression I get from reading "Every Second Child." The feeling that comes through most strongly is Kalokerinos' fondness for the little patients and frustration at the indifference of other whites — particularly other doctors and health officials. He is saying that a vitamin C injection may save a dying child — but underneath is a sense of outrage that it should ever come to this — that the mediaeval living conditions, poor diet, alcoholism, and the institutionalized



carried off by colds, diarrhoea or simply by acute vitamin C deficiency (scurvy).

White infants are much less likely to suffer the same cycle of vitamin C deficiency than aborigines (because of better living conditions, diet, and natural resistance to disease which saves them from drawing so heavily on their vitamin C reserves) but it could sometimes occur. According to a survey of Collarenebri residents, the aborigines

*The Nestle's Company is notorious for its aggressive marketing of baby formula in the Third World. One technique it has used involves dressing salespeople in white nurses' uniforms and sending them to speak to poor mothers, who are made to believe that Nestle's milk is better than breast-milk. The mothers cannot really afford the milk and have no access to sterile bottles etc. It is claimed that many babies have died of infections and malnutrition as a result.



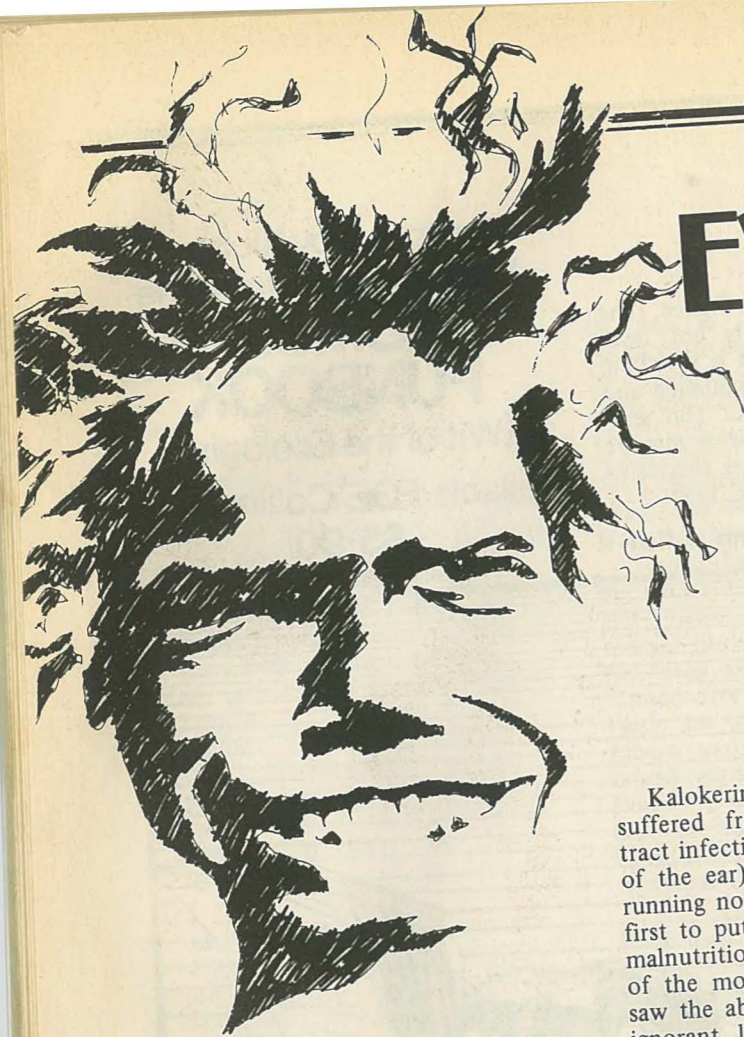
discrimination against blacks should be accepted with such complacency by the Australian public

His known commitment to the aborigines has in fact been an obstacle to Kalokerinos in his efforts to have his ideas tested. It is very hard to demonstrate a statistical difference between the mortality rate among Kalokerinos' patients at Collarenebri and the rate elsewhere, since many hospitals do not keep records of which patients were black and white, and other factors also affect mortality rates. Many people believe that Archie Kalokerinos' success, such as it is, is due to good general care and the relationship of trust which he has built up with the aborigines, not to any specific treatment. He's a concerned, even charismatic doctor — that's all.

But Kalokerinos makes it clear that the babies who died in his hands during his first term at Collarenebri did so despite the best care he could give. In support he quotes a letter from another doctor, working in the Kimberley region of Western Australia, who also cared intensely about his patients but just couldn't keep them alive:

"When I read your original article in 1969 I was prepared to use Gorgonzola cheese intravenously if it would have any effect..."

This doctor introduced a routine vitamin C supplement for all his pati-

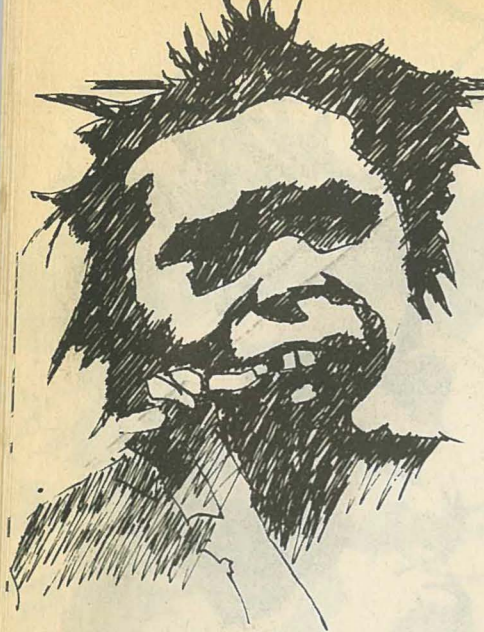


The tiny, carefully decorated graves at Collarenebri in New South Wales bear witness to one of the most shocking anomalies in Australia — the high death rate of aboriginal babies. At Collarenebri in the '50s it was 100 out of every thousand born. In the early '70s, in parts of Northern Australia, it reached 500 per thousand — every second child would die in infancy.

Australia, with its high standard of living and modern medicine, has a death rate among its aborigines which ranks among the worst in the world.

In 1957 when Dr Archie Kalokerinos went to practice medicine in the dusty outback town of Collarenebri the facts about the aboriginal mortality rate were a closely kept "secret", known to council officials but not overtly recognised by the medical profession, and unsuspected by the rest of the world.

The local aborigines at Collarenebri lived in appalling conditions: their camp was downstream from the township (in the only spot where it would not inconvenience the white residents) and the water they drank was polluted with effluent. Children were brought up in mud-floored humpies on a diet of Sunshine milk and water. The adults lived on bread, jam, sugar, tea and sausages — the standard diet for many blacks all over Australia.



ents, and for 9 months there were no more unexplained deaths. The letter continued,

"When I left and my successor stopped vitamin C therapy the result was an immediate return to the old mortality rate.

"Unfortunately it has been impossible to convince any paediatrician in W.A. that the high dosage vitamin C therapy was even worth investigating. At the time it did occur to me to run a controlled trial but ethically it would have been indefensible. I have no scientific proof of what happened but I have certainly found that your experience can be repeated . . ."

The promise held out in "Every Second Child" is that high mortality rates and sickness among aborigines are not inevitable. Kalokerinos attacks the modern medical system for pushing ahead like a juggernaut with mass immunizations and text-book diagnoses, ignoring the specific health problems of aborigines, which are different from those affecting white people. He claims that there are concrete measures which can be introduced on a large scale to break the cycle of sickness, death and demoralisation. These include better housing, nutrition, vitamin supplements, and other quite specific medical techniques which can be adopted by any doctor — no need for miracle workers.

Recently many other doctors have joined Kalokerinos in advocating a new approach to caring for aborigines — but the heavy emphasis on vitamin C in his theory remains contentious.

To me, the most significant of these objections is that the vitamin C deficiency theory draws attention away from the essential problem — the squalid living conditions of the aborigines. One doctor put it this way:

"(in my view) the main causes of increased disease and mortality from infectious disease in Aboriginal children are environmental, viz:

— low resistance because of poor nutrition in general (including lack of vitamin C) and multiple infections (a vicious cycle!)
— and high exposure to infections; contaminated food and water, overcrowding etc.

Furthermore these are due to the social and economic conditions in which Aborigines live. Poor child care, which is obviously present, is not only an individual problem but a result of complex social, cultural, economic and educational factors . . .

I think an over-concentration of vitamin C deflects attention from poor general nutrition (all vitamins, protein, insufficient calories) and high exposure to infectious agents due to poor living conditions.

In the late 1800's the infant mortality rate in Australia was about 125/1000. By 1910 it was about 60/1000. This was not accomplished by vitamin C tablets, in fact it was not even associated with any advance in medical treatment such as immunization. Health has been improved for the Caucasian section of Australian society by environmental improvement and better child care. It is curious, to say the least, that our prescription for Aborigines are chemicals (eg: vitamin C and antibiotics) and medical



services. This approach benefits mainly those who produce these chemicals and deliver the services."

Another key objection is the lack of scientific proof of Kalokerinos' theories.

Archie Kalokerinos' observations about aboriginal health and vitamin C deficiency were not made by trained research workers. His suggested treatments were worked out by trial and error, and controlled tests must be made to see whether they are really reliable.

Kalokerinos cannot divide his patients into two matched groups and conduct the tests himself. He feels it would not be ethical for him to withhold treatment from half his patients solely to prove a theory, particularly when he knows (or believes) that



vitamin C could mean the difference between life and death for some of them.

However there is no reason why other doctors who do not use vitamin C at present could not try it out on half their patients. Vitamin C is non-toxic: it could not harm the patients and might help them.

It amazes me that although "Every Second Child" was published in 1974 and created much furore at the time this has not been done. Recently the House of Representatives Standing Committee on Aboriginal Affairs published a report on Aboriginal Health, giving infant mortality rates for aborigines in Queensland and the Northern Territory. The aboriginal mortality rates for 1971 are so high that the graph disappears off the page: they are well above 100 per 1,000, the rate found at Collarenebri. By 1975 the death-rate had dropped to about 60 per 1,000 — still more than three times the mortality rate for Australians as a whole. The most depressing thing about this graph is that the dramatic fall in the death-rate which occurred

between 1972 and 1975 has apparently ended and in some areas the rate is creeping back up to 80 per 1,000. The report comments that some environmental infectious diseases are 12 times more common among aborigines than non-aboriginals.

The aboriginal health situation is appalling — whether due to poor living standards or poor medical practice, something is very wrong.

There are of course no figures as to the infant mortality rate among aborigines before they came in contact with white people. However the graphs of mortality rates in Queensland and the Northern Territory show sharp increases in the death-rate during the 'sixties, when there was an influx of whites to the previously little-known North of Australia. An Aborigine remarked sadly to Kalokerinos that "Our babies used not to die." There is no doubt that contact with whites has had a catastrophic effect on Aboriginal health.

Why isn't there a massive outcry about this situation? I would guess the reason is that, for most white Australians, aborigines are as remote as the "starving masses" of the Third World. Armchair Marxists boil the situation down to a simple case of white exploitation, requiring a revolutionary

solution. I have heard other people of different political persuasion saying that the present generation of aborigines is a lost cause and nothing can be done till the next generation has been sent to school and educated.

Both of these are looking at aborigines as *problems* to be solved in abstract terms — not as people.

"Every Second Child" is a reminder that the aboriginal children with pus in their ears are suffering here and now; that mothers are grieving for their babies and that something has to be done about it immediately. It's a very powerful book.

Kalokerinos is scathingly critical of doctors who will not become involved, don't want to get their hands dirty.

He tells of a case of a 15 year old aboriginal girl in central Australia, whose baby had gastroenteritis. The girl wrapped her baby in a shawl and took it into hospital, where a doctor saw her and gave her some tablets. He did not examine the baby, or see its wasted body and obvious dehydration. Had he done so he could probably have saved the baby, but he did not lift up the shawl. The baby died soon afterwards. The aborigines commented that this doctor didn't like touching them — he thought he might catch something!

"Every Second Child" is full of anecdotes like that one, fragments of a picture of small-town racist attitudes and incomprehension of the aborigine's needs. It is worth reading whether or not you are interested in medicine, and I think deserves to be taken more seriously in medical circles than it has been to date.

—Barbara Hutton



John Nicholson

FILM REVIEW



FILM REVIEW: "My Survival as an Aboriginal" by Essie Coffey.

Recently the Aboriginal Legal Service, Campaign Against Mining Aboriginal Land and Friends Of the Earth in Victoria, combined their efforts to promote a season of Black Australia films. The premiere attracted 300 people and the season ran for 5 weeks, during which, according to the Longford Cinema, a large cross-section of Melbourne attended the films: "My Survival as an Aboriginal", Robin Campbell's "Old Feller Now", and "Lalai Dreamtime".

"My Survival", a film directed and produced by black activist and feminist Essey Coffey, captures the mood and lifestyle of black life in rural N.S.W. today. Essie made the film in an effort to make her people proud of their heritage and black identity while struggling to survive in a white person's world.

The film is based on true experience and day by day reality of life around Brewarringa, a small town east of Bourke in north west N.S.W. She tells in her film how her people were trucked from their tribal land and

just speaking for her people — she dumped on a tiny reserve on the fringe of a white town. She says, "My people are a sad people. They're not happy people. They're very depressed and frustrated. The white man is forcing them to live in a whiteman's world. They want to live like they always lived, and they can't. The white man is poisoning them all the time. They don't have to shoot 'em down. They just killing them by alcohol, grog and the jails . . ."

We meet the eighteen members of her family (ten of her own and eight adopted). One by one they all file out while she says, "These people are my main supporters in this film. Without this family you wouldn't have an Essie Coffey to do it." In this scene we capture for a few seconds the strength of the "community" that most white people have never put to the test. Throughout the film, often accompanied by Essie's songs, we see how life is from the black perspective. The white education system, the police force, alcoholism and unemployment stand to remind us of an unjust assimilation plan that couldn't work.

Essie likes to emphasise that she is

expresses their concerns, their depression and frustration and their hopes for a better life. She believes her thoughts and feelings are not exceptional: they are shared by Aboriginal people all over Australia. Exceptional or not, Essie Coffey is certainly a dynamic person — Now a prize-winning filmmaker, a co-founder of the Western Aboriginal Legal Service at Brewarringa, the only woman member of the NSW Aboriginal Advisory Council and Aboriginal Lands Trust, she is also a Country and Western songwriter and singer, a teacher of Aboriginal culture at Brewarringa school, and mother to eighteen.

At the recent Sydney Film Festival, Coffey's film "My Survival as an Aboriginal" won the documentary section of the Greater Union awards for Australian short films and the Rouben Mamoulian award for the best short film in the finals.

"My Survival" and other Aboriginal films can be hired from the Vincent Library, Australian Film Institute, P.O. Box 165, Carlton, Vic. 3053 (phone 03 347-6888).

— Patricia Lowther.

BOOK REVIEWS

FOOD FIRST?

Two Books on Food from a Socio-political Perspective.



FOOD FIRST — BEYOND THE MYTH OF SCARCITY
by Frances Moore Lappe & Joseph Collins,
Houghton Mifflin, Boston U.S.A.,
1977, 466 pages. \$3.50 in paperback.

WORLD HUNGER — TEN MYTHS
by Lappe & Collins,
Institute for Food and Development Policy,
U.S.A., revised edition 1978,
55 pages. \$2.50.

Food First — Beyond the Myth of Scarcity shows us how we are all made victims of a scarcity that pits us, the rich few, against them, the many hungry. Viewed as a brutish scramble over a shrinking food supply, the problem of world hunger can paralyze us with guilt and fear.

Lappe and Collins argue that it need not be so. Drawing upon a world-spanning network of research the authors prove that there is no such thing as "absolute scarcity". They show that the root cause of hunger is —

- * not too many people
- * not scarcity of arable land
- * not over-consumption by greedy Westerners
- and that —
- * the developed countries are not and should not be the "breadbasket" of the world
- * forced birth control and protracted "food wars" are not inevitable.

In a highly readable question and answer format they transform the problem of global hunger from an overwhelmingly depressing subject into a powerful vehicle for making sense out of a complex world. Food becomes a means of analysing political and economic structures both national and international.

Forced sterilization is an attempt to impose a solution on people from above, rather than encouraging them and giving them the means to find their own way out, voluntarily. Lappe and Collins point out that in any case the world's greatest problem at the moment is the explosion in the rate of consumption of resources, not the population explosion. While poor countries account for 70% of the world's people, they use only 10% of its resources.

The cause of hunger is political — it is the unequal control of food-producing resources, particularly land,

capital and credit which makes it so hard for farmers in poor countries to be self-sufficient.

The solution to the problem, Lappe and Collins maintain, would make us allies with the hungry mass of people many have learned to fear. But to grasp that solution we must come to understand that we are ourselves the victims of the same forces that generate hunger in the rest of the world. Globally we are linked by a common threat; the tightening control over food — both within countries and on a world-wide scale. This process is being led by private corporations both national and transnational who are busily building monopolies through the total food production chain, from "seed to supermarket". We feel the effects through such things as rising food prices and diminishing quality.

The authors do not say that we should not be concerned about the rapidly growing world population. But they point out that by utilizing all the available land to grow food, and by a redistribution of the means of production the world could provide enough calories for the present population with some to spare.

The answer to this is made clear: a struggle by people everywhere in a national and international (solidarity) context to democratize the control over food producing systems — food becomes a primary measure of the justness of a political/economic system.

The fundamental principle in this struggle is national food self-reliance for both underdeveloped and industrial countries. What this would entail is spelt out at length and it is made clear that "Food First" is not a simple call to put food into hungry mouths. It is the recognition that, if enabling people to feed themselves is to be a priority, then all social relationships must be reconstructed."

The authors admit this is highly optimistic, but add, "If present governments will not implement food-first policies what, then, is the value of this prescription for food self-reliance? Its value lies in showing what

is possible — in giving evidence to groups struggling for self determination that food self-reliance is a viable alternative.”

Food First is having a widespread influence on overseas development aid philosophy (at least in non-government organizations) and for that alone it deserves praise. But it is much more than a Third World development handbook — it is a definitive text for food justice activism everywhere.

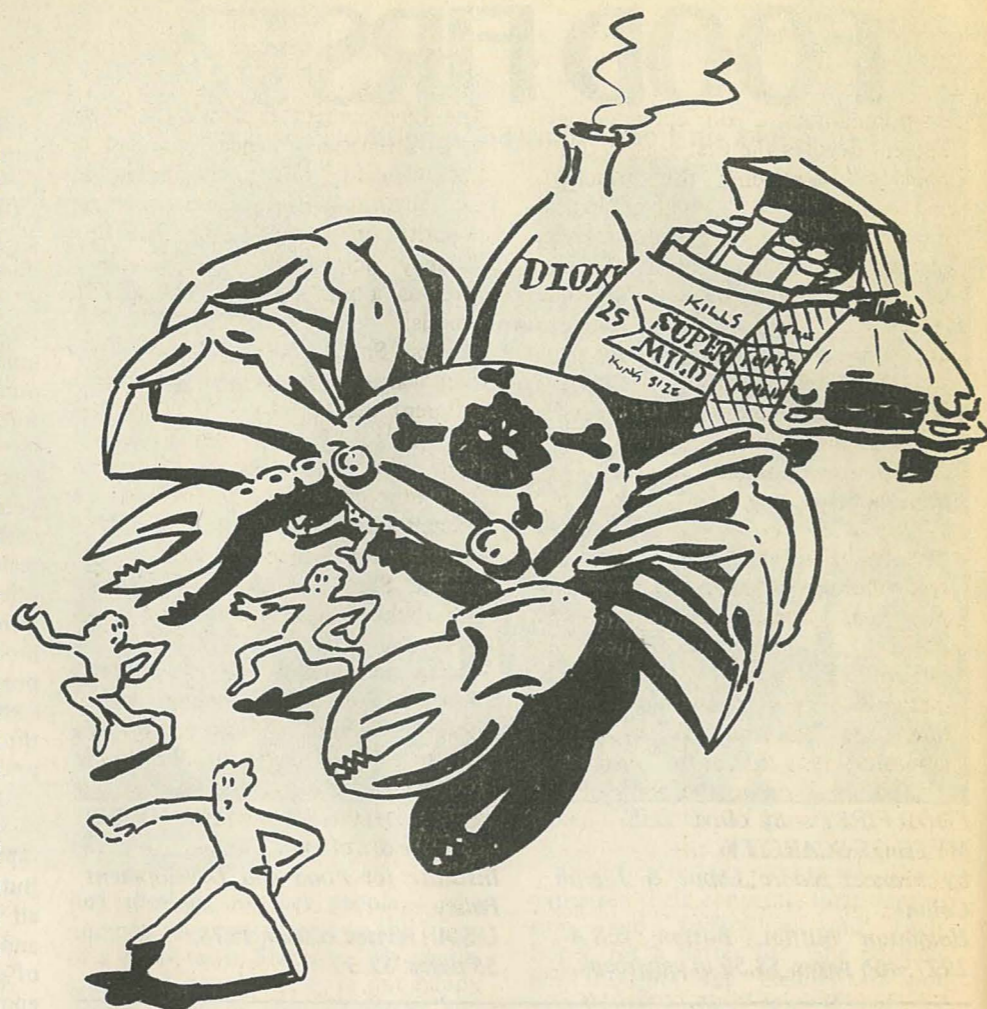
For those who feel they haven't the time to read *Food First's* 400 pages, *World Hunger — Ten Myths*, by the same authors, is a concise 37 pages of text summarizing the arguments of *Food First* in simple myth debunking format. Like the parent it puts our response in terms of “what can we do” — i.e. collective action is seen as necessary for effective lobbying and as a counter to the “I am powerless” syndrome.

The Institute for Food & Development Policy has a number of food and politics publications. You can send for a catalogue to I.F.D.P., 2588 Mission Street, San Francisco, U.S.A.

THE CANCER PLAGUE

THE POLITICS OF CANCER
by Samuel Epstein,
Sierra Club, San Francisco 1978
583 pages, hardback, approx \$15.50.

Amongst the thousands of books published each year, there comes the rare book that represents a milestone in the development of thought in a particular field. Samuel Epstein's *The Politics of Cancer* is a “milestone book” in three fields — politics, the environment, and human health. And, specifically, it's a book that must surely bring about a radical change in the approach to the study of cancer.



Epstein claims that industrial pollutants of the twentieth century have caused a cancer plague in the U.S.; a plague which is growing dramatically with the spread of the new industrial chemicals and which can only be stopped by political action.

Just another “back-to-nature” crank theory? Alas, no!

Professor Epstein's professional qualifications are impressive. But, even more to the point, his truly shocking story of industry-caused cancer is presented clearly and logically, and with a thorough documentation of evidence.

During the twentieth century hot debate has gone on as to the causes of cancer, and the validity of methods of research into them. Meanwhile, as Epstein's statistics show, there has been an acceleration in cancer mortality, particularly in younger people — but no overall improvement

in cure rates (despite massive funds spent on research into *cure* rather than *cause*).

While Epstein does not minimise the risks of cigarette smoking, he shows that even in non-smokers lung-cancer is on the increase. The cancer plague is not uniform throughout the U.S. “Cancer maps” reveal the differing rates of particular cancers in different counties. Epstein is cautious about drawing specific conclusions but points to the relationship between the location of petro-chemical plants and excess rates of cancer.

In this time of claims and counter-claims about the causes of cancer, just whose facts can you believe? This book provides a timely guide to dealing with this question.

As we can not morally perform clinical experiments on humans, our knowledge of cancer-causes depends largely on statistical studies of cancers

in populations — on epidemiology. Epstein devotes the first section of his book to explaining the principles and pitfalls of epidemiological research. Using a “non-jargon” style, he explains the importance of some key terms such as latency: the time lapse of 15 or more years between exposure to a cancer-causing substance and the development of the disease; and *synergism*: how several substances acting together cause cancer.

With some notable exceptions (e.g. mesothelioma, a cancer caused only by asbestos) cancers do not carry a “label” as to their cause. So, the epidemiology of cancer is very complex and considerations such as latency and synergism add to the difficulties. Epstein discusses this; methods of animal testing; and the uses and inadequacies of quick laboratory tests such as the Ames test.

And then, on to the body of the book: the history of particular cancer-causing substances in the work-place: asbestos, vinyl chloride, benzene . . . It is a grisly history not only of mass-suffering but of industry suppression of data, deliberate promotion of misleading research-studies funded by the industries, and attempts to discredit independent studies.

The massive effort of the tobacco industry to discredit epidemiological findings has been followed, more subtly, by other industries. Epstein describes and documents them all — saccharin, acrylonitrile, estrogens, oral contraceptives, particular medications, cosmetics.

However the real punch of this book is in its thorough investigation of the various U.S. government agencies and the political means available to stem the tide of carcinogens being released into the work-place and the environment. Of course, industry can also use political means to avoid environmental controls and subvert government agencies. Nevertheless Epstein details the positive steps — such as the 1958 Delaney amendment to the Food and Drug Act, which restricts carcinogenic food additives.

The Environment Protection Authority's seventeen “cancer principles” unequivocally blame substances in the environment as causes of the majority of cancers and, like the Delaney amendment, accept animal tests as a guide to human carcinogenesis.

The Shell company drew up its own “cancer principles” — a somewhat different guide. Animal tests in mice are quoted to prove the safety of some Shell products — however Shell discredits mice as suitable test animals where mouse tests have showed other Shell products do cause cancer.

The Shell reaction is typical of the double-talk of industry on cancer research.

Epstein exposes industry responses: impeding research, resisting worker health measures, and exporting dirty industries and dirty products (e.g. high-tar cigarettes) to the Third World. His accounts of how the industry propagandizes the public in the U.S. sounds very like what is happening in Australia “an evolving media campaign, in which the chemical and oil industries are striving to improve their public images with all the techniques of modern mass advertising”.

The Politics of Cancer is an eye-opener into the political implications of chemically-induced cancer, and the urgent need for labour and consumer groups to get themselves informed.

In a book called *The Politics of Cancer* it is extraordinary that ionizing radiation from the nuclear power industry is completely ignored. Epstein acknowledges the omission, saying that it would “require a book in itself”.

Another reservation about this book is that Epstein does not seem to recognize the implications for the Western life — style if environmental cancer were to be successfully tackled. To Epstein, continued industrial growth is compatible with full environmental protection. But this is surely debatable.

Samuel S. Epstein, M.D. is Professor of Occupational and Environmental Medicine at the school of Public Health, University of Illinois at the Medical Centre, Chicago. He has been Chief of the Laboratories of Environmental Toxicology and Carcinogenesis at the Children's Cancer Research Foundation in Boston, Senior Research Associate in Pathology at Harvard Medical School, and Swetland Professor of Environmental Health and Human Ecology at Case Western Reserve University Medical School. An authority on toxic and carcinogenic hazards due to chemical pollutants he has authored about two hundred scientific publications and four books; served as a consultant to various Congressional committees, federal agencies and organized labour, and has been closely involved in the growth of the public interest movement.

Noel Wauchope

Honicker vs Hendrie

On the 6th September, 1978, Jeannine Honicker took out an injunction in the Nashville District Court, seeking to have an immediate shutdown of all nuclear reactors and facilities in the US. Defendants in the action were the Nuclear Regulatory Commission (NRC) who, it is alleged, is licencing large-scale random murder of present and future generations.

As evidence of this claim a 152 page background document was presented to the court, covering in great detail the ways in which radiation escapes from the nuclear fuel cycle and the health hazard posed by this radiation. This background document has been published under the name of “Honicker Vs Hendrie, a lawsuit to end atomic power”, and contains a goldmine of information for the anti-nuclear activist.

A copy of “Honicker Vs Hendrie” had found its way into the FOE Sydney office and this is where I came across it. I've seen quite a few books

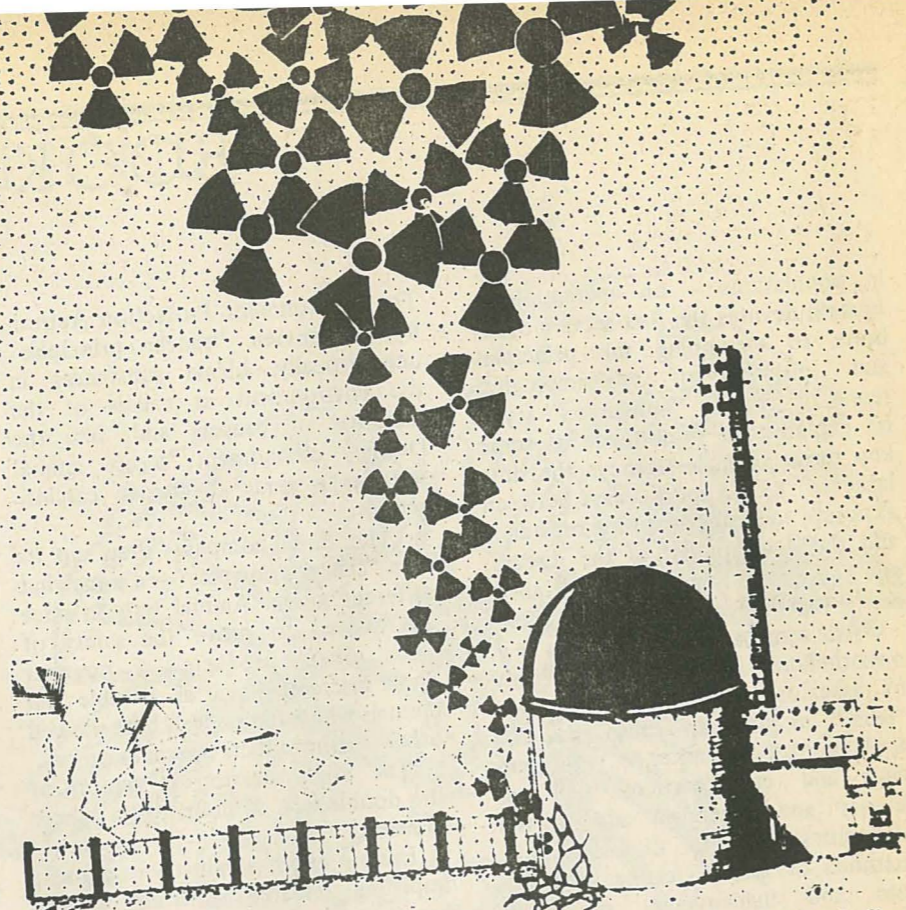
on nuclear power and its hazards, but few impressed me as much as "Honicker Vs Hendrie," and few have been so useful for reference. I wouldn't say that it is a good introduction to the nuclear debate, but I was so impressed with its value to people fighting the mining of uranium in Australia that I took steps to ensure that more copies found their way around the anti-uranium movement.

"Honicker Vs Hendrie" starts by explaining the evolution of our understanding about the health effects of radiation. It then explains how current radiation standards are set, and the assumption on which they are based. Following this is a very readable section on how new research findings undermine many past assumptions and make obvious the need for a change in these standards. Throughout this part, and part 2 which traces the nuclear fuel cycle, is a wealth of tables, graphs, and quotes from congressional hearings, studies and reports.

The Honicker Vs Hendrie case went before the court on 2 October, 1978, in a preliminary hearing. Testifying as to the threat posed by the nuclear industry were two veterans and long-standing critics of nuclear power, Dr. John Gofman and Dr. Ernest Stern-glass. Their testimony and the proceedings of the court that day have been published in a book called "Shut-down," copies of which are just starting to make their way into Australia. It makes fascinating reading.

At one stage in the hearings Dr. Stern-glass was questioned about his studies of the changes in infant mortality in areas surrounding seventeen nuclear reactors and facilities. He replied: "I do not rely on projections . . . We rely solely upon a comparison between a city which has suddenly had nuclear power operating in it. Before then it had a coal plant or oil plant in it and afterwards, suddenly, for no other explainable reason that has as yet been advanced by anyone in the industry or the Atomic Energy Commission, or the NRC, there was a sudden and unexplained rise in infant deaths, in leukemia, and many years later, in various types of cancers. . ."

Dr. Gofman, questioned about attempts by the nuclear industry to discredit any scientific findings which



showed radiation to be more hazardous than has officially been acknowledged, replied:

" . . . the Atomic Energy Commission during its existence did not look favourably upon people who indicated that radiation was harmful, because their whole thought was to suggest that there was some safe dose of radiation . . ."

Dr. Arthur Tamplin, my colleague, when we published the paper showing that radiation would produce twenty times as many cancers per unit of radiation as had been thought, Dr. Tamplin had some of his scientific papers censored.

He had twelve of his thirteen scientific colleagues taken away from him.

He was honoured by the American Cancer Society with an invitation to come and talk to them about his work, and ordinarily in our laboratory sponsored by the Atomic Energy Commission that's a great feather in the cap of the laboratory, but Dr. Tamplin had two days' pay docked to go to that meeting, which had never happened before to a scientist, to my knowledge.

Myself, my staff was not taken away in connection with this, the radiation work, but I did lose \$250,000 a year from my cancer chromosome work, which is directly a harassment for my position on this.

More recently when Dr. Mancuso

made his announcement of his findings that the radiation was more harmful than I said it was eight years ago, he had his funds cut off.

Congressional hearings indicated that there was no justification for cutting these funds off. That's in the congressional record now.

Dr. Irwin Bross is another illustration . . ."

And so the testimony went on. On January 12, 1979, Judge Morton dismissed Honicker's case against the NRC because he determined his court lacked jurisdiction on the matter. One week later, a notice of appeal from Judge Morton's decision was filed in the Sixth Circuit Court of Appeal and a simultaneous application was lodged with the US Supreme Court to expediate the NRC's own handling of the matter. Since then the case has been in and out of several courts and is due go before the US Supreme Court again in November.

Paul Marshall

Honicker vs Hendrie — a lawsuit to end atomic power.

The Book Publishing Co.
Summertown, U.S.,
1978. 160 pp.

Price \$5.00
(Available at FOE Collingwood and elsewhere.)

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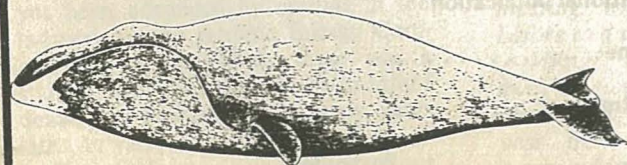
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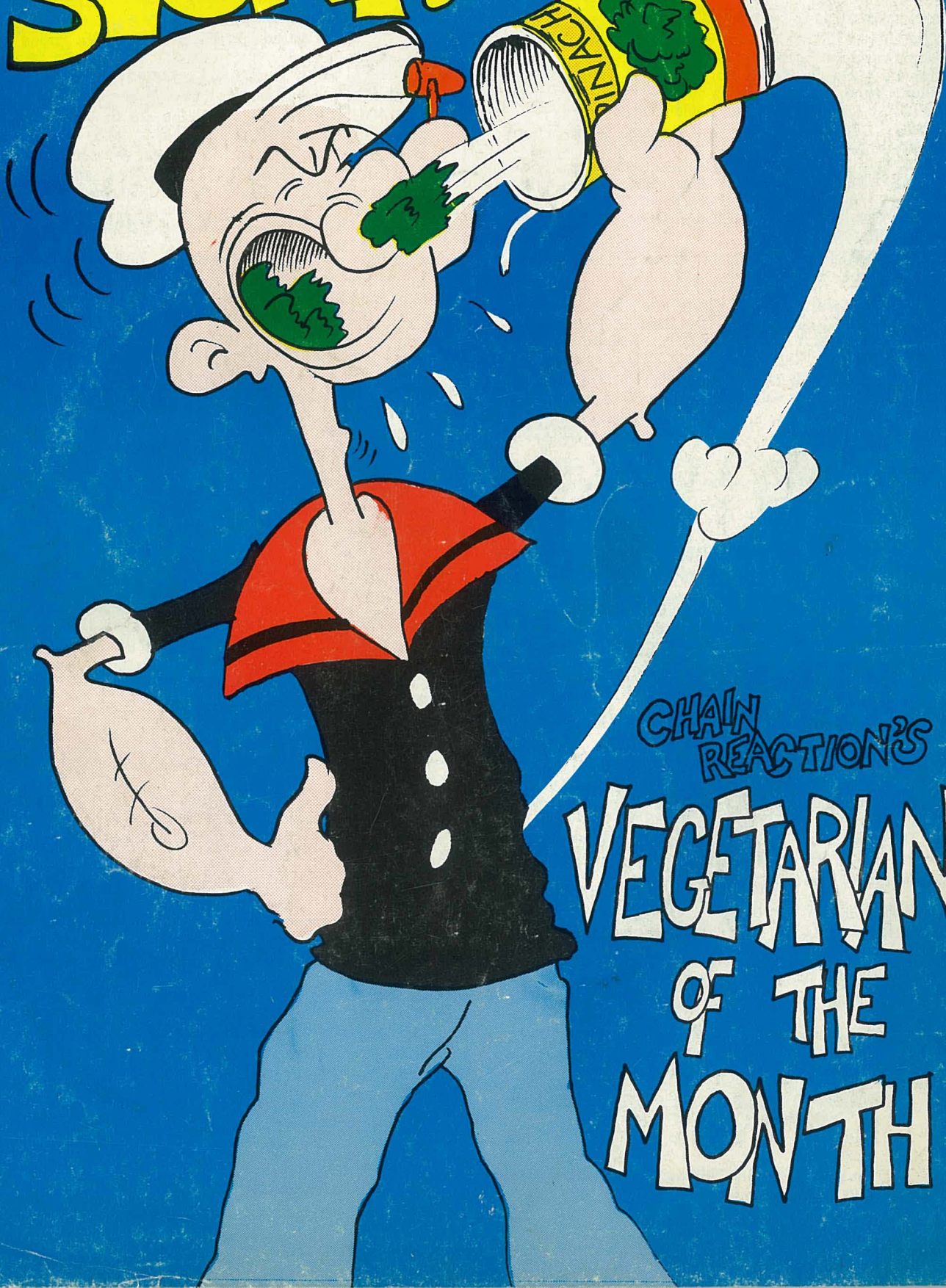
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