

MONTAGE

NEWS AND VIEWS FROM MONASH UNIVERSITY

Call for compulsory vaccination

Dr Ian Griffith is on a crusade to make infant vaccination mandatory.

"There's a loony mob out there that thinks vaccination is dangerous," says the senior lecturer in pharmaceutical microbiology at Monash's Victorian College of Pharmacy.

And he is prepared to use shock tactics to persuade otherwise. He suggests it may be a good idea to produce a series of startling ads, similar to those aimed at lowering the road toll, to highlight the horrors of preventable disease.

And his passionate letters to newspapers ("Infanticide with a blunt instrument is illegal in this country, but not, it seems, by infection with a largely preventable disease") have angered the pro-choice lobby.

"Parents who refuse to have their children vaccinated do not seem to realise they may be exposing them to a lifetime of disability," Dr Griffith said.

"This is because younger people haven't seen the devastating effects of some infectious diseases, and they don't understand that those diseases can come back.

"They also don't realise there is a very real chance that the natural disease can disable or even kill children. The recent

whooping cough deaths of infants in Sydney and Melbourne have shown that."

Dr Griffith believes it's not drugs that have had a major impact on health, it's clean water, food and, above all, widespread immunisation. But, he said, vaccination was like a poisoned chalice for politicians.

"Small children are involved and it's an invasive procedure. That's the reason I think politicians are reluctant to make vaccination compulsory.

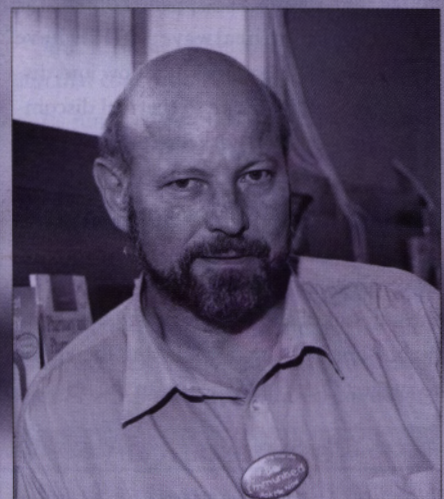
"Many parents now decline to have their children vaccinated because it's a hassle. Some councils today have clinics where people are pushed through like sheep.

"Mothers are concerned, and their unease is picked up by the child. It's an alien environment for children. And it all adds up to total chaos."

But infant vaccination needn't be an emotional issue, Dr Griffith said.

"In the old days, a doctor would make a home visit to vaccinate a child. Infant welfare nurses could possibly do likewise today."

From this year, all children in Victoria must be vaccinated against diphtheria, tetanus, polio, measles and mumps, but not whooping cough and rubella, within six months of beginning school.



Dr Griffith believed the US, where all children must be vaccinated against nine different infectious diseases before they begin school, had got it right.

"Better still, most states in the US require that vaccination is done before the child attends a pre-school or day-care centre.

"We should go down the US track and establish a comprehensive national register of vaccine recipients.

"In the US, health-care providers must record every vaccination. They also have a compensation scheme for any disabling adverse reactions, which have been shown repeatedly to be extremely rare.

"If they can do that in a country like the US, where freedom is sacrosanct, I can see no reason why we can't do it here."

The Federal Government recently unveiled a strategy to encourage

Continued on Montage 2



The heat is on

It's official. If the weather gets too hot and you're overheating, as happened during the recent summer heatwave, OHSE have advised that "if productivity is low and distress levels are high due to thermal discomfort, then it is quite acceptable from a health and safety viewpoint for managers to send staff home". In a recent *Etcetera* article, the unit suggests factors contributing to discomfort include how hard one works, the amount of clothing worn and any nearby hot objects. One reader rang the editor to suggest OHSE add the sun to the list.

Thermostatically challenged

Following hot on the heels of the OHSE tips on keeping cool on the job, we have learned that the cooling system at Monash's Science Park offices closes down once the temperature reaches 33°C. It's a safety mechanism to ensure overheating doesn't occur – for machinery, not people.

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NOW & THEN

25 Years Ago

A survey of 1971 Monash graduates revealed that 33 were still looking for work.

The survey of all 900 graduates was carried out by the Careers and Appointments Office because of a large amount of publicity given to employment difficulties faced by new graduates.

The results excluded "those who have decided to undertake further study, travel overseas or otherwise put off the evil hour".

15 Years Ago

In a recent speech at Monash, the opposition spokesman on industrial relations Mr Bob Hawke said the growing proportion of mature-age students in universities reflected a disturbing trend in secondary school retention rates.

The proportion of children 17 and over enrolled in secondary schools had increased from about 12 per cent in 1954 to just over 45 per cent in 1972, but since reaching that peak, the figure had declined steadily to less than 39 per cent.

Mr Hawke lamented that this had led to a dramatic decline in the number of school-leavers commencing at university.

5 Years Ago

Planning for a new performing arts building is well under way with tenders expected to be completed by September.

The building will form a central component of the planned Monash arts precinct, linking up with Robert Blackwood Hall on one side and the Gallery and Alexander Theatre on the other.

The arts precinct idea was put forward by Music department head Professor Margaret Kartomi in her letter to *Montage* last October.

This month last year

Monash scientists have created a three-dimensional image of the molecular shape of phenylethylamine – the hormone held responsible by some for our feelings of love.

The breakthrough has sparked a media frenzy about the possibility of creating 'love potions', but the researchers maintain their work is more likely to advance treatment of mental illness, simplify medical research and save drug companies millions of dollars.

Call for compulsory vaccination

From *Montage* 1

immunisation by withholding the final \$200 of maternity allowance until children are 18 months old and immunised.

Dr Griffith believed the initiative would help, but questioned whether the penalty was large enough.

"Fines of similar amounts don't stop speeding, and apparently lots of mothers don't claim their allowances anyway."

The scheme also offers financial incentives to doctors who achieve 90 per cent immunisation cover among children attending their practices (the current rate of Australian child coverage is 53 per cent).

But Dr Griffith said getting GPs more involved may be expensive, and that increasing funding for maternal and child health services would be more sensible.

He said it was essential that all children were fully vaccinated by 18 months.

"Living vaccines are exactly the equivalent of what nature does but on a lesser scale. They give a very mild and indiscernible infection that mimics the attack of the real thing."

Dr Griffith also points to the long-term effects of immunisation, saying that once immunised by vaccination, subsequent exposure to the natural infection serves to boost immunity periodically through life.

"Ironically, however, because of widespread vaccination the disease-causing strains are disappearing from the community. Thus this natural boost is less likely.

"So adults could benefit from revaccination at intervals, especially if they intend to travel overseas or are planning a family."

At birth, infants have certain antibodies acquired from their mother, and her breastmilk will contain these antibodies too. So if the mother is immune to measles and polio, infants will have some immunity in their first few weeks of life.

Dr Griffith claims the chances of contracting a disease through immunisation are minuscule.

"You have a far greater chance of being killed by lightning. It's all a matter of assessing the risk."

BY JOHN CLARK

Grim tales indeed

Their protagonists may win the hearts of sovereigns, even inherit the kingdom, but will fairytales themselves live happily ever after? Dr Heather Scutter, a specialist in children's literature, is not so sure.

The problem, according to the Monash English lecturer, lies in the way fairytales have been hijacked by latter-day knights in the service of literary cleanliness.

"We prune and trim and our children end up getting modern, sanitised versions of the original tales," she said.

The bedside manner of parents must also share some of the blame for the slow demise of the fairytale in modern culture.

"Parents today read less to their children, and then they breathe a sigh of relief when the kids can read independently.

"We stop reading to our children when they are far too young. We should, in fact, be reading to them when they are in their teens.

"We have also stopped making up stories for children. We have lost the art of passing on stories. Oral culture today now rests with stories being passed around by the media."

Fairytales are products of that original oral culture. By definition, they are stories sharing common characters and themes that have been retold in many places over a long period of time.

In some cases, a very long time: *Beauty and the Beast* goes back 2000 years and *Cinderella* comes from eighth-century China.

All turn on what master story-teller J. R. R. Tolkien referred

to as eucatastrophe, the inverse of the tragic turn of events.

"They are usually about a poor and humble person who is placed in great peril," Dr Scutter said.

"The tales inevitably involve a miraculous turn of events, after which the poor and disenfranchised get to inherit the kingdom."

The popularity of fairytales rose dramatically during the Industrial Revolution when a newly created middle class began

spending money on its children. For the first time, children had their own rooms and, importantly, their own literature.

"The hiving off of children also led to links being established with nannies and servants, the keepers of

the oral tradition."

Many tales written during that time were highly religious and extremely moral, Dr Scutter said. After all, what better way to get girls to behave than to tell them to sit and wait for their prince to arrive?

"It hasn't suited our culture to write sassy girl stories, such as *Princess Smartypants*, a modern rewrite of the Cinderella story."

While Disney may have successfully reshaped fairytale culture to suit its commercial ends, Dr Scutter believes the age-old stories can still be revitalised.

"Different versions of eight or nine tales should be published in one volume so that kids can see, for example, several or many of the different versions of the tales of Cinderella.

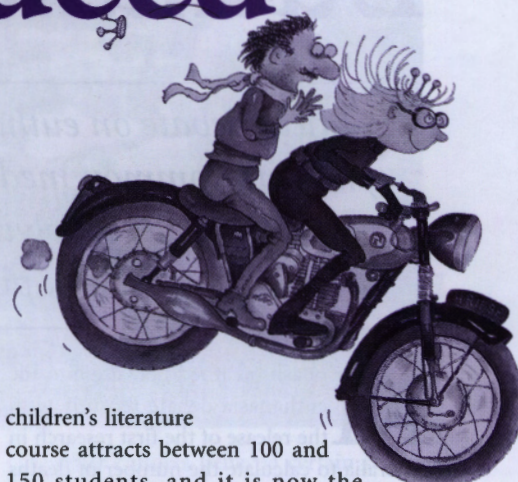
"We need collections of short rewritten stories for eight-to-12 year olds. At that age children can be provided with historical versions of fairytales plus new versions.

They will then be able to understand how stories work.

"It is better for children to get a greater variety of tales than the horrifically diluted tales we have now.

"The problem is that adults become irritated when they hear different versions of what they perceive as the original story."

Dr Scutter is doing her best to keep the tradition alive. Each year her



children's literature course attracts between 100 and 150 students, and it is now the biggest second-year/third-year elective in Monash's Department of English.

Her PhD in children's literature was supervised by Dr Brenda Niall, the former English lecturer at Monash who wrote the definitive history of Australian children's literature, *Australia Through the Looking Glass* (Melbourne University Press).

"In terms of literature, we've produced an amazing young adult culture in Australia. But at the end of the boom in children's literature in the 1980s, our publishers failed to diagnose what went wrong," Dr Scutter said.

"There were far too many picture books, and the newly individual readers – those eight-to-12 year olds – were forgotten.

"There is now an onus on responsible publishing houses to stick with children's projects and to keep emphasising vitality in children's stories."

Dr Scutter is ready to go into print herself. Her first book, 'Displaced Fictions' (working title), is an examination of Australian children's and teenagers' books during the 1980s.

BY JOHN CLARK

Once upon a revival

Keeping the tradition alive: Dr Scutter names five top fairytale collections and stories.

Princess Smartypants, by Babette Cole (Puffin)

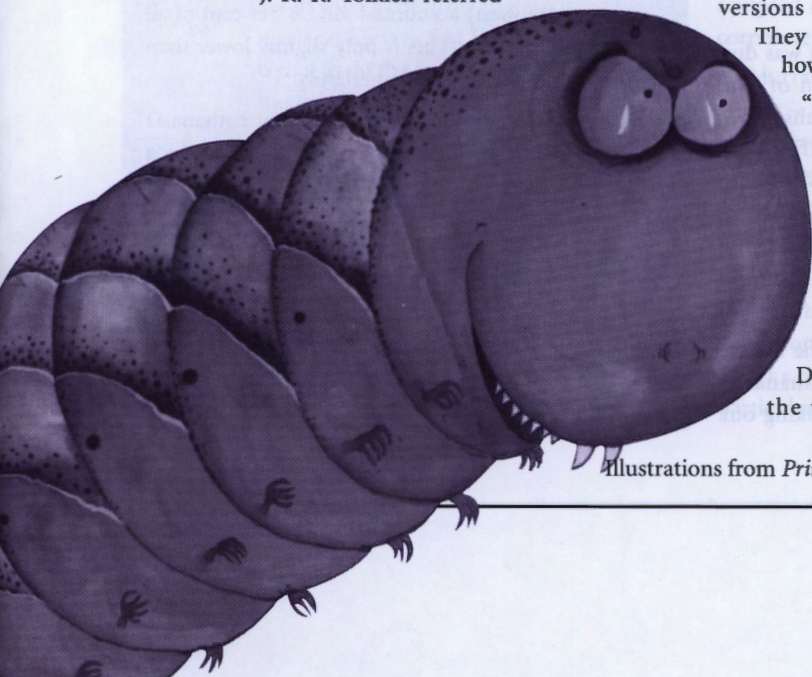
The Classic Fairy Tales, by Iona and Peter Opie (Oxford University Press)

The Virago Book of Fairy Tales (Virago)

Classic Fairy Tales, retold by Helen Cresswell (Harper Collins)

The Beetle, retold by Lilith Norman (Red Fox)

Illustrations from *Princess Smartypants*.



Euthanasia more common in

Political debate on euthanasia legislation is out of sync with common medical practice, according to a recent study involving Monash researchers.

Gary Spink reports.

Monash breathed new life into the euthanasia debate recently with the release of the first research in Australia to calculate the number of deaths that involve a doctor making an end-of-life decision.

It was also the first study in the world that could be compared to similar research in the Netherlands, where voluntary euthanasia is practised openly.

The results revealed that Australian doctors intentionally hasten the death of twice as many patients as their Dutch colleagues and, most importantly, are far less likely to discuss their decisions with their patients or seek their consent.

"Our findings undermine suggestions that allowing euthanasia to be practised openly makes it more likely that doctors will end patients' lives without their consent."

The Australian figure, based on a confidential national survey of 3000 doctors, suggests that almost a third of deaths in this country occur after doctors decide to intentionally hasten their patients' deaths.

Authors of the ground-breaking research include three academics from Monash's Centre for Human Bioethics – director Associate Professor Helga Kuhse, deputy director Professor Peter Singer and research officer Dr Maurice Rickard; Professor Peter Baume from the School of Community Medicine at the University of NSW and Dr Malcolm Clark, a senior lecturer in Monash's Department of Mathematics.

"Our findings undermine suggestions that allowing euthanasia to be practised openly makes it more likely that doctors will end patients' lives without their consent," Dr Kuhse said.

In fact, the survey found that incidents of non-voluntary euthanasia (deaths resulting from administering drugs explicitly intended to end patients' lives without their consent) were five times higher in Australia than in the Netherlands.

"I wasn't expecting the rate of non-voluntary euthanasia to be so much higher in Australia, but the result doesn't totally surprise me," Dr Kuhse said.

"It does make sense that doctors working in a country which prohibits euthanasia or intentional termination of life by act or omission would be reluctant to discuss end-of-life decisions with their patients.

"Our law does not recognise compassionate ending of life, so doctors discussing and implementing such action do so under the threat of prosecution for manslaughter or murder."

The release of the study comes at a time of highly emotive and politicised debate about euthanasia in Australia.

Opponents of legalised voluntary euthanasia, whose views were threatened by the findings, began to attack the study before it was published.

A few days before the research was due to appear in a February edition of *The Medical Journal of Australia*, Dr Kuhse travelled to Canberra to give a confidential briefing of the study's findings to a senate committee considering the merits of the 'Andrews bill', (which later overturned the Northern Territory's voluntary euthanasia legislation).

Tasmanian Liberal Senator Eric Abetz, a vocal opponent of legalised euthanasia, broke the agreed embargo by walking out

of the briefing to table his objections to the findings in Parliament.

Dr Kuhse described his actions as "despicable", saying they were an attempt to get his own criticisms of the study reported in the media before the public could be informed about the research itself.

The researchers have since rejected Senator Abetz's claims, and those that quickly followed from Mr Kevin Andrews (the Victorian MP who drafted the Andrews bill), as "blatantly untrue".

Both had claimed that the study was not comparable to the research done in the Netherlands, but Dr Kuhse points out that the Australian survey was an authorised

The survey's main findings include:

- 30 per cent of all Australian deaths involve a medical decision that is explicitly intended to hasten death or not prolong life. This figure compares with 16.6 per cent in the Netherlands.
- The 30 per cent figure is made up of 5.3 per cent of cases where drugs were supplied or administered and 24.7 per cent where treatment was withheld or withdrawn.
- There were also an additional 6.5 per cent of cases where doctors prescribed opioids (such as morphine) with a dual intention – to relieve pain and symptoms and to hasten death.
- 3.5 per cent of all Australian deaths result from administering drugs explicitly intended to end patients' lives without their consent. This figure is five times higher than that for the Netherlands.
- The contemporary, narrow definition of euthanasia (the administration of drugs with the explicit intention of ending the patient's life, at the patient's request) accounted for 1.8 per cent of all Australian deaths. This is only slightly lower than the 2.4 per cent in the Netherlands.
- If the broader traditional definition of euthanasia were used (a death intentionally accelerated by a doctor), there would be 37,000 Australian cases of euthanasia each year.

The survey was based on a confidential, national survey of 3000 doctors chosen at random from 27 medical disciplines where there would be the possibility of making an end-of-life decision. The response rate was 64 per cent (1918 doctors).

Australia than Netherlands

translation supplied by the Dutch researchers of the questionnaire they had used.

"The survey was specifically designed so that it could be compared," she said.

Apart from the controversial revelations produced by the comparison, the survey raised serious ethical concerns about the popularly-accepted definition of euthanasia that formed the basis for most public debate.

The contemporary, narrow definition of voluntary euthanasia (the administration of drugs with the explicit intention of ending the patient's life, at the patient's request) accounted for 1.8 per cent of deaths in Australia and 2.4 per cent in the Netherlands.

But if the broader traditional definition of euthanasia were used (a death intentionally accelerated by a doctor), there would be 37,000 Australian cases of euthanasia each year.

Dr Kuhse has argued for 10 years that the narrow definition of euthanasia, which does not take into account other end-of-life decisions, excludes many widely-practised medical procedures from the ethical debate.

"The outcome is the same – you end up with a dead patient. Surely the most important question we need to be considering is that of consent," she said.

"If it is wrong to practise euthanasia without consent, then it is certainly as wrong to withhold or withdraw readily-available treatment without consent."

Dr Kuhse acknowledges there seems to be general public acceptance of doctors refraining from prolonging life, and she attributes this to a view of morality that distinguishes between 'killing' (intentionally taking life) and 'allowing to die'.

"Drawing such moral distinctions is not relevant in a medical context, where we often have the choice of whether or not to prolong life," Dr Kuhse said.

She argues that it is impossible to prove what doctors' intentions are when they administer life-shortening palliative care, so the law should focus on the issue of patient consent. This has essentially been the basis for Dutch euthanasia legislation.

In contrast, the recently-approved Andrews bill seeks to prohibit intentional killing but doesn't invalidate the withholding or withdrawing of treatment by doctors

or their administration of life-shortening palliative care.

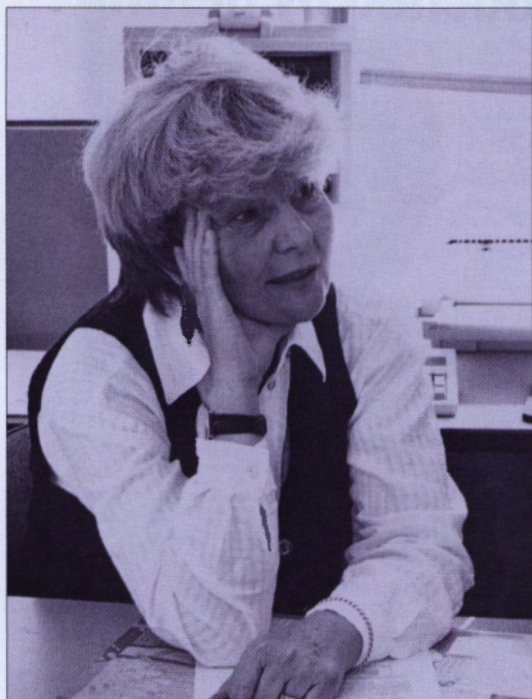
"In the absence of definitions and further clarification of when a doctor's actions in withholding or withdrawing treatment amount to intentional killing, the Andrews bill is vacuous and essentially incoherent," Dr Kuhse said.

She says the survey emphasises how important it is for Australian doctors to have an understanding of ethical arguments, and also gives them a responsibility to stand up and be counted for the beliefs they are putting into practice.

"It cannot be a good state of affairs when it's common for doctors to intentionally terminate the lives of some patients, while we have laws supposedly preventing this."

Dr Kuhse also believes that the findings raise serious questions for the Australian Medical Association, which maintains that intentional ending of life is unethical and that cases of doctors practising euthanasia are isolated.

"We have shown that a large number of members of this august body are engaged in the very practices that its committee prohibits."



Associate Professor Helga Kuhse: "Surely the most important question we need to be considering is that of consent."

Child protection abused

Mandatory reporting of child abuse combined with severe cuts to child welfare services has led to the "worst possible outcome" for child protection practice in Victoria, according to a Monash social work lecturer.

The new legislation had produced a huge increase in reports of child abuse – estimated at between 50 and 60 per cent – but was accompanied by large budget cuts to support resources, including accommodation, counselling, respite care and family support networks.

Dr Mendes said welfare spending was well down the list of the State Government's priorities.

"The Government had no intention of increasing resources to deal with the expected rise in notifications from mandatory reporting. In fact, it had already decided to do the opposite – severely cut support services for victims of child abuse.

"Victorian academics and practitioners have provided evidence for more than 20 years that prevention and treatment services are vital if mandatory reporting is to have successful outcomes, but their advice has been ignored."

Instead, he said, financial resources were spent on increasing the number of child protection workers, which only dealt with the investigation side of child protection.

"All available resources are going on investigating new reports instead of dealing with those cases already identified.

"We've seen the deadly outcome of that in the case of Dillon Palfrey and other child deaths. In Dillon's case, his mother had been reported to Protective Services and referred for counselling, yet no counselling occurred due to lack of funding."

Dr Mendes believed support services were unable to keep up with demand, which had a boomerang effect on child protection investigation practice.

"Protective case plans may be drawn up and families offered support services to help avoid unnecessary court action, only for the services to be withdrawn or not eventuate at all. Since the situation does not improve or change, the family is almost inevitably re-referred to child protection services."

But is the prevention of child abuse the responsibility of the government or of the community? Both, according to Dr Mendes.

He called on the Department of Health and Community Services to make a concerted effort to attract more experienced and mature workers.

"I'd like to see politicians and legislators reconstruct the relevant information so child protection workers are no longer forced to walk a tightrope between community expectation which, on the one hand, demands that parents discipline their children and, on the other, that the state protects children from harm from those same parents."

Dr Mendes also believed that national child protection standards and appropriate funding were needed so that the direction and funding of Child Protection Services were no longer subject to the whims of populist state governments or the tabloid media.

"And we need a willingness on the part of the Victorian Government to consult with relevant policy experts, peak bodies and service providers. Too often, the victims of child abuse experience further neglect when they enter the care of the system."

BY DEBORAH MORRIS



Dr Philip Mendes, a former child protection worker, said he was not against mandatory reporting, but believed it was useless without having the necessary support resources and networks in place.

"Child protection workers are currently faced with ever-increasing numbers of referrals, but with far fewer resources to service them," he wrote in a recent issue of *Australian Social Work*.

The article examined the historical and political context of mandatory reporting and its impact on child protection practice in Victoria.

Mandatory reporting was introduced by the Liberal State Government in 1993, after the intense media pressure following the death of two-year-old Daniel Valerio at the hands of his stepfather.

Although first recommended by an earlier Labor Government, it had been repeatedly rejected as an option by the Liberals. Dr Mendes believed that passionate and emotive media reports and editorials had led to a knee-jerk reaction by the Kennett Government.



Softening the blow

Scientifically-based design changes to softball and baseball equipment could help reduce the risk of injuries to players, according to new research.

Studies by Monash University Accident Research Centre sports injury expert Dr Caroline Finch indicate that modifications to standard baseballs and softballs may help prevent head and chest injuries to players.

Softball and baseball injuries rank among the most common children's sports injuries treated in Australian hospital emergency departments, with most child baseballers suffering injuries to the head and face, including bruising, lacerations and concussion, according to the study.

"Hand and foot injuries commonly suffered by players when sliding into the fixed bases, for example, could be avoided by introducing new breakaway/quick release bases similar to those used in the US," Dr Finch said.

Her recommendations follow more than 18 months' research into the nature and extent of injuries in a wide range of popular Australian sports and the effectiveness of strategies to prevent them.

As well as targeting baseball and softball, the study focused on alpine (downhill) and cross-country skiing, snowboarding, horseriding, cricket and running.

The findings were recently released in a range of reports aimed at sports medicine professionals and sports policy-making bodies. They have also been condensed into a series of simple fact sheets detailing key injury prevention strategies for recreational and professional sports participants.

One of several collaborative research projects resulting from the study involves an Australian-first investigation into the structure and bounce capacity of standard baseballs and softballs.

Dr Finch, together with Dr Raphael Grzebieta of Monash's Civil Engineering department, is testing about 30 balls to ascertain the impact of blows to players caused by balls of different weights and densities.

"The Victorian Baseball Association is participating in the study, which is attempt-



Good sports: Dr Raphael Grzebieta and Dr Caroline Finch.

ing to identify balls with less injury-causing potential and could lead to the introduction of a new scientifically designed low-impact ball," Dr Finch said.

The work was triggered by recent US research suggesting that softer balls – which were introduced in US softball and baseball matches in an attempt to reduce head injuries – had the effect of causing more chest injuries.

"The softer baseballs were designed to reduce head injuries, but their greater bounce led to a higher incidence of chest injuries."

Dr Finch said the US study findings emphasised the need for scientifically-based research to ensure sports injury prevention strategies were effective.

But she stressed the aim was not to deter people from sport. "The aim is to increase participation in sports by making them safer."

Dr Finch said one of the most striking findings of the research was the lack of any firm scientific basis underlying most injury prevention strategies, particularly in the area of protective sports equipment.

"Generally most protective equipment, such as headgear and clothing, is designed as a common-sense approach to injury prevention," she said.

"But apart from commercially driven laboratory tests, most of the equipment hasn't been scientifically evaluated using formal control studies or supporting consumer perception data. As a result, we don't know if these remedies actually work."

"For instance, there is only anecdotal information about the injuries sustained by horse-riders who were not wearing helmets, and there is no reliable data about the extent of injuries suffered by riders who were."

"But scientific evidence about the effectiveness of bicycle helmets demonstrates that wearing helmets does prevent head injuries."

Another interesting problem identified in the research is the failure to correctly adjust ski equipment for children, particularly ski bindings.

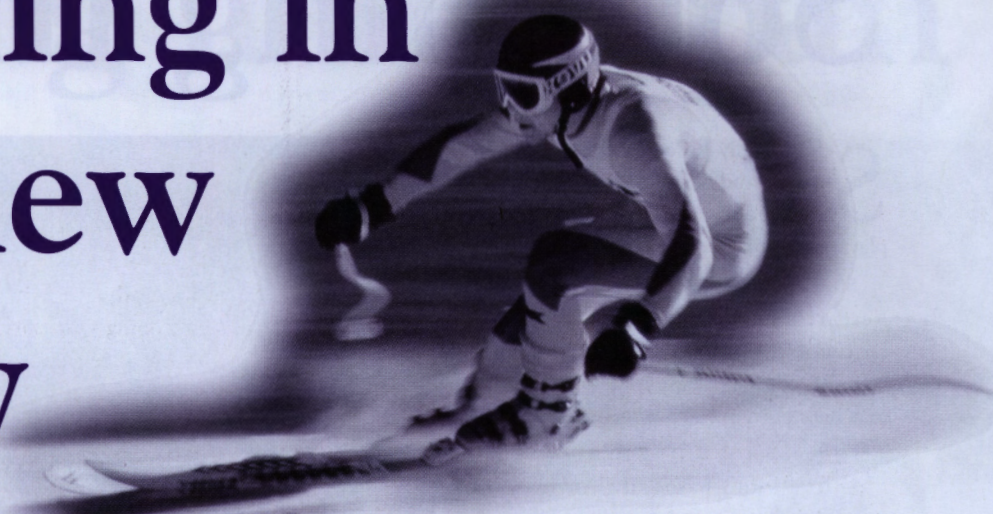
According to the study, most skiing injuries are related to inadequate bindings, which are designed to release under pressure.

Dr Finch said children were most likely to borrow equipment or use hand-me-down skis fitted with bindings that had not been adjusted to suit their weight.

The sports injury fact sheets are being distributed widely by the Victorian Department of Sport and Recreation. The Australian Sports Injury Prevention Taskforce is considering using the fact sheets as a tool to promote sports safety nationally.

BY BRENDA HARKNESS

Muscling in on a new theory



Monash and Harvard researchers could be rewriting the rule book for sports training and treatment of muscular problems. Tim Thwaites reports.

TWICE a year, the people who work in the Menzies building, the tallest structure on Monash's Clayton campus, have to undergo a fire drill. For those with offices on the upper floors, it becomes an ordeal they remember for days.

The evacuation procedure specifies no lifts are to be used. And descending as many as 14 flights of stairs on foot can lead to severe muscle soreness.

Strangely enough, it's often the people who claim they are very fit who are most badly affected.

"Fit cyclists are more vulnerable than couch potatoes," says Dr David Morgan, a reader in the university's Electrical and Computer Systems Engineering department. And he thinks he knows why.

If he is right, it will change the way athletes train and has enormous implications for how we approach physical work and occupational health and safety.

It could also lead to more effective treatment for medical conditions such as muscular dystrophy and problems with posture.

Dr Morgan, who is also research director of the Centre for Biomedical Engineering, and Monash physiologists have developed a new understanding of how muscles cope with stretching.

For more than seven years, Dr Morgan and Professor Uwe Proske of Physiology, together with US colleagues from the

Harvard Medical School, have been testing the ideas behind the new hypothesis. They now believe they have enough evidence to confirm their ideas.

Muscles are built to contract. Most forms of muscular contraction lead to shortening of the muscle. But there are some forms of exercise – known technically as eccentric exercise – where the contracting muscle is being stretched at the same time.

In other words, instead of initiating an action, the muscle works to restrict stretching. Walking downhill or downstairs is an example of this. Unless muscle fibres are used regularly in this form of exercise – once a week or so – they tear rather easily, said Dr Morgan.

"Being fit is not the same thing as being fit for eccentric exercise. And that is why enthusiastic cyclists can end up so sore after a fire drill."

Dr Morgan's theory is built on a careful investigation of how individual muscle fibres perform, right down to the biochemical level. But it also provides an understanding of how whole muscles work.

"The explanation fits many observations, at many levels, with a coherence which is powerful and satisfying. But it is so broad and wide-ranging that some scientists reject it, because they are uncomfortable with anything so general."

Muscle fibres are constructed from strings of repeating units called sarcomeres. A sarcomere is like a pair of stiff brushes with the bristles pushed together.

The bristles are formed from two different types of filament, although each brush carries only one type.

One filament type has thousands of copies of a protein called myosin along its length. Myosin sticks out from the backbone of the filament like an oar from a boat. The other filament type carries thousands of copies of a globular protein called actin, to which myosin sticks.

When the muscle fibre contracts, the myosin and actin act like a ratchet mechanism. The myosin changes its angle relative to the backbone of its filament, just like an oar relative to the boat it is powering. Then its bond with the actin is broken and reformed with another actin further up the filament. The result is a pulling together of the brushes – a contraction.

But how powerfully the fibre can contract depends on how stretched it is, or how far apart the brushes are, and this is especially relevant for studying the effects of eccentric exercise.

As you pull the brushes apart, there comes a point where the force able to be exerted during contraction begins to weaken. The number of molecules of myosin able to bond with actin becomes limited.

What Dr Morgan recognised is that this point is not reached at exactly the same time by all sarcomeres, because the spacing of sarcomeres along muscle fibres is not always uniform. And what happens is that the fibre begins to behave like one of those

bending straws which incorporate a concertina section.

If you stretch such a straw, first one bend pops, then another. Just like the straw, the fibre develops islands of weakness around sarcomeres – where the brushes come apart, they pop.

Often when the muscle relaxes, the filaments making up the popped sarcomeres will fit together again, and everything goes back to normal. But sometimes the filaments remain disrupted, the sarcomeres have been irrevocably torn and the muscle fibre dies, with associated pain as scavenger cells in the body clean up the mess.

The body's response to this is interesting, Dr Morgan says. It builds a new muscle fibre to replace the old, but in the new fibre it packs in more sarcomeres.

With more sarcomeres along the same length of fibre, there is less chance of stretching any one sarcomere to the point of no return. So the body adapts to eccentric exercise.

Dr Morgan, Professor Proske and their research group have been testing these ideas in several different ways, at several different levels.

They began by stimulating stretched muscle fibres from toads and using the microscope to look directly for sarcomeres which had popped. But the fine structure of the sarcomeres was too small to see under the light microscope.

A certain amount of disorder in the muscle fibres was visible, however, which was enough to give the group confidence to begin looking under the electron microscope.

Not only did the researchers then find sarcomeres which had popped, but there were about as many of them as they had predicted. The group had its first direct evidence.

If Dr Morgan was right about how the body became accustomed to eccentric exercise, then muscles which had adapted should show a greater capacity to contract when stretched.

This could be tested both in toads and humans, before and after a program of eccentric exercise. It turned out to be true. In fact, what the researchers found was that it did not take much eccentric exercise to trigger the change.

"We began to realise that muscles are continually fine-tuning their length,

depending on the individual's lifestyle," Professor Proske said.

Only a few human movements are naturally eccentric (skiing and horse riding are two), but the group was able to simulate eccentric exercise by having its human test subjects walk backwards down an incline on a treadmill – a bit like Michael Jackson's famous moonwalk.

The induced soreness took about a week to recover, but that one episode was enough to condition the body. And the body remained adapted by doing some sort of eccentric exercise about once a week. This information is significant for the training regimens of athletes.



Contracted muscle is stretched as weight is lowered, i.e. eccentric exercise.

The team has even been able to detect increasing numbers of sarcomeres in the thigh muscles of rats that have been made to run downhill (eccentrically exercised). These rats adapted by producing up to 15 per cent more sarcomeres than rats that run uphill.

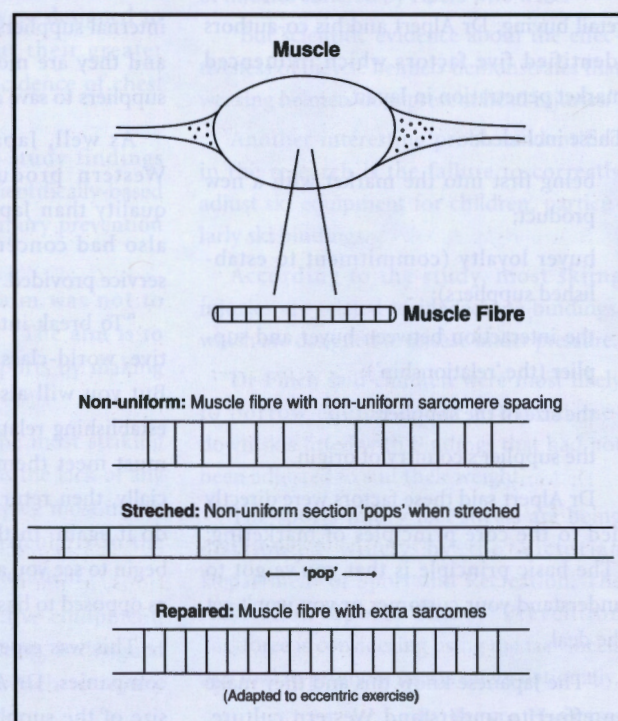
The researchers now think that the natural instinct of marathon runners to train for running up – and not necessarily down – hills may well have been responsible for the breakdown of some athletes over the hilly course at

Barcelona in 1992. Their muscles went into meltdown on the downhill sections.

As well as obvious spin-offs in sports training, Professor Proske and Dr Morgan think there could be application of their ideas in treating sufferers of muscular dystrophy, an inherited condition in which a missing protein causes muscle weakness and wasting.

The weakened muscles are prone to tearing and physical damage when they are used, the most damage occurring during eccentric contraction.

Not all muscles are equally affected, because some, like those of the hands, almost never undergo eccentric contraction. The researchers believe it may be possible to teach muscular dystrophy patients ways of standing and moving which will minimise eccentric contraction and reduce the chances of damage.



Making it in Japan

A study of the obstacles faced by US suppliers when attempting to break into the Japanese market may help Australian exporters exploit this potentially rich area.

The study's principal author, Associate Professor Frank Alpert, has profiled Japanese retail buying practices to help foreign sellers better understand Japanese business methods.

Dr Alpert, the director of research in Monash's Marketing department, said that a greater understanding of the Japanese market was imperative to successful market penetration.

The research is believed to be the first major study identifying Japanese retailing culture as a non-tariff barrier to trade.

"Japan imports very little compared to other Western economies, and the country's image as a difficult place for foreign exporters to do business has traditionally been explained by administrative and legal trade barriers," Dr Alpert said.

But after conducting interviews with Japanese retail buyers, trading company staff and American expatriates, as well as drawing on existing research on Japanese retail buying, Dr Alpert and his co-authors identified five factors which influenced market penetration in Japan.

These included:

- being first into the market with a new product;
- buyer loyalty (commitment to established suppliers);
- the interaction between buyer and supplier (the 'relationship');
- the size of the supplier;
- the supplier's country of origin.

Dr Alpert said these factors were directly tied to the core principles of marketing: "The basic principle is that you've got to understand your customer or you won't get the deal.

"The Japanese know this and they make an effort to understand Western culture.



But we still don't entirely understand them. There's an asymmetry of information."

Dr Alpert believed the key to success in business hinged on an appreciation of the importance of relationships – in this case understanding the importance of trust and commitment to Japanese business people.

"The Japanese retail market is very much self-contained. They already have internal suppliers for everything they need, and they are most unlikely to ditch their suppliers to save a few dollars," he said.

As well, Japanese buyers perceived Western products as being of lower quality than Japanese products and they also had concerns about the quality of service provided.

"To break into the market, an innovative, world-class product is the first step. But you will also need to invest time in establishing relationships with buyers. You must meet them for dinner and talk socially, then return a few months later and do it again. In these small ways they will begin to see you as reliable and trustworthy, as opposed to hasty."

This was especially important for small companies, Dr Alpert said. In Japan, the size of the supplier is an indication of its

stability – a small foreign supplier is perceived as having a greater likelihood of withdrawing from Japan than a larger one.

According to the report, trust and commitment were central cultural norms in Japanese society that carried over to business relationships.

Dr Alpert said another recent study had found that 'satisfaction' – as measured by partner reliability and fairness – was more important for a Japanese partner than for a non-Japanese partner in international joint manufacturing ventures.

"The nature of the relationship is that the buyer is superior but knows not to exploit the seller. Western business people do things differently so they may be seen as unreliable," Dr Alpert said. "It is critical that Western suppliers understand the cultural norms of the relationships they are about to embark on."

Dr Alpert believes the time to start learning about the Japanese market is now. "The next generation of Japanese buyers will be even smarter about doing business with the West than their predecessors."

BY DEBORAH MORRIS

Slow boat to China

Late last century, Susan Purdy's great-grandparents adopted the illegitimate son of their Chinese maid.

The servant had become pregnant after a liaison with a noted Melbourne bachelor, and the Purdys adopted the child, saving the maid and the socialite any 'embarrassment'.

Purdy will travel to China later this year, but the Monash photography lecturer will be tracing an artistic, rather than a personal, heritage.

She would like to confirm the details of her past, but it has been virtually impossible for Purdy to trace the family of her grandfather's natural mother (the maid's name was falsified on her grandfather's birth certificate).

But even before she was aware of her family history, Purdy had developed a strong interest in the Chinese cultural approach to landscape art and the parallels between it and the philosophy behind her own work.

Courtesy of an Australia Council grant, Purdy will spend September photographing the passing landscape as she travels by boat down China's famous Yangtze River.

The project is an extension of her aptly-named 1995 exhibition *The Shaking Tree* – the result of a five-day journey on the historic Gulflander train route in north-west Queensland.

The route, the last remaining narrow-gauge railway in the state, opened in 1891

but was under threat of closure when Purdy documented it using minimal photographic equipment.

Armed with only a compact 35 mm camera and using a slow shutter speed to take her images from the moving train, she created unique impressions of the landscape that challenge traditional approaches to the medium.

"Using photographic blur isn't so radical when you consider the style of impressionist landscape painters. It's just that there is no tradition of this method in photography," Purdy said.

"Our conditioning of what a photograph is sometimes prevents us from seeing the value in different styles. The subject matter has to exist as a reality for me to photograph it, so my method is just another way of perceiving the world.

"I think this perception is more relevant to contemporary life – most of our experiences of landscape are to do with moving through it, be it from a car or train or whatever."

Purdy was delighted when she later read the autobiography of Australian novelist Xavier Herbert, and found that as a child he had shared her perception of the Queensland landscape from the vantage point of the moving Gulflander.

"I was kneeling on a seat looking out the window at the inland scene, seeing the stunted trees, the mulga and the wilga and the gimlet gum, doing a kind of dance, spinning past, seeming to swing away from the train to the horizon and race ahead, to come back to meet us and go waltzing past and round again, the same set of trees in endless gyration ... trees that danced a wild arboreal polka to our going," Herbert wrote.

Purdy said: "It was exactly what I was picking up. That was a nice, confirming experience."



She draws links between her approach of interpreting the landscape as she moves through it and the genre of Chinese scroll painting.

Viewing a scroll painting involves rolling the scroll from left to right, so (unlike Western art) the landscape moves in relation to the viewer.

"It takes the viewer on a personal journey, like someone walking through the landscape," Purdy said.

By contrast, Western landscape art traditionally places the viewer centrally, a concept Purdy describes as "a colonial perception of land".

"It is based on a formula that has the view triangulating out from the viewer. It suggests a kind of possessiveness of the landscape, surveying what is available, rather than just experiencing what is there."

With China having the longest history of landscape art in the world, Purdy is interested in photographing a section of the Yangtze that has attracted artists, including scroll painters, for centuries.

The section, in the upper part of the river, passes through three gorges, and the river traffic has played an important role in Chinese trade and culture.

Purdy plans to journey 2500 kilometres in a month, doing a triple pass through the gorges between Chungking and Shanghai.

A major dam project in the region is planned for next year and time is running out to travel the natural course of the river, free of interruptions from man-made lochs.

This will give her trip an added documentary importance, just like the effect that the threat of closure hanging over the Gulflander had had on her *Shaking Tree* images.

BY GARY SPINK



'Yellow Tree,' 1993, 92 cm x 62 cm.

The Oz poverty trap

Australia faces higher unemployment and increased poverty as it enters the new millennium, researchers predict.

Ms Alice de Jonge, a lawyer specialising in international trade, and economist Mr Ian Manning argue that Australia's growth will be slower than the world average and will be controlled by external economic forces driving the new global financial market.

This was largely due to the twin problems of the nation's balance of payments and budget deficits, which placed Australia, more than most other countries, at the mercy of the new global market, the researchers wrote in a recent report, 'The New Poverty: Causes and Responses'.

Australia was compelled to respond to the global market by raising its interest rates, which in turn discouraged employment growth and inhibited both savings and investment, said Ms de Jonge, a lecturer in Monash University's Department of Taxation and Business Regulation.

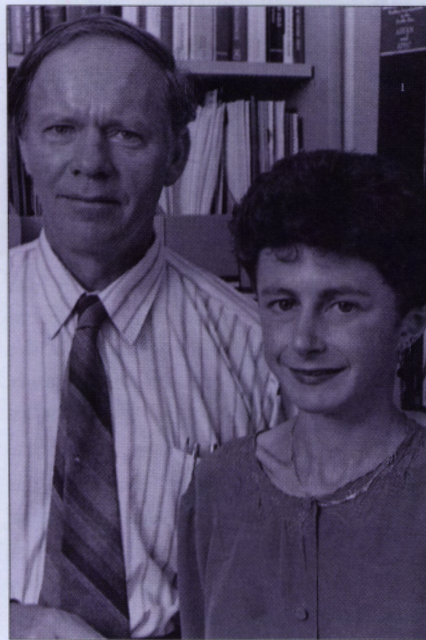
"The unemployment rate only has to edge down towards 7 per cent and the international credit rating agencies – Moody's and Standard and Poor's – call for a rise in interest rates," she said.

In order to live within its balance of payments constraints, Australia would have to grow at a much slower rate than the world average and maintain high levels of unemployment.

"Given these constraints, it would be optimistic to pin hopes of poverty reduction on economic growth," Ms de Jonge said.

At the same time, the market would demand expenditure cuts to reduce the budget deficit, with most cuts expected to be borne by social security and social wage schemes such as the Job Search allowance.

"The current level of social security outgoings is unsustainable, and within the current bounds of policy it is almost inevitable that cuts in social security payments will increase poverty rates within the next few years," she said.



Mr Ian Manning and Ms Alice de Jonge: "... it would be optimistic to pin hopes of poverty reduction on economic growth."

In order to curb the growth of poverty, governments would have to join forces to overrule the operations of the global financial market.

But this level of intergovernmental cooperation was unlikely, as eradicating poverty was not a priority for policymakers in the new global climate of economic rationalism, according to Ms de Jonge.

Since the mid-1970s in Australia, following the national Commission of Inquiry into Poverty and the then benchmark Henderson Report, *Poverty in Australia*, reducing poverty had been edged off the political agenda and no longer received widespread public attention, Ms de Jonge said.

Henderson, in response to the 1970s inquiry, had developed a framework to eliminate poverty which was based on the transfer or redistribution of wealth to the poor while increasing the incomes of the rich.

His strategy, however, like most economic theory at the time, hinged on the assumption of full employment as the basis of economic growth. He did not foresee the end of full employment or the rise of part-

time work, which has emerged as one of the most significant trends of the 1990s.

Ms de Jonge said that the 90s had seen the focus of domestic policy shift away from assisting the poor to controlling inflation, reducing deficits and creating economic conditions favourable to business and investment.

This was based on an overriding faith in the market and a belief that the benefits of a sound economy would trickle down to the poor.

"Like those Keynesians who thought that full employment would automatically eliminate poverty, those behind Australia's current commitment to globalisation have no place for poverty in their intellectual system ... (According to this view) poverty simply cannot occur in competitive general equilibrium," Ms de Jonge said.

"But in practice it does occur, and with the policy constraints imposed by globalisation there is every reason to believe that it will increase."

Ms de Jonge and Mr Manning, an economist with the Melbourne-based National Institute of Economics and Industry Research, said the key to poverty reduction lay in increased employment. But efforts to increase employment had so far been ineffective.

Two paths to employment generation had been investigated by past and current governments: wage reductions and training schemes.

"Wage reductions are politically no more popular than tax increases, and they tend to generate poverty (as classified by Henderson) unless they are accompanied by wage supplements, which defeats the purpose of reducing government expenditure," the researchers said.

"Training schemes may help to overcome unemployment among the unskilled, but are of little help if the underlying problem is a shortage of jobs."

BY BRENDA HARKNESS

Power art

You could be forgiven for thinking that a power station and a sculptor had little in common.

But the Loy Yang power station in Gippsland has forged a rare link with the arts world. It has just appointed Monash University sculptor Clive Murray-White as company artist.

Last year, the power company decided to apply for an Australia Council grant with the unusual idea of having its own artist-in-residence.

The grant approval of \$30,000 and the subsequent appointment of Murray-White is the first of its kind in Australia, and all parties involved agree the initiative is an important one.

Loy Yang has been attempting to encourage stronger links between the corporate sector and the arts community for several years. The company even conducted a local survey, which found that the Latrobe Valley community considered arts and culture an important priority for corporate sponsorship.

According to Murray-White, who has lived in Gippsland for the past 10 years, the appointment reflects the changing role of big corporations in a local community.

By providing the company with a cultural dimension, Loy Yang can express how it sees itself within that community.

"Some people have stereotypical ideas about what a company like Loy Yang thinks, needs and wants. But Loy Yang is genuinely trying to do the best it can because, after all, the people who work there live in the district too. An important component of the position involves a genuine desire to give something back to the community."

And by providing the company with a cultural dimension, he says, Loy Yang can also express how it sees itself within that community.

But what does an artist do in a power station?



Photo: Angela Lynkushka

Murray-White is yet to finalise specific projects, but the least likely scenario will be a series of sculptures around the company grounds. The relationship between artist and power station, he says, will be much more intimate, sometimes focusing purely on an exchange of ideas.

He will work directly with the Loy Yang workforce – a learning experience for both parties.

"While artists and engineers both need problem-solving abilities, they have different approaches. Interaction with the Loy Yang workforce may bring about a more diverse way of doing things."

Murray-White is certain he, too, will gain inspiration and ideas. One area he is interested in is how companies can take cultural differences into account in their business relations with international companies.

"All too often the gifts Australian companies give are simply 'nice' gifts chosen from a catalogue, without any reference to a corporate context or national culture."

"While mining coal for power production, Loy Yang has uncovered some interesting materials that may be able to be sculpted or crafted for more appropriate corporate gifts."

Murray-White's own successful mining efforts – albeit on a smaller scale using a four-wheel drive, trailer, winch and crow bar – have allowed the artist to carve and construct most of his works from local marble and stone. He has also reaped conceptual rewards.

"Much of my current work has developed from a concept based on the way the Greeks or American Indians designated particular constellations for their gods."

"Earlier cultures believed certain stones and how they were placed was evidence of where a god had come to earth."

"I look for inspiration in the landscape to give me ideas about what these 'gods' could have represented for an ancient discoverer."

"All too often the gifts Australian companies give are simply 'nice' gifts chosen from a catalogue, without any reference to a corporate context or national culture."

He has given each star in the Southern Cross a spiritual identity related to Australia's well-being, and is creating a series of sculptures to represent this.

Murray-White will remain head of sculpture at the Gippsland School of Art during his two-year appointment at Loy Yang.

BY JULIET RYAN



'Lomkirie', marble sculpture by Clive Murray-White.

One in a trillion

Finding new mineral deposits, fabricating optical fibres, rehabilitating Australia's waterways, and understanding basic geology and the structure of materials are just some of the possible applications for a new analytical tool in Monash's Earth Sciences department.

The \$1 million-plus facility is housed in a purpose-built 'clean room' more in keeping with a hospital ward than a university laboratory.

It is commonly referred to by a bunch of letters – an ICP-MS (inductively coupled plasma-mass spectrometer), which uses LA (laser ablation) and provides HR (high resolution). But what it amounts to is a compact machine that can measure trace elements to better than one part in a trillion.

And the Monash version, a Finnigan Mat 'Element', is one of the latest in the world. Improvements in design and technology allow it to pick out elements not possible in the past using similar techniques.

Some of these elements – including arsenic, sulphur, phosphorous, potassium, iron and aluminium – are of great environmental importance. Phosphorous, for instance, is suspected of being a major cause of toxic algae outbreaks.

Movements of these elements can now be tracked through Australia's waterways and along its shorelines. The Water Studies Centre at Monash is one of two centres in the world with expertise in using ICP-MS to study the movements of fine suspended

particles and their associated trace elements and contaminants.

The Australian Research Council has funded nearly half of the new facility's equipment costs, with Monash contributing \$200,000 and providing the services of laboratory director Dr David Lambert, a full-time technical officer in geochemistry.

Although managed by Monash, the ICP-MS is part of the Trace Analysis Laboratory operated by the Victorian Institute of Earth and Planetary Sciences, a joint research venture of Melbourne, Monash and La Trobe universities.

Three other organisations – BHP Minerals International, the CSIRO and the Telstra Research Laboratory – also have an interest in the facility and have projects in mind, believing ICP-MS could offer enormous commercial benefits.

For instance, knowing which trace elements are found in conjunction with particular minerals can be very useful in mineral exploration.

Trace element patterns generally reflect the elements in the surrounding environment, including those in the rocks below.

This means trace element patterns are unique to particular areas. The patterns can therefore be used to fingerprint minerals, to determine where they have come from and to distinguish between different deposits.

More importantly, certain elements or patterns of elements can be used as indicators to the presence of valued minerals, and this has interested BHP Minerals.

The Telstra Research Laboratory is developing novel optical fibres fabricated from special glasses.

The precursor chemicals to make these glasses must be extraordinarily pure, containing less than a few parts per million of certain very light-absorbing trace elements. This level of purity can be guaranteed only by checking with an instrument as sensitive as the ICP-MS.

One of the advantages of the new instrument is that it needs to analyse only minute amounts of material – and that material can be provided in solid or liquid form.

If the material is liquid, it must be formed into a cloud of tiny droplets before it is injected into the machine. Solid material, however, is blasted with a fine ultraviolet laser which vaporises a tiny pit as small as 10 millionth of a metre in diameter, although much bigger amounts of material can be taken if necessary.

The laser can be programmed precisely to blast the sample material at determined points, or in a specific pattern. Vaporised or laser-ablated material is swept up in a stream of argon gas and injected into the machine.

The argon gas stream then passes through an electric coil, which beams radio waves of high intensity at the sample vapour or ablated solid.

The effect is like a microwave oven, only more so. The samples are rapidly heated to more than 8000°C. At this heat, a plasma is formed – molecules are broken apart into their constituent atoms, and the atoms themselves are stripped of electrons and become positively charged particles.

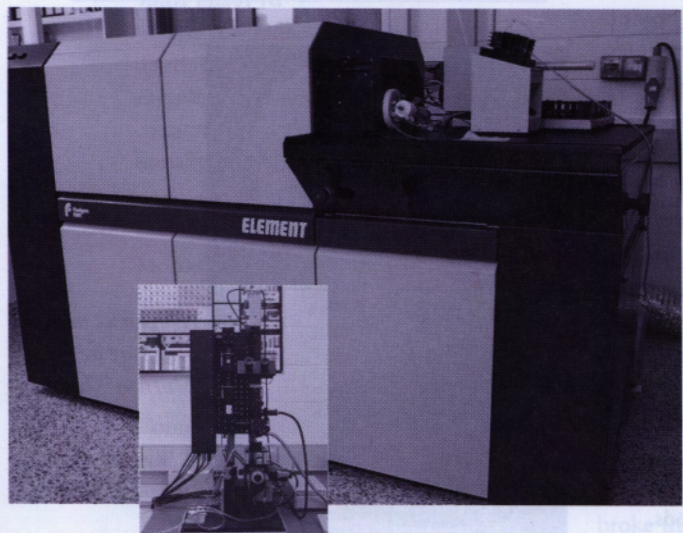
These positively charged particles are then accelerated by attraction to a negatively charged plate, and pass through a series of focusing slits into a mass spectrometer.

Here, the charged particles are subjected to a high intensity magnetic field, which bends their path from a straight line into a curve. The tightness of the curve is dependent on the mass of the particle and its charge, so particles of differing mass and charge take different paths, and begin to sort themselves out.

In the Monash instrument, the particles then enter a second sorting area, an electronic device which discriminates between particles according to how energetic they are. The result of the whole process is the original sample split into all its constituent elements – and even the trace elements can be detected.

For further information on the new facility, contact Dr Lambert on 9905 5767, or email: dlambert@earth.monash.edu.au

By TIM THWAITES



Eastern eye Western light*Photographs by Yean Leng Lim**Published by Portside Editions in conjunction with the artist*

RRP \$45



Eastern eye Western light is a collection of more than 100 colour images, accompanied by poetic and religious text, which showcases the diverse talents of Associate Professor Yean Leng Lim.

Chinese-born Dr Lim studied fine arts in Singapore before pursuing medical studies at Monash and Harvard universities.

Today the cardiologist/photographer is an Australian citizen (indeed he was named a Member of the Order of Australia this year), and his art reflects the varied aspects of his personal and professional life, according to painter Albert Tucker.

"Yean Lim is poised in a delicate balance between East and West," Tucker writes in the book's foreword. "This combination

gives him an exceptional degree of emotional and intellectual precision...."

"Many of his images can be read in two ways – as calligraphic abstractions...or as exquisite nature poetry and direct impressionist images.

"His surgical skills and discipline show in his micro-second responses to bird life and the evocation of moods created by transitory effects of light."

Dr Lim is an honorary associate professor in Monash's Medicine faculty and in 1993 he received one of the university's inaugural distinguished alumni awards.

Opening the Classroom Door: Teacher Researcher Learner*By John Loughran and Jeff Northfield**Published by Falmer Press*

RRP \$32.95

Two Monash Education academics have provided an insight into the daily triumphs and frustrations of teachers, with their book *Opening the Classroom Door*.

Professor Jeff Northfield and Dr John Loughran have documented Professor Northfield's daily experiences during his 1993 return to the classroom.

Professor Northfield took only his second break from a Monash academic career spanning more than 20 years to refresh his understanding of teaching practice.

He kept a journal as he spent a year teaching a Year 7 class in a Melbourne

secondary school, and his colleague Dr Loughran "saw" a story in Professor Northfield's recorded thoughts and observations.

The result is a thought-provoking account of the classroom through the eyes of the teacher, the learner and the researcher, which will interest anybody involved in education.

Writing the Australian Child: Texts and contexts in fictions for children*Edited by Clare Bradford**Published by University of Western Australia Press*

RRP \$19.95

Children's books are a major component of Australian publishing and are widely studied in our universities, but *Writing the Australian Child* is one of the few texts available that draws explicitly on contemporary theories to discuss children's literature.

And it is one of an even smaller collection that concentrates on Australian works.

Its nine contributors, including Monash University's Dr Heather Scutter (see *Montage* page 3), discuss texts ranging from picture books to adolescent fiction and film, from the 19th century to the present day.

Their accessible, lively essays explore children's fictions – and the ideologies they construct – in relation to the cultural contexts in which they are produced and read.

All books in this column can be purchased in the Monash University Bookshop, Clayton campus – Telephone (03) 9905 3111.

Wik – no cause for extinguishment

From Montage 16

exclusive rights. Travelling stockmen, for example, were entitled to graze their stock over parts of the pastoral holdings.

These pastoral leases reserved so many rights of entry that it could not be said that the leaseholder was given the right to exclusive possession.

The Wik decision maintains the momentum of the progress towards vindicating Aboriginal land rights. The vast open-range grazing lands of Australia are not closed to native title claims.

The decision has dismayed many, including pastoralists, miners and state governments, who had assumed the contrary. The Native Title Act will need to be amended to take account of the new understanding.

The government has to face the key problem that some pastoral leases granted

over native title land since 1 January 1994 may be invalid. The Wik decision made it impossible to grant pastoral leases over native title land, except for regrants and renewals that honour old commitments.

Just as in the case of freehold, the Crown has to acquire the land on just terms before it can lease it to pastoralists. The government must negotiate with native title holders if it proposes to compulsorily acquire their land or grant a mining right.

Before Wik, such procedures may have been overlooked in the mistaken belief that native title was extinct in land that had previously been under pastoral lease.

More difficult to resolve will be the many issues regarding the rights of co-existing native title holders and pastoral lease-holders. The High Court has said that leaseholders' rights take precedence where

there is inconsistency, but offered no test for determining or judging such a situation.

The problems of co-existence of interests are not unusual – they arise whenever more than one party has an interest in a piece of land.

Strata-title holders, for example, are often in dispute about the common property, but no one would suggest abolishing strata titles on that account.

There is certainly no justification for legislating to extinguish native title on land that has been under pastoral lease, as some have urged.

Just as the Commonwealth Government legislated to make Mabo workable, so should it amend the Native Title Act to regulate the co-existence of native title and pastoral leases.

Wik – no cause for extinguishment

As the Federal Government responds to the High Court's Wik decision, Monash Law lecturer Pam O'Connor cuts through the political hype and offers a more rational analysis of the judgement and its implications.

Some of the reaction to the Wik decision suggests a widespread disbelief that native title rights can co-exist with pastoral activities.

However, this concept is hardly revolutionary in property law – every lawyer knows that more than one person may have an interest in the same piece of land.

It's important to point out that ordinary leases do extinguish native title – a largely-ignored aspect of the High Court's finding. The leases considered in the Wik case, though, were not leases in the ordinary sense.

In any case, any reaction to the Wik decision should not lose sight of the original intention of Australia's native title legislation – to correct an injustice that is unique to our history of white settlement.

Australia was the last of the former British settler colonies to recognise that indigenous people had legal rights to land arising from their prior occupation.

A distinctive feature of our history was that the dispossession of the native peoples was achieved without treaties between the government and the Aborigines. The absence of treaties was used to explain why Aborigines were denied the land rights accorded by law to native peoples in the US, Canada and New Zealand.

There have been three milestones in rectifying this injustice. The first was the 1992 Mabo decision, where the High Court declared that Australian common law recognises a form of native title to land. Native title exists where the indigenous people have maintained their connection with the land and the title has not been extinguished by legislation or government action.

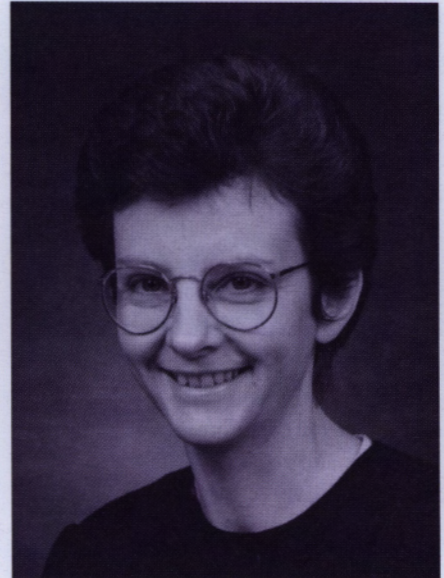
The second milestone was the enactment of the 1993 Native Title Act. The Act complemented the Mabo decision by seeking to make the concept of native title workable. It set up a claims process for native title rights, and regulated future government acts affecting native land.

The third crucial event was the High Court's recent decision in *The Wik Peoples v Queensland*. The court held, by majority, that the grant by the Queensland Government of pastoral leases over native title land did not give the lease-holders a right of exclusive possession and did not extinguish native title.

Pastoral leases cover some 40 per cent of Australia's land area, and in some states as much as 80 to 90 per cent. Pastoral leaseholdings include large tracts of land in remote locations – the areas where Aboriginal peoples are most likely to have retained their traditional connection with the land.

While there are cases where Aborigines have been driven off the land by leaseholders, the history of the pastoral industry has generally been one of co-existence of Aboriginal people and graziers. Many pastoral leases covered marginal lands that were only suitable for open-range grazing, and pastoralists depended upon the local Aboriginal community for labour.

One of the leasehold properties considered in the Wik case covered an area of 2830 sq kms, with a stock-carrying capacity of one beast per 60 ha. The pastoralists had built no dams, fencing or dwellings, and seasonal workers were employed for mustering in the dry season. The Wik peoples could carry on their traditional activities



with minimal contact with the lease-holders and their employees.

When the Wik peoples sought to establish their native title rights, they were met with the argument that their rights had been automatically extinguished when the land was first leased to pastoralists.

By the usual definition, a lease confers on the lease-holder a right to exclude everyone else from the land. So, it was argued, the grant of a right of exclusive possession was inconsistent with the existence of native title. And the High Court had said in Mabo that native title was extinguished by the grant of an inconsistent interest.

If the High Court had accepted the argument that the grant of a pastoral lease necessarily extinguished native title, any lands that had ever been under pastoral lease would have been out of reach of native title claims – Mabo and the Native Title Act would have been little more than gestures towards reconciliation.

However, a victory for the Wik peoples on this point would consolidate the gains already won.

The High Court accepted that an ordinary lease was inconsistent with native title, and therefore extinguished it. But, by a majority of four to three, the court decided that the leases in the Wik case did not have that effect because they were not true leases.

Under Queensland law, the decades-old pastoral leases under scrutiny in the Wik case were never intended to give the lessees

Continued on Montage 15