LEAD Action NEWS

LEAD Action News is the journal of the Lead Education and Abatement Design (LEAD) Group Address correspondence to The Editor LEAD Action News (LEADAN) c/o The LEAD Group PO Box 63 Dulwich Hill NSW 2203 Australia Tel: 02 550 0095 (New) Fax: 02 569 2634

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Editorial

by Elizabeth O'Brien
National Coordinator

Two months ago when this journal was supposed to be published, we had a dirth of articles and a battle on our hands.

Now there are too many articles and not enough of the letters from readers and tips and facts I would have liked to have included, but at least we won part of the battle with the NHMRC. (See the results in "News", "NHMRC Deliberations" and "Objectives of The LEAD Group - An update".)

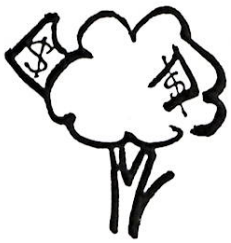
The other articles in this issue are a real credit to the network of environmentalists and LEAD Group members who volunteer their time to work tirelessly together in order to achieve our goal - the control of lead in all its uses.

Now we're embroiled with the time-consuming community consultation process with the NSW EPA in the chair of the Lead Taskforce. The Environment Minister having decided that community representatives don't deserve a sitting fee, we have to constantly ask ourselves, how will our time be most effectively and efficiently spent? Will our attendance at the eight Working Groups on lead be used to condone the decisions made between industry and government representatives there? Or will we actually be consulted?

Find out in the next exciting episode of LEAD Action News; along with contributions from you our readers, reports on the activities of local governments, state and territory governments, the roundtable meeting with Ros Kelly, the conclusions of all of our meetings with petrol companies, latest advice for parents of lead-poisoned children and lots more!

If someone can arrange for the donation of a laser printer, and a volunteer editor the next issue might even be on time. I am, as always, eternally optimistic. Your editor.

Acknowledgements/thanks



The NRMA (National Roads and Motorists Association) has made a substantial once-off donation to The LEAD Group, of the order of the also highly appreciated donation by Canon of a fantastic photocopier. We have allocated half the NRMA's money to upgrading our communications - i.e. installing and renting a dedicated fax line and a business phone line which will be listed in the next phone book. The other half will continue to cover postage and other essentials in the running of the Community Lead Information Centre.

NRMA

Working with the Community

Many thanks also to Fuji Xerox for donating a superb Xerox plain paper broadcasting fax machine.

Claris has kindly donated File Maker Pro, database software which will be invaluable in setting up a database of CLIC Library holdings, once we get Windows and the extra RAM needed to run the program. Support to cover postage costs has again come from Elite Maintenance Service. Thanks again. Another major source of support remains subscriptions - so every one of our members is valued as are the contributions of time and effort made by the scores of people involved in the national effort to control lead and in the production of this journal. Space is limited but I would especially like to thank the following people:

CLIC Office Manager and Volunteer Organiser David Ratcliffe, without whose vast input of time and good humour when things get hectic, CLIC could not function.

Treasurer Kerry O'Donnell is doing a great job of ensuring a little money goes a long way.

Lobby team members and supporters in the network Theresa Gordon of No-LEAD provides the dedication and knowledgableness which makes us a formidable team. Dr Garth Alperstein is always there for us. Herbert Beauchamp of Total Environment Centre has directed sizeable amounts of his environmental lobbying efforts over to lead, and Anne Reeves of ACF (Australian Conservation Foundation) fits an amazing amount of lead work into her busy schedule. Naomi Segal of Greenpeace in Perth offers much useful advice, and Dr Chloe Mason in Sydney guides our fundamental approach to solutions to the lead problem. Ted Floyd of FoE (Friends of the Earth) has recently outfitted our library with a solid base of early research papers. The move by Ann Gethin (Industry Liaison for The LEAD Group) out of Sydney in order to protect her son from lead, is a great loss.

Cartoons and other graphics Simon {Hieronymus} Bosch, Simon Kneebone, Alexander Claud (8 years old), Fiona Paige, Augustina Jones and Vivien Carson (11 years old) have all kindly donated their work.
[Please contact The LEAD Group for permission to reprint any cartoons or graphics.]

Permission to reprint • poem Mrs K Baxter • **Greene article** Mary Scott, NHMRC • **graphic in Gordon article** Simon Bosch • **Mason extract** Norm Crothers, ACA (Australian Consumers Association).

Typists Shirley He, Mangala Vadivale, Wan Yi, Jenny Fan.

Inspiration for "Keeping the Outside Out", David Attenborough and Ian McFadyen.

Offers of help • for organising an info night for Sydney parents in August, Stephen Whale.
• for seeking corporate funding, Sandra Coggley.
• for promoting, after culling, last year's Info Kit, John Harvey.

Loan of laser printer Fred Salome.

Pro bono legal advice about incorporation John Grimes of Sly and Weigall (arranged by Nitin Singhi of Public Interest Law Clearinghouse, Public Interest Advocacy Centre).

Distribution Thanks to everyone who photocopies, distributes or promotes this journal, the information in it, or other information to support the aims.

For answering the question: How did the plumbago plant (leadwort) get its name?

Sydney Botanic Gardens informs us that Linnaeus named the plant for the lead-blue colour of the flowers. It is not a miracle cure for lead poisoning. Pity!

Towards a lower chemical load for Australia

by Herbert Beauchamp, Toxic Chemicals Committee (TCC), Total Environment Centre, Sydney

The price of living in a large city is a significant chemical load associated with polluted air, water and food which reduces the quality of life. Governments will only respond to citizens' complaints when conditions become intolerable e.g. in Australia in the 1-4 year age group there may be more than half a million children who have elevated blood lead levels.

TCC here proposes a number of concrete steps which can be taken by federal or state governments in 10 areas where better control of lead is required.

Reducing lead in petrol

Except for people living close to smelters, or near contaminated sites or those with occupational or hobby exposure, the most important method of reducing lead is the rapid phase out of lead in petrol. Australia has the second highest motor car ownership in the world, the highest concentration of population in cities, and produces the highest per capita lead load from petrol sources. The rate of change in lead load on the population of Australia needs to be significantly higher than 10% per year. Mainly due to gradual replacement of leaded petrol (LP) using cars in the fleet, by those that use unleaded petrol (ULP), lead in air is already falling at 9% per year. While lead used in petrol accounts for only 7% of the lead used in the Australian environment, it contributes 90% of the lead in air and thus constitutes the greatest threat to the most sensitive population - children under four years.

Sydney air receives 800 tonnes of lead from petrol every year. Averaged, this is equivalent to over half a kilogram of lead on every house, but the distribution is very uneven. TCC recommends that the maximum lead concentration in LP in cities be reduced by the end of 1993 to 0.15 g/L and that a further reduction to 0.026 g/L or lower be introduced by the end of 1995. The octane rating of low level leaded petrol should not be regulated by government.

Greater use of ULP

Close to 40% of cars are now using ULP, but there are a further 30% of cars which could operate on ULP without any reduction in performance or any detrimental effect on the car. The reason this does not happen is failure by governments to produce incentives. The UK Government caused a rapid switch from LP to ULP by creating a strong financial incentive. We recommend that the Federal Government reduce excise on ULP by two cents a litre and adds a corresponding margin to LP. Such a move would be tax neutral but would act as an incentive for owners of certain cars to switch to ULP. Further it would be an incentive for all other cars to experiment with lead free petrol. All cars can run on the lower octane rating ULP provided a minor adjustment is made to the distributor timing device and an alternative valve lubricant is used where needed. It would be possible at inspection for registration to modify petrol inlets for those cars which can run satisfactorily on ULP.

Lead in food

The chemical load of lead on children is already high, and further exposure should be avoided. Four sources of food items in the standard diet cause 91% of lead intake, 44% of the intake stems from wholemeal bread, 22% from ham, 16% from rice and 9% from tinned pineapple. In the case of pineapple and ham the presence of lead is directly related to lead solder. Welding has taken the place of solder in most cans and approximately 90% of locally produced cans are welded. Most of the imported tins are soldered. Government should legislate immediately to ban food being sold, manufactured or imported in soldered cans. A Western Australian survey found lead levels in food in soldered cans to be nine times higher than those in welded cans. Current legislation allows a Minimum Permitted Concentration [MPC] in food of between 0.3 and 10.0 mg/kg for different categories of food. The 10 mg/kg limit is for food additives and imported food. It is recom-mended that Australia adopts the UK standard of 1 mg/kg for all food excepting baby food for which the standard should be 0.2 mg/kg. Imported food should also conform to this standard.

Lead in fertilisers

There are no national standards for lead in fertilisers. A National Standing Committee on Agriculture and Resources has been established to look into impurities

in fertilisers. Western Australia is the only state which has legislation in place. Since January 1993 the sale of fertiliser containing more than 0.05% lead or lead compounds has been prohibited in WA. This example should urgently be followed by all states, as it would reduce the lead content of wholemeal bread and rice, the major sources of lead in the standard diet.

Lead in drinking water

Lead solder, lead fluxes, and brass fittings are responsible for significant levels of lead in drinking water, particularly in first flush water. NHMRC guidelines for lead in drinking water are 50 ug/L. This is being revised in light of the new WHO recommendations which allow a maximum of only 10 ug/L. In Germany and the Netherlands lead solder is prohibited. In the USA since 1992 the 90th percentile of a sampling of tap water must not exceed 15 ug/L. If the water sampled exceeds this level the householder is required to take remedial action. Use of plumbing supplies containing lead has been prohibited since 1988, though do-it-yourselfers are not policed. Australia should urgently follow the USA example.

Lead in paints & plastics

Lead is still being used for a wide number of products in the paint industry, including primers, lead chromes and industrial, automotive and white goods coatings. Lead driers are used in household paints in small quantities. Paint is a non durable product and within a few years is usually removed by scraping, sanding, sand blasting or by the use of a blow torch. Each of these operations is a source for lead accumulation by the operator and for those within the vicinity of the operation. There are satisfactory replacements for all lead products used in paint and the industry has been moving in this direction, slowly, since 1922. Australia should ban lead for consumer paint products by the end of 1993 and phase out lead in all paints by 1996. Substitutes are available for lead in PVC as a stabiliser and this use should also be phased out by 1996.

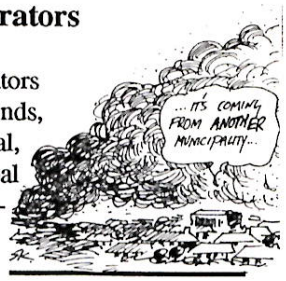
Lead crystal & lead glazes

Lead has been used in crystal glass to enhance its lustre, density and brilliance and allow the crystal to be cut. Lead will leach out rapidly in contact with alcoholic beverages. This could be a significant source of lead for a foetus or breast fed infant. Crystal glass should have a warning on the label until substitutes are on the market. Lead glazes are dangerous to those who work with them and to those who use them in tableware to store acidic food or drink. An early phase out date is recommended.

Secondary smelters

There are 79 secondary lead smelters around Australia. Primary smelters turn ore into lead. They are usually large and located some distance from capital cities. Secondary smelters deal principally with reclaiming lead from batteries. They may be in heavily populated areas, and are considered to be a source of significant pollution. While recycling of lead batteries should be increased by a high compulsory deposit system and by prohibiting the dumping of exhausted batteries in land fill, the conditions of operation of secondary smelters will have to be tightened. Facilities should be closed if not operating to strict standards.

Incinerators



Incinerators of all kinds, industrial, municipal and hospital, need to be strictly regulated. A draft environment statement for biomedical waste incineration gives maximum limits for new incinerators in respect to total heavy metals (antimony, arsenic, cadmium, lead and mercury) as 0.01 mg/m^3 and maximum leaching rates for ash, etc, in landfall disposal as 5 mg/L. These appear reasonable standards, but need to apply to all incinerators - old and new.

Sewerage sludge

Guidelines for maximum levels of lead in sewerage sludge have been recently established in a paper available from the NSW Water Board. For lead there is a maximum concentration in sludge of 300 mg/kg. Maximum annual loading and maximum concentration in soil are also given. At this stage there is no legislation to enforce these guidelines. The publication unfortunately does not compare these guideline recommendations with overseas standards.

Disincentive tax

TCC proposes a tax to be imposed on the sale of all lead, cadmium and mercury products, based on the percentage of heavy metal content. Money to be used for activities similar to that used by USA Department of Housing in its extensive program to reduce children's exposure to lead paint and remedial work in areas of high heavy metal pollution. •

NEWS

The Sun Herald 7-3-93
Labor plans to cut lead levels in petrol By HEATH GILMORE
"LABOR proposes to halve lead levels in petrol across Australia in a final bid to shore up the environmental vote before next Saturday's election".
"Speaking at Richmond, near Sydney, Environment Minister Ros Kelly confirmed the lead plan, saying legislation to enforce it would be drawn up within six months if Labor won".

The Australian 25-3-93 p3
Fahey to cut lead in petrol
By EAN HIGGINS
"The NSW Premier, Mr Fahey, said yesterday his Government would require petroleum companies to cut the lead content in petrol to 0.3 grams a litre within a year and to 0.15 grams a litre as soon as feasible thereafter".

Consuming Interest April 1993
The problem of lead - proposals for a new battle plan
By CHLOE MASON pp22-4
"Federal and state government authorities should heed the concern of the community, think beyond petty political and demarcation issues, and take immediate action to create a national, integrated strategy aimed at halting this progressive poisoning of our environment, our homes, our children and ourselves".

Weekend Independent 2-4-93
Petrol to contain less lead By ELSPETH WALKER p3
"The Queensland government will look at reducing the amount of lead in leaded fuel. This follows action recently announced by the New South Wales government".

Weekend Australian 24,25-4-93
Fears over polluted rivers
By JULIAN CRIBB p7
"Heavy metal contamination of sediments in the rivers, creeks and bays off Sydney Harbour and Botany Bay has been uncovered by a Sydney University scientific team.
"Lead levels ranged as high as 900 parts per million in Salt Pan Creek, the Cooks River and southern bays of the Parramatta River estuary - compared with a background level of less than 50 ppm".
"During studies of the use of mussels as pollution monitors, a team led by ANSTO's Dr Ross Jeffree found heavy metals entered the animal by the same route that it absorbs calcium to build its shell or bones. In the absence of sufficient calcium for its needs, the creature takes up heavy metals by mistake."

Sydney Morning Herald 5-5-93
A city of heavy breathers
By DEBORAH SMITH p17
"Due mainly to calmer weather conditions, and temperature inversions which keep the polluted air close to the ground, the amount of particles and lead levels in Sydney's air increase dramatically in winter (see graph)."

Source ANSTO, NSWEPA & Pacific Power

Utusan Konsumer, Penang mid May 1993
Lead and the link to children's IQ GLOBAL NOTEBOOK p18
"A large new study...by a research team at Albert Einstein College of Medicine in the Bronx, is the first to examine the benefits of reducing lead levels in children who have no obvious symptoms of lead poisoning.
"On average, they found that for each three-microgram drop in lead there was a corresponding one-point improvement in the children's performance on IQ tests. In the group of children who responded best to treatment, a drop up to 30 micrograms lead was noted, which would correspond to a 10 point increase in intelligence scores".

Daily Telegraph Mirror 21-5-93
Pray as you urn a cuppa p19
"The West Australian Health Dept said yesterday recent samples had revealed high levels of metal in the water in some capuccino machines.
"And in one case the level was nearly 20 times the standard."

Sydney Morning Herald 22-5-93
Lead contamination worry in Broken Hill By ANDREW TAYLOR
"Already, four Broken Hill children, with blood lead levels almost three times as high as those recommended as safe in Australia, and six times as high as levels seen as safe in the

United States, have had to be chemically treated to remove the heavy metal from their systems."The report found the concentration of fine particles of lead in the soil in one small part of the town was 67 times the recommended levels."

Sydney Morning Herald 24-5-93
Lead exposure targeted
By TONY HEWETT p8
"The delegates at the meeting of the Australian New Zealand Environment and Conservation Council (ANZECC) described lead contamination as one of the most crucial health and environmental concerns facing Australia."

The Australian 24-5-93 p14
Kelly kicks off petrol drive
"After a meeting of ANZECC in Sydney at the weekend, Mrs Kelly foreshadowed Australia would take steps to eliminate most lead in petrol as the United States and Canada have done".

The Australian 24-5-93
Overdue move to lower lead levels Editorial
"In the face of compelling and consistent scientific reports showing lead to be more dangerous, and in smaller quantities, than previously thought, Australian authorities are considering reducing the standard to 15 micrograms. Their review, however, has been interminable. In the meantime the United States - lauded by Mrs Kelly for tackling the leaded petrol issue - has long since reduced its standard to 10 micrograms."

Telegraph Mirror 25-5-93
Car push to get the lead out
By SCOTT ELLIS
"Owners of all cars capable of running on unleaded petrol were today urged to make the switch to the 'greener' fuel."

The Age 27-5-93
Call for price incentive to reduce use of leaded petrol
By HUGO KELLY
"The Federal Government is expected to consider making leaded petrol up to three cents a litre more expensive than unleaded fuel as part of a campaign to reduce lead pollution."

The Australian 28-5-93
Our lead levels are still much too high Letter to the editor by ELIZABETH O'BRIEN
"The LEAD Group is concerned that any change to Australia's blood lead 'level of concern' which settles on a figure above 10ug/dL, would be based on political rather than medical factors".

The Australian 28-5-93
Low lead in petrol may save $4.6bn By JULIAN CRIBB p6
"Governments could save the economy $4.6 billion by reducing childhood brain damage and adult heart attacks and strokes caused by leaded petrol, a new study has found".

Sydney Morning Herald 28-5-93
Pasminco expects another $60m loss By BRUCE HEXTALL "The big base metals miner declared that at best this year's result before abnormal charges would equal last year's loss due to wayward zinc prices, for which the depreciation in the Australian dollar had failed to compensate."

The Advertiser 29-5-93
Blitz on old jalopies to cut lead levels By JENNY TURNER p14
"The oil industry representative body, the Australian Institute of Petroleum, has joined the push for lower lead levels in petrol.
AIP executive director Mr Jim Starkey said the industry was doing all it could to keep prices down, and at the same time produce an environmentally sound product. "He said it was impossible for the industry to cut the level of lead in petrol immediately without directly affecting petrol prices."

Sydney Morning Herald 29-5-93
Moments from MELTDOWN - The awful truth of Chernobyl
By PIERS PAUL READ p46
"The only way to stop the emission of radionuclides and put out the fire was to smother the burning reactor with sand. This would have to be dropped into the crater by helicopters, and to the loads of sand should be added boron, dolomite and lead."

Newcastle Herald 8-6-93
A lead on lead Editorial
The National Health and Medical Research Council wisely set a lower target last week for concentrations of lead in blood, more than halving the previously accepted level to less than 10 micrograms of lead in each decilitre of blood.
"While anti-lead groups have criticised the NHMRC for setting no date for achievement of the lower target, that task is really the province of politicians."

OLD NEWS

Sydney Morning Herald 7-7-81
Leadfree petrol switch postponed
By RICHARD ECKERSLEY
"The change-over to lead-free petrol in NSW will now begin in 1985 - one year later than planned - as part of a compromise to get all the states moving together on the issue." •

Getting your child's blood lead tested - avoiding pain and ignorance

by Ann Gethin

Parents attempting to get a blood lead level assessment of their child want two things: an accurate reading, and a blood taking that is as painless as possible. The best way of achieving this is to get your own doctor to refer you to a reputable pathology service which is involved in the Australian Standards quality control program for assessing blood lead levels and can give you an appointment with a venepuncturist (person who takes the blood) specialising in children. Your results will be sent to your own doctor in one to two weeks.

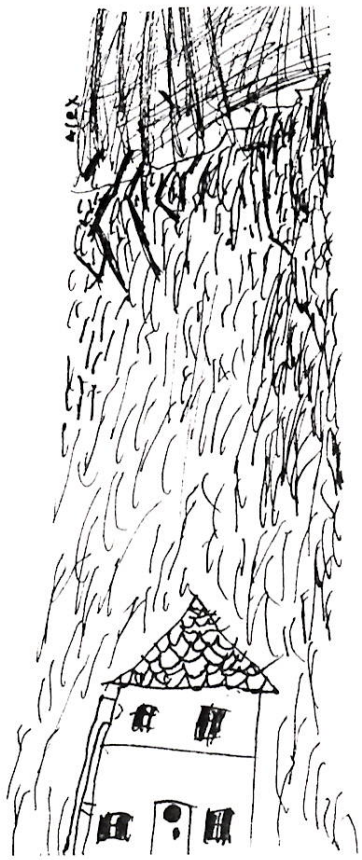
Traps for new players:

1) **the doctor** - far too many GPs are ignorant of the risk factors which would indicate the need to test for lead or may try to take the blood themselves or refer you to an inexperienced pathologist. (My sons first blood lead level was tested using the heel prick method which is both inaccurate and extremely distressing for parent and baby - we both left in tears). If your doctor does appear to know little about lead, explain that lead in blood even at fairly low levels (less than 10 ug/dL) has been linked with IQ loss, and the reasons why you think your child may be affected (e.g living near a busy street, living in a smelter town, old paint in house, lots of hand sucking, living in urban area, etc.). You could also suggest (particularly if they are an inner-city or smelter town doctor with no real excuse for not being aware of lead) that they contact one of the public health units for some more information or The LEAD Group at the Community Lead Information Centre (CLIC). Volunteers at CLIC can send doctors advice for GP's written by Dr Garth Alperstein, community paediatrician. Parents can familiarise themselves with the risk factors by reading the handout "Is your child being exposed to Lead?" also available from CLIC.

2) **The results:** it is not uncommon to ring up for blood lead level results and to be told "Oh its OK your baby is in the normal range", which can mean anywhere between 0 and 25 ug/dL; as Australia (to it's shame) has only this month changed from recommending a blood lead level of concern of 25 ug/dL to recommending a goal of 10 ug/dL (the US level of concern) combined with blood lead action guidelines which bring about an individual management response for levels above 15 ug/dL; your child may have quite high blood lead levels and you will still be given a cheery assurance of normality - therefore you must get the actual reading. The reading itself may be in micromoles per litre (umol/L) which you have to convert to micrograms per decilitre (ug/dL) by multiplying by 20.7, in order to relate your result to the international debate.

CONVERSION TABLE

0 ug/dL = 0 umol/L
5 ug/dL = 0.241 umol/L
10 ug/dL = 0.483 umol/L
15 ug/dL = 0.724 umol/L
20 ug/dL = 0.965 umol/L
25 ug/dL = 1.206 umol/L
30 ug/dL = 1.448 umol/L



3) **The myths** - don't fall prey to the argument that there is or was no point having the blood lead level tested because there's nothing you can do about it. Reducing lead in petrol in the US and controlling lead in food cans, took the mean blood lead level from 15 ug/dL to less than 4 ug/dL and various studies of individual management have found ways to reduce children's blood levels by various amounts. The onus is now on environmental and health authorities to bring that research to the attention of doctors and carry out further research where necessary. Doctors need to be aware of the following NHMRC recommendations (see over). •

National Health and Medical Research Council deliberations

The NHMRC has recently decided that a blood lead "level of concern" is no longer appropriate and has replaced it with a national public health target of 10 micrograms per decilitre (ug/dL), although no date for achievement of the target has been set. The Council suggested actions for various blood lead levels above the target, as follows:

1. Management responses for the community

• When more than 5% of 1-4 year old children in a community have a blood lead level above 15 ug/dL then the following actions should occur:-

Investigate lead sources in the affected community.

Develop environmental management plans with effective strategies for community involvement in design and implementation.

Plan to particularly target sub-sections in the community showing blood lead levels above 15 ug/dL. Plan to include specifically prepared community education program and time-frame for on-going reassessment of community blood levels.

• When more than 5% of 1-4 year olds are above 25 ug/dL, the NHMRC recommends:

As above but on a more intensive and broader community basis.

Consideration of earlier re-assessment of community blood lead levels.

2. Management responses for individual children

• blood lead of 15-24 ug/dL

Personal exposure eval-uation and source remediation / abatement.

Personal education and counselling on exposure control for guardian(s) and child, as indicated.

Repeat testing as appropriate in individual circumstances to assess effectiveness of actions taken.

• blood lead of 25-54 ug/dL

Detailed medical history and examination with particular focus on possible adverse effects based on exposure history and blood lead level.

Personal exposure evaluation, including environmental sampling as indicated.

Remediation / abatement of exposure source. Personal education and counselling on exposure control for guardian(s) and child, as indicated. If exposure control not possible, consider relocation.

Re-test in about 3 months to assess the effectiveness of actions taken.

• blood lead > 55 ug/dL

As above for levels of 25-54 ug/dL plus urgent clinical assessment regarding immediate medical management (June 1993).

Broken Hill community's response to lead contamination and reduction of mining operations

by Tara McGee

Lead is a major health issue worldwide. Recent national and international attention focuses on the effects of lead, such as children's IQ. Public health workers in several communities across Australia are conducting blood lead testing programs and are recommending behavioural guidelines to reduce exposure to lead.

One community faced with lead "contamination" is Broken Hill, New South Wales. The effects of high lead levels of mine workers has been a health concern since the early days of mining which began in the 1880s. The potential effects of low-level lead contamination became "newsworthy" in early 1991, after results of water tank and ceiling dust surveys were made public. In January 1992, blood lead level test results reported that 20.3% of Broken Hill children tested had blood lead levels higher than 25 ug/dL.

There is an extensive and growing body of literature on the health effects of lead contamination. However, research which only considers the effects of lead on the human body will not adequately address the lead contamination issue, since they do not take into account the political, economic, social, cultural, environmental and behavioural effects of lead contamination which all affect health.

The Study

I am conducting research on the Broken Hill community's response to lead contamination. However, the impacts of lead contamination are not isolated from other changes in the community. The community's response to the current decline in mining operations and employment is also incorporated into the study.

This research is based on a comprehensive community study, intended to identify and interpret the nature of the community and its responses to the combined threats of lead contamination and the reduction in mining operations, seen from the community's perspective.

In order to understand the complex nature of the research problem, a holistic approach which looks at the community as a whole system must be used. The system is made up of the social environment which includes psychological, social, economic, political and cultural influences, and the biophysical environments (Ottawa Charter, 1986).

The three-year length of this study (1992-1995) and its in-depth nature permits examination of the impacts and the community's responses over a relatively long period. The study will document and evaluate the delivery of health and community services associated with the impacts of lead contamination, such as "behavioural guidelines", and the mine closure.

The research process used is designed to enhance the community's efforts to respond constructively to the lead contamination and mine closure.

In the first two visits to the community, I have focused on learning about the nature of the community, and the historic and current lead problems in Broken Hill. I have also spoken to residents about the effects of the recent closure of the north mine.

While the study focuses on the Broken Hill community, the research results should be of interest to other communities dealing with lead contamination.

For further information about this research, please contact Tara McGee at:

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Effects of lead on the environment

by Deni Greene

Lead moves into and throughout ecosystems. Atmospheric lead is deposited in vegetation, ground and water surfaces. The chemical and physical properties of lead and the biogeochemical processes within ecosystems will influence the movement of lead through ecosystems. The metal can affect all components of the environment and can move through the ecosystem until it reaches an equilibrium. Lead accumulates in the environment, but in certain chemical environments it will be transformed in such a way as to increase its solubility (e.g., the formations of lead sulfate in soils), its bioavailability or its toxicity. The effects of lead at the ecosystem level are usually seen as a form of stress (US EPA 1986).

In general, there are three known ways in which lead can adversely affect ecosystems. Populations of micro-organisms may be wiped out at soil lead concentrations of 1,000 parts per million (ppm) or more, slowing the rate of decomposition of matter. Populations of plants, micro-organisms and invertebrates may be affected by lead concentrations of 500 to 1,000 ppm, allowing more lead-tolerant populations of the same or different species to take their place. This will change the type of ecosystem present. At all ambient atmospheric concentrations of lead, the addition of lead to vegetation and animal surfaces can prevent the normal biochemical process that purifies and repurifies the calcium pool in grazing animals and decomposer organisms (UNEP 1991).

Exposure routes for lead to the environment

The main sources of lead entering an ecosystem are atmospheric lead (primarily from automobile emissions), paint chips, used ammunition, fertilisers and pesticides and lead-acid batteries or other industrial products. The transport and distribution of lead from major emission sources, both fixed and mobile, are mainly through air (UNEP 1991). While most of the lead discharged into air falls out near the source, about 20 percent is widely dispersed. Studies have demonstrated that measurements of lead in Greenland rose and fell with the rise and decline of use of alkyl-leaded petrol in the United States, Eurasia and Canada over the past century (Roseman et al 1993). The size of the lead particles will govern how far they move from the source.

Effects of lead on soil

It is known that lead accumulates in the soil, particularly soil with a high organic content (US EPA 1986). Lead deposited on the ground is transferred to the upper layers of the soil surface, where it may be retained for many years (up to 2000 years). In undisturbed ecosystems, organic matter in the upper layer of soil surface retains atmospheric lead. In cultivated soils, this lead is mixed with soil to a depth of 25cm (i.e., within the root zone). Atmospheric lead in the soil will continue to move into the micro-organism and grazing food chains, until an equilibrium is reached.

Given the chemistry of lead in soil, the US EPA (1986) suggests that the uneven distribution of lead in ecosystems can displace other metals from the binding sites on the organic matter. It may hinder the chemical breakdown of inorganic soil fragments and lead in the soil may become more soluble, thus being more readily available to be taken up by plants.

Effects of lead on plants

Plants on land tend to absorb lead from the soil and retain most of this in their roots. There is some evidence that plant foliage may also take up lead (and it is possible that this lead is moved to other parts of the plant). The uptake of lead by the roots of the plant may be reduced with the application of calcium and phosphorus to the soil. Some species of plant have the capacity to accumulate high concentrations of lead (UNEP, WHO and ILO 1991).

The pores in a plant's leaves let in carbon dioxide needed for photosynthesis and emit oxygen. Lead pollution coats the surface of the leaf and reduces the amount of light reaching it. This results in stunting the growth or killing the plants by reducing the rate of photosynthesis, inhibiting respiration, encouraging an elongation of plant cells, influencing root development or by causing pre-mature aging. Some evidence suggests that lead can affect population genetics. All these effects have been observed in isolated cells or in hydroponically grown plants in solutions of around 1-2 ppm of lead in soil moisture e.g., the lead levels experienced by ecosystems near smelters or roadsides).

Lead in air may be transferred to plants directly through fallout or indirectly through up-take from the soil. The pattern and degree of lead accumulation are largely influenced by the state of growth of the vegetation; i.e., active growth periods in spring as compared to low growth periods through autumn and winter.

Effects of lead on micro-organisms

Evidence exists to show that lead at the concentrations occasionally found near roadsides (i.e., 10,000 - 40,000 ppm dry weight), can wipe out populations of bacteria and fungi on leaf surfaces and in soil. This can have a significant impact, given that many of these micro-organisms are an essential part of the decomposing food chain. The micro-organism populations affected are likely to be replaced by others of the same or different species, although these may be less efficient at decomposing organic matter. Evidence also suggests that micro-organisms can make lead more soluble and hence more easily absorbed by plants. That is, bacteria exude organic acids that lower the pH in the immediate vicinity of the plant root.

Effects of lead on animals

Lead affects the central nervous system of animals and inhibits their ability to synthesize red blood cells. Lead blood concentrations of above 40 ug/dl can produce observable clinical symptoms in domestic animals. Calcium and phosphorus can reduce the intestinal absorption of lead (US EPA 1986). The US EPA report generalizes that a regular diet of 2-8 mg of lead per kilogram of body weight per day, over an extended period of time, will cause death in most animals. Grazing animals are directly affected by the consumption of forage and feed contaminated by airborne lead and somewhat indirectly by the up-take of lead through plant roots. Invertebrates may also accumulate lead at levels toxic to their predators.

Lead shot and lead weight can severely affect individual organisms and threaten ecosystems (WHO 1989). After three to ten days of waterfowl ingesting lead shot, the poison will reach the bloodstream and be carried to major organs, like the heart, liver and kidneys. By the 17th to 21st day the bird falls into a coma and dies. Following the ingestion of lead shot, lead toxicosis has been observed in Magpie geese, Black swans, sev-eral species of duck (including Black duck and Musk duck) and Hardhead species (OECD 1993).Organic lead is much more readily taken up by birds and fish (WHO 1989). Aquatic organisms take up inorganic lead through a transfer of lead from water and sediments; this is a relatively slow process. Organic lead is rapidly taken up by aquatic organisms from water and sediment. Aquatic animals are affected by lead at water conc-entrations lower than previously thought safe for wildlife. These concentrations occur often, but the impact of atmospheric lead on specific sites with high aquatic lead levels is not clear (US EPA 1986).

This article is extracted from the interim report ("Revising Australian Guidelines for Lead", July 1993) to the NHMRC, of the RMIT (Royal Melb Inst of Tech) consultancy team, for which Deni Greene is the senior researcher. The final report is due out at the end of July '93.

Lobbying the peak body of the developed nations - the OECD

by Theresa Gordon

The Organization for Economic Cooperation and Development (OECD), initiated, in May 1990, activity focusing on reducing risks of five industrial chemicals:- brominated flame retardants, cadmium, methylene chloride, mercury and lead. Lead was given the priority and the first draft of the lead risk reduction document was produced in November 1990.

Elizabeth O'Brien of The LEAD Group, and myself, from Northern Lakes Environmental Action Defense (No-LEAD) in Newcastle, NSW, obtained the copy of the second draft document on lead risk reduction, dated 21st May 1991, as part of our attempt to arm ourselves with the most up to date and authoritative material available. This document was made of the hard hitting statements which inspire lead activists to fight on; statements such as *"Lead is a poison that affects virtually every system in the body, with no physiological value."* This document did what it was intended to do. It made clear statements about the real threat of lead, both to humans and to the environment. It was suggested that an International co-operative strategy could be developed, one similar to the Montreal Protocol for CFC's. This strategy could include banning those uses of lead which present unreasonable health risks, a tax on virgin lead, promotion of recycling and safe disposal practices, education campaigns about product risks, promotion of substitution where possible and development of substitution and cleaner production technologies.

You may be thinking "At last - after hundreds of years of denying leads' toxicity, this responsible generation is going to bite the bullet" (lead substitute of course).

Well sorry, but you would be wrong. The International Lead Zinc Research Organization Inc. (ILZRO) (how very academic and without pecuniary interest these industry bodies can sound) were quick to object to the draft. ILZRO released statements such as, *"The concept of product substitution figured too prominently and needed to be more in balance with other risk reduction measures."* My local industry person informed me that "The document was rejected, as no country was willing to suffer the drop in standard of living that would result from the recommendations in this document." It reminded me of the pesticide companies stating that the attack on DDT was a Communist plot to destroy the economy of the US.

As one could imagine, much lobbying and pressure would have been coming from the lead industry since that second Draft Document. Is it cynical of me to feel this lobbying may have paid off? The third draft, dated November 1992, proffered only a couple of quotable quotes. Firstly, *"...because the phasing out of leaded gasoline has lead to dramatic decreases in atmospheric lead levels, it is clearly the most important single measure for lead risk reduction".* Secondly, *"Annual ILZRO expenditures for the conduct of lead health-related research will typically range between [US] $400,000 and $600,000."* This second statement reminded Elizabeth of a story related by toxicologist Herbert Needleman, in his book "Human Lead Exposure" 1992, which said in part: *"Embedded in this [LIA (Lead Industries Association)] analysis was major objection both to the EPA [Environmental Protection Agency] conclusions about the health effects of lead and the damage from lead to automobile engines. A comment from one EPA staffer reflected the Agency's reaction :'It just goes to show that for the right amount of money you can make the numbers say anything'."*

The fourth and final draft, dated February 1993, is a very much watered down affair. Gone are the statements such as *"lead is a natural toxicant which affects a broad spectrum of species and persists in the environment"*, and *"Lead is considered a particularly hazardous ecotoxicant"*, and also *"The effects of lead exposure on plants include inhibited plant growth, reduced photosynthesis, and reduced water absorption; and all of these effects may result in plant death and reproductive failure."* In the latest draft of the document, these statements have been replaced with, *"In general, ecological effects of lead are limited".*

Gone is the section which states that phasing out lead in

petrol is the most effective way of reducing air and blood lead levels. Gone is the idea of a strong, mandatory, international, co-operative approach. Considerable anger and frustration over these changes, and the many others, prompted me to write the following letter to Dr Geoff Thompson of CEPA (Commonwealth Environment Protection Authority). Dr Thompson was the leader of the Australian Delegation to the 19th and 20th Joint Meetings of the OECD.

Illustration by Simon Bosch

"May 1993

Dear Sir,

The new chapter 6, headed "Summary and Considerations", is to me the final insult to the original integrity of this document. As affected Community members of a lead smelting town [Boolaroo], we no longer feel we have any faith in the intentions of the OECD to protect the health of the people. As we have watched, this Document has deteriorated to the point where it only satisfies the interests of a hazardous industry, one whose very existence forces it's employees and the co-existing community to sacrifice their health and potential.

"I am willing to say only that, if this document wished to remain true to the charter of the OECD, there should have been no reason to change any part of the original "Summary and Conclusions".

"It is obvious why it was changed, and it is obvious that all meaningful and positive international aspects of risk reduction are not being allowed to remain.

"I believe that industry's advantage with money and lobbying has distorted this document. We, the unfunded, unassisted and affected Community, have suffered intolerable disadvantages during the process of contributing to this document. I will be taking my complaint to a higher authority within the OECD body.

Yours Sincerely,
Theresa Gordon."

The intentions of the OECD were originally sound, but what happened along the way has been a very sad "missed opportunity". It is not my wish to discourage "little people" from trying. On the contrary, it is time for us all to continue to speak up and motivate ourselves towards change. It is up to us to support the scientists and researchers who made those earlier statements, which implored the world to take a longer look at lead and its destructive nature.

We do have one last chance to influence Australia's input to appropriate risk reduction actions to be recommended by the OECD to its members. Once again we will be making strong statements that support strategies leading to tightening of standards, and restrictions on lead production and uses, and also the promotion of recycling, but we are not expecting any miracles. •

Lead pollution and the human environment

by Ted Floyd

Ted Floyd has been an environmentalist for 20 years and a campaigner with *Friends of the Earth* for the last five years. Can you tell when he wrote this article?

One of the byproducts of the industrial and technological revolutions that have occurred in the last couple of hundred years has been the increase of chemicals in the environment. Many of these chemicals are dangerous to human and animal health.

Many thinking people were shocked when Rachel Carson published her book "Silent Spring" in 1962. This book clearly showed the hazards of the continual use of pesticides. Because of the initial work of Rachel Carson most people are now aware of the dangers of pesticides, but pesticides are still being used indiscriminately.

There is one chemical, lead, which is being continually released into the environment and which is potentially more dangerous to humans than the total impact of pesticides. Studies on lead are showing that it is very toxic and is affecting many people especially in motorised, urban environments.

The toxicity of lead to humans has been a problem for many years. For example, some historians partially attribute the downfall of the ruling classes of Rome to lead poisoning. Lead was used in plumbing, for wine storage, in drinking and eating utensils and cosmetics. Even today, cases of lead poisoning have been attributed to improperly lead glazed pottery. One possible cause of lead poisoning, is pica, or the eating of non-food items, which occurs as a normal phase in a young child's development and becomes abnormal if it persists beyond the the age of around 18 months. Children or adults can be lead poisoned by eating chips of paint containing lead (which often occurs in old houses), contaminated soil, bullets, fishing sinkers, lead shot, etc.

Industries where lead is used were a common source of lead poisoning. However, in most countries regulations are now in force which control lead in paint and help protect workers in industry, but cases of industrial lead poisoning still occur.

Health hazards of lead

Lead poisoning occurs when a human being absorbs, through the air he breathes or the food or other material he ingests, substantially more lead than his body can excrete. Absorbed lead enters the blood stream and accumulates in body tissue, particularly the kidneys, bones and nervous system. The foetus, infant and child are especially vulnerable. Lead is a cumulative poison and once absorbed it remains in the body for months or years.

At high blood lead levels, obvious clinical symptoms often occur, but recent research has found that at lower levels less obvious, hard to detect, i.e. subclinical symptoms can occur.

Lead has an adverse effect on many enzyme systems causing metabolic disturbances. Lead can disrupt the orderly function of some trace elements such as copper and zinc. Metabolic disturbances occur above about 20 micrograms. Subclinical lead exposure can have effects on behaviour and intelligence. Evidence is accumulating that prolonged low-grade exposure to lead may cause hyperactivity in children, learning difficulties and impaired brain function.

Lead poisoning in children occurs at lower blood lead levels than in adults. The age range of 1-5 years is the most critical. The pregnant woman and her foetus are highly susceptible to lead poisoning. Chronic exposure to lead can cause miscarriages and stillbirths. During conditions of abnormally high calcium metabolism such as fever or cortisone therapy, lead can be mobilised from bones and then transported via the blood to other organs to wreak damage once again.

Lead, petrol and pollution

Lead is added to petrol in the form of tetra ethyl and tetra methyl lead. These compounds increase the octane rating of the petrol.

Many studies have shown that the lead content of air increases in areas close to roads, and falls dramatically with distance from a road. Usually within 50m of a road over 50% of the lead has settled out. More lead is found on the downwind side of a road and the lead content of the air or the soil near a road increases with traffic density. In cities with tall buildings there can be a problem of poor ventilation which can result in very high lead content in both street dusts and air at street level.

Lead is transferred from the atmosphere to the soil and vegetation by sedimentation

and precipitation. Most lead that enters the soil forms insoluble compounds and this results in most soil lead being found in the sur-face soil. Soils near roadsides can contain 30 times as much lead as virgin soils.

Plants growing near roads are contaminated with lead, mainly on their above-ground external surfaces. Vegetables near roads contain 5-20 times more lead than other vegetables.

Though the most serious levels of petrol lead pollution are in the vicinity of roads, studies of lead levels in areas remote from pollution sources, such as Northern Greenland and Cape Grim in Tasmania, demonstrate that lead from petrol is polluting the whole earth.

Summary

The lead and petrol industries claim that general air lead levels have little effect, while recent overseas studies show that lead levels once thought to be safe can be detrimental to health.

Current legislation in NSW restricts petrol content of lead (in Sydney, Newcastle and Wollongong) to 0.45 grams per litre (g/L). This restriction is to be lowered to 0.40 g/L by Ist Jan 1980. Is this legislation sufficient? Are children who live near expressways safe from lead?

This article was written over 14 years ago and lists all the reasons that every other OECD country has legislated nationally to curb lead pollution from petrol and other sources. Australia is the only developed country with different legislated petrol lead limits for each state and Greece is the only other OECD country which, like Australia, allows more lead in country petrol than in city petrol. Australian country lead in petrol limits and the lead limits for three of our capital cities remain higher than in any other OECD city or country. •

Ballad of Calvary Street

by James K Baxter

On Calvary Street are trellises
Where bright as blood the roses bloom,
And gnomes like pagan fetishes
Hang their hats on an empty tomb
Where two old souls go slowly mad,
National Mum and Labour Dad.

Each Saturday when full of smiles
The children come to pay their due,
Mum takes down the family files
And cover to cover she thumbs them through,
Poor Len before he went away
And Mabel on her wedding day.

The meal-brown scones display her knack,
Her polished oven spits with rage,
While in Grunt Grotto at the back
Dad sits and reads the Sporting page,
Then ambles out in boots of lead
To weed around the parsnip bed.

A giant parsnip sparks his eye,
Majestic as the Tree of Life;
He washes it and rubs it dry
And takes it in to his old wife -
'Look Laura, would that be a fit?
The bastard has a flange on it!'

When both were young she would have laughed,
A goddess in her tartan skirt,
But wisdom, age and mothercraft
Have rubbed it home that men like dirt:
Five children and a fallen womb.
A golden crown beyond the tomb.

Nearer the bone, sin is sin,
And women bear the cross of woe,
And that affair with Mrs Flynn
(It happened thirty years ago)
Though never mentioned, means that he
Will get no sugar in his tea.

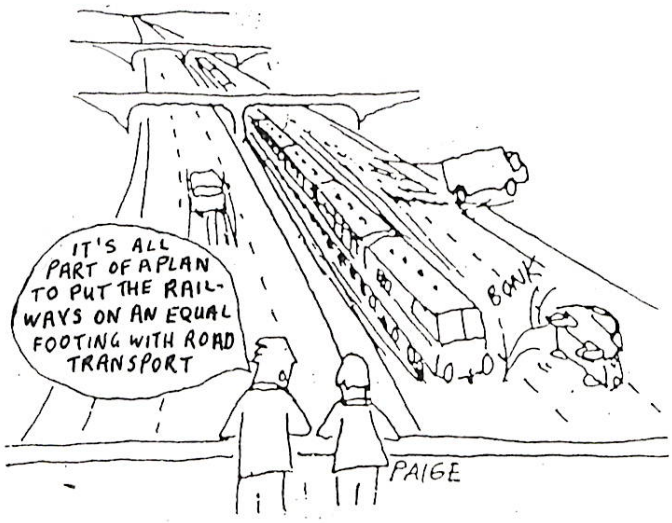
The afternoon goes by, goes by,
The angels harp above a cloud;
A son-in-law with spotted tie
And daughter Alice fat and loud
Discuss the virtues of insurance
And stuff their tripes with trained endurance.

Flood-waters hurl upon the dyke
And Dad himself can go to town,
For little Charlie on his trike
Has ploughed another iris down.
His parents rise to chain the beast,
Brush off the last crumbs of their lovefeast.

And so these two old fools are left,
A rosy pair in evening light,
To question Heaven's dubious gift,
To hag and grumble, growl and fight:
The love they kill won't let them rest,
Two birds that peck in one fouled nest.

Why hammer nails? Why give no change?
Habit, habit clogs them dumb.
The sacred Heart above the range
Will bleed and burn till Kingdom Come,
But Yin and Yang won't ever meet
In Calvary Street, in Calvary Street.

"Ballad of Calvary Street" was first published in "Collected Poems of James K Baxter", edited by JE Weir, published by Oxford University Press (1980). Reprinted with permission from Mrs Baxter. James Baxter was a New Zealand poet who died in 1972.



Keeping the outside out

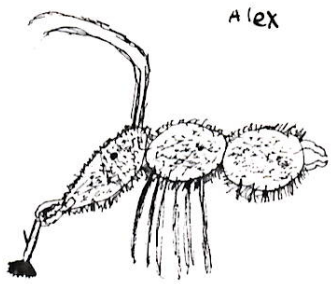
by David Ant&thorough

Late last year researchers discovered a completely new species of ant, with a society remarkably similar to our own, yet so different to other ant colonies as to make some scientists question whether they really are ants at all.

Using a microscopic video camera actually placed inside the nest, entomologists with special training in linguistics have unearthed some amazing details of the humdrum lives of these extraordinary creatures. It seems the society is made up of the usual array of roles in an ant colony, the soldiers, the nurturers, the workers, the young, but that the tasks carried out by these groups defies explanation. One group of, oddly, mostly male workers, has the task of creating dust. These have been labelled appropriately the "industrialists." 'Why do they need to create dust?' the entomologists asked themselves.

This question is to this day without an answer.

Another group of more typically female workers seems to have the task of cleaning up the apparently useless dust and protecting the young from it.

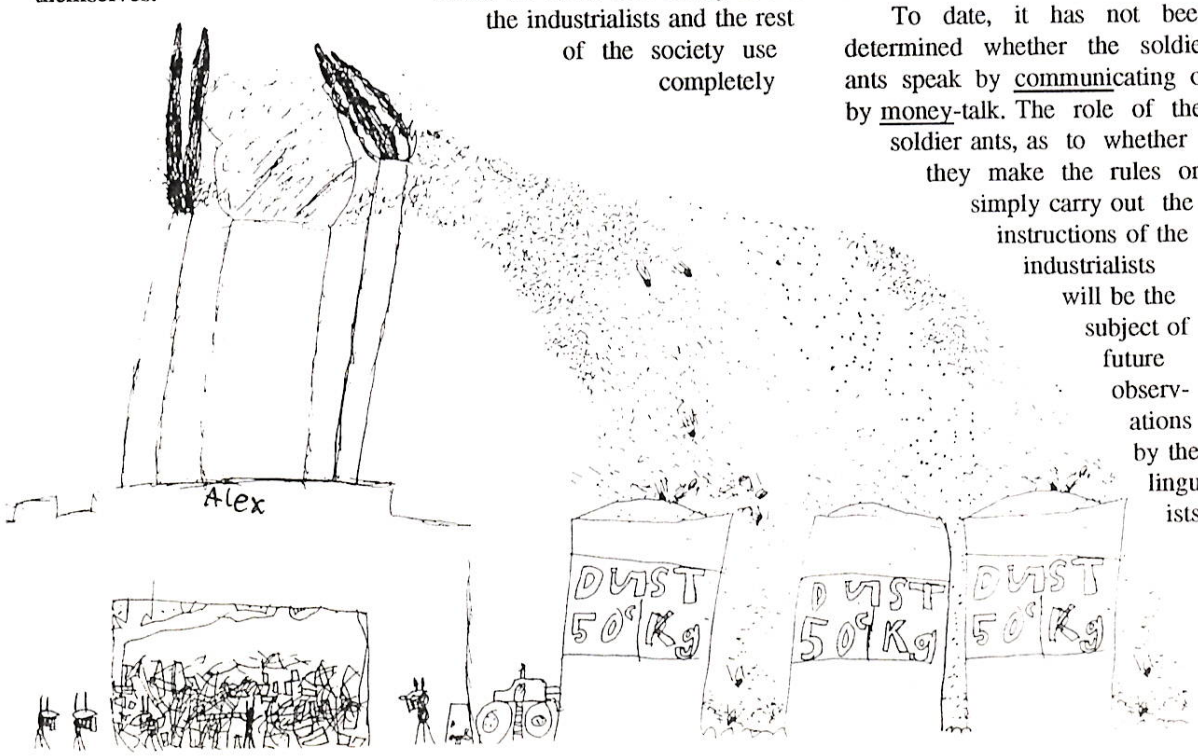


Chemical analysis of the dust has resulted in a shock finding - the dust contains a common neurotoxin to which the young and the eggs are particularly susceptible, so that explains why the cleaners clean it up.

So far we only have theories to explain why the industrialists make the dust. One theory is that the industrialists and the rest of the society use completely different languages.

The language of the general community, appropriately labelled communication would appear to be little understood, if at all, by the industrialists, for whom only money talks. By a complex process it seems, creating the dust also creates money and perhaps it is the pursuit of this secondary product which inspires all the, for want of a better word, "cultural" activities of the industrialists, many of which have been named after the ultimate goal, money: with monotone voices they make repetitive monologues about monthly balances and what a great job they do of self-monitoring the amount of toxin in the dust. Their toil necessitates the building of structures, some of which could aptly be titled monuments, but which when taken all together, are rather more like monstro-cities, or cities for short.

To date, it has not been determined whether the soldier ants speak by communicating or by money-talk. The role of the soldier ants, as to whether they make the rules or simply carry out the instructions of the industrialists will be the subject of future observations by the linguists.



Objectives of The LEAD Group -

An UPDATE

The following objectives have been wholly or partially achieved since they were formulated in July 1992 (for a full listing see LEAD Action News Vol 1 No 1):

1.0 to convince the National Health and Medical Research Council (NH&MRC) to change, at the June 1993 meeting, from recommending a blood lead "level of concern" of 25 ug/dL to recommending blood lead standards in line with the US Centers for Disease Control's intervention levels - 10 ug/dL to spark community prevention activities, and 15 ug/dL as the intervention level for individual children.
[Achieved June 1993.]

5.0 to convince environment protection agencies:-

5.11 to fund a Community Lead Information Centre (CLIC) and counselling service for parents in the Central and Southern Sydney Area Health Service, operated by The LEAD Group. **[CLIC is up and running and servicing parents across Australia, by phone and letter, but is not yet government funded.]**

7.0 to convince health and environment protection agencies to cooperate:-

7.1 to set up lead task-forces which steer lead poisoning prevention activities and further research, with the involvement of community groups **[Both a National Lead Taskforce and a NSW Lead Taskforce have been set up though neither has community representatives on it. Community representatives have begun to participate in the eight NSW Lead Working Groups which advise the Lead Taskforce. Whether we will be adequately resourced to enable us to contribute to the Working Groups with the same efficacy as industry, remains to be seen.]** and;

7.2 to set up and operate community lead centres to carry out the relevant above objectives. **[Australia's second government run Environmental Health Centre, set up specifically to deal with lead problems in a smelter community, has been opened near the Pasminco Smelter in Boolaroo, outside Newcastle in NSW. The first such centre in Port Pirie SA was opened nearly a decade ago.]** and;

7.3 to form a strategy to achieve the elimination of childhood and foetal lead poisoning in Australia by the year 2002. **[The NHMRC decided at its June 1993 meeting to decide at the November 1993 meeting as to what should comprise a strategy to achieve the new goal for all Australians of 10 micrograms of lead per decilitre of blood by either the year 1996 or 1998. The NSW Lead Taskforce must present a total lead strategy to the NSW Cabinet by April 1994, though the petrol component and Broken Hill component of the strategy as well as action on lead in childrens' blood will be fast-tracked through to Cabinet well before then. A National round table meeting on the 29th July 1993, organised by Ros Kelly, is expected to focus on a lead in petrol strategy.]**

We failed to achieve the following objective:

5.0 to convince environment protection agencies:-

5.1 to lower the maximum allowable lead content of leaded petrol to 0.3 g/L immediately, in line with the **1983** Victorian standard, and to 0.15 g/L in line with European standards, by June 1993.

Principles of a good strategy for the control of lead

by DR CHLOE MASON

Establishing a strategy for the control of lead is complex. Lead is very widely distributed in the environment and is toxic to people and all other forms of life. Lead has been used for a long time. It already has many existing uses and new uses are being developed. Some uses of lead, such as lead additive in petrol, result in this toxic substance being dispersed into the air, dust, soil,
waterways and food, where it contaminates people and the ecosystem. For some applications, such as car batteries the lead is recoverable by secondary processing.

Any strategy addressing the control of lead needs to follow nine essential principles in order to achieve the objective of reducing background lead levels in the environment and human exposure to it, with particular emphasis on young children.

1. Comprehensive approach.
The strategy needs to be comprehensive, ie covering all

aspects of past, current and new uses of lead. Past uses of lead may cause current exposure eg the removal of leaded paints.

2. Control lead at its source - adopt the "Hierarchy of Control Measures".
This principle leads to a focus on primary prevention, ie identifying and removing sources of lead exposure and controlling it as close as possible to the source, before children are harmed, eg the control measures which have the highest priority for available resources for lead in petrol would aim at reducing the average lead content of all petrol sold and reducing the total volume of petrol sales. Teaching caregivers to increase house cleaning and hygiene to stop the lead dispersed in exhaust fumes from poisoning their children is the lowest rung on the hierarchy and should never be seen as a permanent solution. This hierarchy needs to be applied wherever lead (or any toxic substance) occurs: work; home; beyond.

3. Cradle to grave management.
The government needs to maintain control of toxic substances throughout their life, from the source, along the pathways, to the fate for each use which is allowed.

4. Sunset clauses for certain uses of lead.
A sunset initiative ensures that lead and other chemicals with risks considered incompatible with ecologically sustainable development (ESD) would be phased out either totally or for certain uses as safer, acceptable alternatives become available. A document prepared for the OECD recommended that sunset initiatives were appropriate given the toxicity of lead and recommended that these be included within the wider concept of risk "reduction" (OECD "Cooperation on Existing Chemicals: Risk Reduction Lead Country Report on Lead", May 1991). The strategy should adopt sunset measures for certain uses of lead.

5. Immediate action on top priorities.
Currently, phasing out lead additive in petrol is the number one priority. Within other OECD countries, the phasedown of lead additive in petrol has been the most important single factor in reducing blood lead levels. A range of actions can be taken to reduce the amount of lead dispersed by the use of leaded petrol. Some of these actions could be taken immediately.

6. Timetable.
The strategy needs to set real dates in a schedule of phasedown for lead in petrol. It also needs to specify dates for other legislative or policy changes to control current and new uses of lead.

7. Community consultation and representation.
Generally, community consultation is desirable. The value of consultation may be considerable in developing some objectives, such as the preparation of codes of practice for removing lead paint. However, some other objectives, such as the reduction of lead in petrol does not require consultation, although discussions will be necessary between government officials and petrol refiners. Therefore, it is undesirable to subject
the entire strategy to consultation which would serve to further delay its distribution and implementation.

Owing to the scope of some objectives within the strategy, it would be appropriate to constitute subcommittees which could consult on a regional basis. It would also be appropriate to include community representation on the Lead Taskforce.

8. Co-ordinated approach.
The strategy should be a co-ordinated approach between all relevant portfolios, their respective government agencies, and the three spheres of government: federal, state and local, rather than solely the responsibility of the environment protection authority. Among the State government agencies which would need to be included are those responsible for health, transport (roads and traffic and trains), public works, public housing, workers health and safety, technical and further education, waste management, land management, water supply, local government, sport and recreation, and fisheries.

9. Reporting on progress.
The strategy should have written into it the mechanisms for reporting to the community on the rate of implementation and success of the strategy. •

from

The LEAD Group
PO Box 63 Dulwich Hill
NSW 2203

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