

MONTAGE

NEWS AND VIEWS FROM MONASH UNIVERSITY

Monash celebrates 40 years of television

Monash University's National Centre for Australian Studies recently celebrated 40 years of television broadcasting in Australia with a national conference that looked forward as much as it looked back.

Ms Joanne Jacobs, co-organiser of the 'Forty Years of Television' conference, believes the role of TV in shaping an Australian national identity will be challenged by future developments in television delivery.

While the past 40 years of Australian television have seen soapies, mini-series and quiz shows come and go, the next 10 years could see 'the box' replaced completely by the Internet.

According to Ms Jacobs, from the Centre for Australian Studies, the possibilities for broadcasting via the Internet, or 'netcasting', are limitless with "the only restraints hinging on technology's capabilities".

She said it was a pertinent and historically significant time to be taking a trip down TV's memory lane, as broadcasting would be vastly different in the future.

"Recent nostalgia surrounding the history of television has focused largely on programming," she said. "This is because

up until about two years ago, the broadcasting system has remained virtually unchanged. But by the time Australian television turns 50, broadcasting will have changed dramatically."

She predicted that netcasting would overtake pay TV in popularity within the next 10 years, adding a whole new dimension to Australians' viewing habits.

"Television is already becoming an information delivery tool," Ms Jacobs said. "And we are certainly moving further and further towards an information age."

"At this stage, the basic PC is not developed enough to receive the number of frames per second that a television can receive, but the possibilities are endless."

And Ms Jacobs believes that as netcasting becomes more widespread, television viewers will gain an increasingly global perspective.

"But how are we going to maintain what Kerry Stokes would call 'cultural sovereignty'?"

"Are we going to be bombarded by American and European material and how relevant will the material be for Australian audiences? Are we going to lose the concept of 'Australian' TV? Will television just



become part of a global information system, and is that such a bad thing?"

The significance of the Internet in providing access to vast amounts of information also raises the question of censorship and the blocking of unacceptable material.

Ms Jacobs predicted that the issues debated in the 1950s about the cultural significance of television to the country were likely to be raised again – this time with a global focus.

A basic infrastructure to deal with the merging of two communication mediums –

Continued on Montage 2



Hold Me Back

There are some things we can all get excited about – Halley's Comet, world peace, chocolate. And then there are those things only some of us find riveting ...

When the Department of Obstetrics and Gynaecology announce 'Coming Attractions' in their newsletter as seminars on 'Instrumental vaginal delivery: Blades versus vacuum' and 'Trainees – do you have better ideas than the consultants? Clinical dilemmas in the contraceptive counselling clinic', one can only speculate about who is having the best time.

Do the crime, pay the fine

The Australian has written that participants in a national multimedia competition could win cash, a Toshiba laptop, or time at Monash. We wonder how many others see their studying as a sentence to be served?

Spy vs spy

The normal good humour of some students became a little frayed during orientation week. Maybe it was the rain, maybe it was to be expected. The Liberal party and ALP clubs just couldn't seem to stay away from each other, to the extent that organisers from Clubs and Societies had to physically intervene. This would probably all have come to pass fairly amicably, except for the Socialists who stood on the sidelines urging each other to "have a go, ya mug!"

NOW & THEN

25 Years Ago



Most photographed graduate at this year's autumn degree-conferring season was lovely 21-year-old Lucy Kiraly. A professional model, Lucy graduated Bachelor of Arts on May 19 – and attracted the attention of all with her yellow chamois hot-pants suit.

15 Years Ago

Where were YOU when the Prince came to Monash?

The visit of Prince Charles to Monash last month proved too much for the media – and, for many a battle-hardened Monash veteran, it was just like the old days ...

"Prince Charles was jostled and threatened as more than 1000 mindless students screamed obscenities" (*Sunday Observer*).

"He (the Prince) was visibly shaken as a wall of police rushed him through the chanting, screaming mob" (*The Australian*).

Lot's Wife hit back hard: "One thing seems certain ... if the press cannot control itself and refrain from its animalistic acts of pushing, shoving and bastardising the news, then

they will not be allowed back on this campus again, even if MAS has to pass a motion to that effect."

5 Years Ago

A state-of-the-art computer network, now being installed at Monash, will bring the campuses closer together, according to the Director of the Computer Centre, Mr Peter Annal.

The Ethernet network will allow for fast information transfer in an expanded network, giving access to institutions around the world.

"Ethernet is a great technological step forward for Monash. It allows a link with the computer down the hall, across the campus, on the next campus, or even across the continents. Files which were originally sent through the regular mail will now be delivered electronically," said Mr Annal.

This Month Last Year

Monash forensic psychiatrist Professor Paul Mullen has been appointed to run Victoria's new Institute for Forensic Psychiatry.

The State Government released preliminary plans for the \$25 million development in April and expects the institute to be operating by late 1997.

Monash celebrates 40 years of television

From Montage 1

telecommunications and broadcasting – is another area that needs to be addressed.

"Because netcasting is administered through a telecommunications infrastructure, it is more accurately classified as a telecommunications service than a broadcasting service," Ms Jacobs explained.

"But problems arise in defining a regulatory framework that would oversee the delivery of Internet broadcasting. Currently, the Australian Broadcasting Authority regulates broadcasting, and Austel oversees telecommunications delivery."

She believed that once the hardware was available, netcasting would be significantly cheaper than pay TV.

Ms Jacobs concluded that it was important to take into account the past when assessing the future role of television in Australia. She said this had been done at the 'Forty Years of Television' conference, the proceedings of which would be available shortly on the Internet.

BY JULIET RYAN

MONTAGE

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Staff writers: Georgie Allen, Juliet Ryan, Brenda Harkness, Gary Spink.

Editor: Georgie Allen, Public Affairs Office,

phone (03) 9905 5333, fax (03) 9905 2097.

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Pets at the heart of the matter

A Monash study has proven what many pet owners would claim to know already – that having a pet is good for your heart.

Two major studies conducted by Professor Warwick Anderson, chair of Monash University's Department of Physiology, have found that owners of pets enjoy lower levels of cholesterol and blood pressure than non-owners.

Pet owners also visit the doctor less often and take less medication for heart disease.

Professor Anderson said the findings were also good news for government health budgets. He estimated that pet ownership in Australia saved taxpayers up to \$1.5 billion a year through reduced Medicare and pharmaceutical bills.

The studies found that it was not only dogs, the most common family pet in Australia, that led to reduced blood pressure and cholesterol levels.

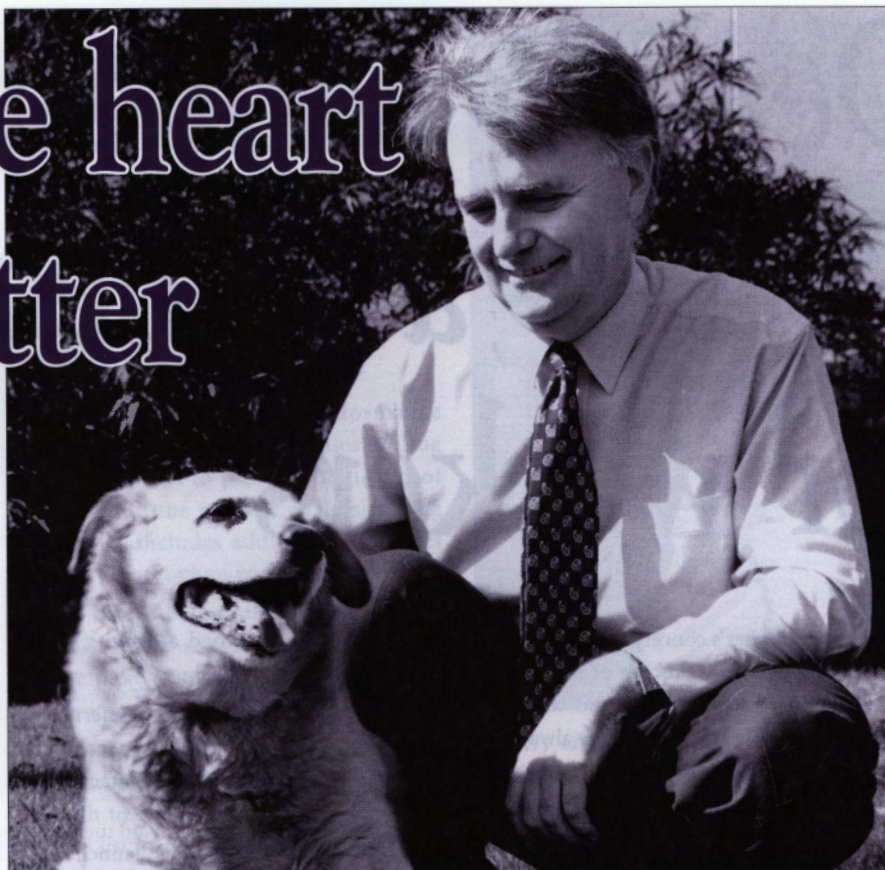
They differentiated between dog ownership and "non-dog" pet ownership to determine whether heart problems were reduced simply through the exercise gained by walking a dog.

While cardiovascular disease accounts for about 50 per cent of deaths in Australia, little is known about the causes of the disease. What is known is that there are a number of high-risk factors such as high blood pressure and cholesterol.

But Professor Anderson said it did not follow that if a patient with high blood pressure bought a pet, his blood pressure would necessarily be reduced.

"There are many factors we still do not understand. Maybe a particular genetic make-up links low blood pressure and a tendency that leads people to own a pet."

An interesting finding of the initial study of 6000 people was that while pet ownership seemed to benefit men aged between 20 and 60 years, it only seemed to benefit women over the age of 40.



Professor Warwick Anderson owns two cats and a dog called Charlie.

Although reluctant to draw any firm 'cause-and-effect' conclusions, Professor Anderson said these findings may parallel a study which found that single men had higher rates of heart disease than married men.

"Maybe there is something about being around other living things that is good for our overall health."

Overseas studies have supported Professor Anderson's findings. Researchers in America recently found that heart attack patients without dogs were seven times more likely to die in the year after their attack than patients with dogs.

Another study found a lower incidence of minor illnesses in people during the first months after acquiring a pet.

Professor Anderson plans to conduct follow-up studies to learn more about the physiological basis for the findings.

In an initial trial, people will be asked to undertake a mildly stressful exam alone in a room and then retake it with a dog lying on the ground next to them.

Professor Anderson, who owns a dog and a couple of cats, believes that pets have received a lot of negative media recently, and that the advantages of pet ownership have been largely forgotten.

"Newspapers trumpet about how dog faeces pollute city streams, rivers and footpaths, cats get bad press because their predatory nature leads them to kill native birds, and some people train dogs to attack people, with tragic consequences."

Although high by international standards, pet ownership in Australia is falling. Ownership of cats, for example, has dropped by about 10 per cent in the last seven years.

Professor Anderson said the problems highlighted in the press could be overcome by responsible ownership of pets and that it was important to remember the advantages of pet ownership when developing public policy.

In an article published in the April issue of *Medical Journal of Australia*, he called on municipal authorities, government bodies and the veterinary profession to be more supportive of pet ownership.

"There could be education programs in responsible pet ownership and the veterinary profession might develop ways of supporting older owners of pets by visiting clients at home, making arrangements for the care of pets after the owner's death or providing a comprehensive care package for pets in nursing homes."

BY GEORGIE ALLEN

Dealing with child abuse – a guide for workers

The teacher's concerns began the third week that 'Jake', an accomplished sports student, refused to attend sports class. The 10-year-old boy always had a reason – either he had forgotten his equipment, was feeling unwell or had hurt himself.

On one occasion the teacher took the time to sit with Jake while watching the others play. After a few minutes, Jake told his teacher he hadn't been able to participate because the sports uniform would not cover the scars from his father's most recent beating. He lifted the shirt to display two red welts across his back.

Jake became extremely agitated when the teacher told him he would have to tell the school principal about the abuse (as he was required by law to do).

Child Abuse and Child Protection: A Guide for Health, Education and Welfare Workers was written by Monash social worker Dr Chris Goddard to help people working with young children, such as Jake, identify and deal with child abuse. Advice on making referrals, understanding reporting laws, working with families and appearing in court is provided.

One of the chapters, 'When to suspect child abuse and neglect', was co-authored by Dr Lydia Senyia, a general practitioner who has worked extensively on child abuse cases in Australia.

Another case outlined in the book is of a small country-town doctor concerned about a four-month-old girl who was failing to thrive and who developed unexplained facial bruising.

Problems arose because the father was the local police sergeant who worked closely

with the doctor on road accidents, drink-driving cases and child abuse.

In this instance the doctor referred the child to a paediatrician in a nearby city, who examined the child and contacted protective services.

Dr Goddard said his book, launched this month, was the only text available for practitioners that was based on the Australian legal and welfare systems and considered issues specific to Australia.

Dealing with child abuse in a small, remote town, or in a migrant family that could not rely on extended family support were some of the issues that affected practitioners in Australia.

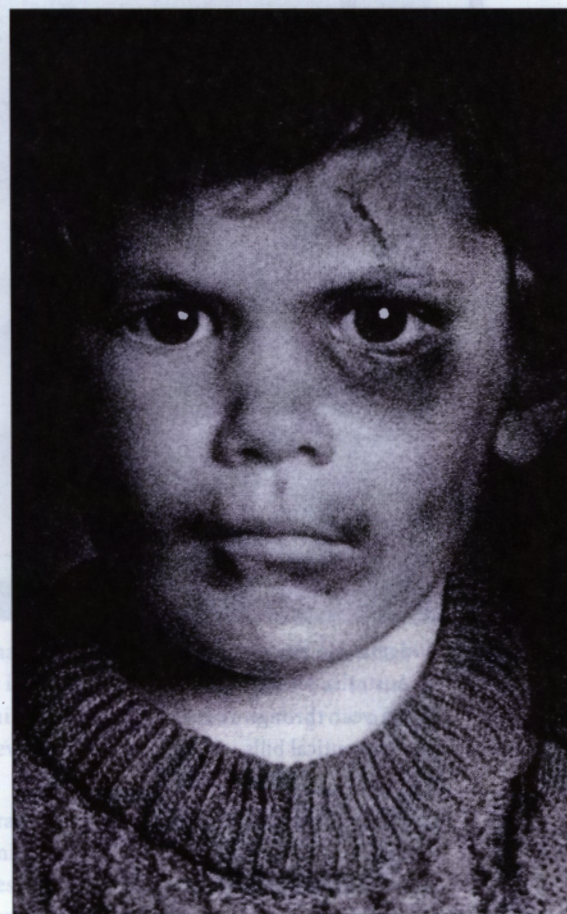
"It is wrong that social workers, nurses and teachers, working in a very complex field, have to rely on an overseas text," he said.

Dr Goddard said the recent introduction of mandatory reporting was one of many extra pressures now facing social and welfare workers. Others included state government funding cuts to maternal and child health services, and greater media scrutiny.

"People who work in these areas are inadequately supported. It's very demanding and isolating work, for which they receive very little thanks," he said.

Dr Goddard said one of the problems with the current system was that it tended to treat all child abuse cases in the same way.

"Child abuse is an umbrella term for very serious attacks like rape and physical assault at one extreme to potentially less serious inactions such as neglect at the other."



He said the current system often allowed "quite serious child abuse cases to continue to prevent the child from being removed from the family".

Instead, services were provided to assist the parents of the abused child. Local social workers and district nurses were encouraged to make regular visits, counselling was provided and teachers and doctors were encouraged to closely monitor the cases.

"The primary goal is family preservation. Children are only removed from the home as a last resort."

Dr Goddard believed child abuse should not be considered an isolated problem. It often stemmed from parents who were themselves abused as children, or were being abused by their partner, as well as from marital breakdowns and other social pressures. And it often led to youth homelessness, drug problems and suicide.

BY GEORGIE ALLEN

Breaking the cycle

Brenda Harkness reports on a new approach to prison management that has led to a dramatic reduction in the cost of housing prisoners as well as a significant decrease in repeat offending.

The cost of locking up offenders in Victoria has dropped by about 35 per cent in the past five years since innovative new management styles were introduced in the prison system, according to a Monash expert.

Australian Bureau of Statistics figures show the average daily cost of keeping prisoners has fallen from about \$180 per head in 1991 to around \$132 in the last financial year.

Senior lecturer at Monash's Centre for Police and Justice Studies Dr Barry Ellem said the move away from the old model of "warehousing" criminals to a radical new case management approach was a key factor behind the dramatic cost reduction.

"The figures show that nearly half the drop in average cost per prisoner occurred within the past financial year, which is when most prisons made the transition or were in the process of changing over to the new corrections policy," Dr Ellem said.

At the same time, official figures show that the number of violent incidents within prisons also fell by about a third in Victorian prisons applying the new style of management.

According to Dr Ellem, the new model's success hinged on its two-pronged approach: placing prisoners into small groups, known as unit management, and assigning individual case managers to prisoners within those units.

"Under this radical departure from the old 'turn-key' style of controlling offenders, there is now more positive interaction between prisoners and prison officers," Dr Ellem said.

"This reduces the environment of friction and hostility and forces prisoners to use their time more productively."

By defusing the traditional 'pressure-cooker' tension that builds up within pris-

ons between staff and inmates, there was a greater focus on rehabilitation, Dr Ellem said. "The aim is to concentrate on breaking the cycle of offending behaviour both within the prison system and after release."

In contrast to the old system, Dr Ellem said, prisoners had to be more accountable while serving their sentences and take greater responsibility for their lives. Counselling and educational programs, including secondary and tertiary study, social skills and professional development, were a key part of the new approach, in a bid to prepare offenders for release and reduce the risk of future offending.

But despite some claims that prison life had been made easier in Victoria's modernised prison system, Dr Ellem said that in some ways it was harder to 'do time' under the new style of management.

"Under this new system, offenders are provided with incentives to be productive while doing time, whereas the old 'smashing rocks' mentality simply encouraged dependency on the system and bred contempt among the prisoners."

Dr Ellem said the drop in per-head prisoner costs, which include basic overheads such as staffing, catering and clothing, was achieved through better use and allocation of prison resources. These included the breakup of large divisions into units; changing out-of-cell hours to better utilise industry, education and program initiatives; multiskilling of staff; and contracting out certain non-core services.

However, he said it was difficult to calculate the long-term social and economic benefits of stopping the 'revolving door syndrome' that has characterised the traditional corrections system.

"In terms of rehabilitation, the results cannot be quantified, because the new management model has only been

effectively operating for about two years within the five-year conversion period," Dr Ellem said.

"But even at this early stage, there are positive indications that the new, proactive approach to prisoner management is helping break the cycle of offending behaviour."

"For instance, there has been a reduction in the recidivism rate, and it also appears that for those who were exposed to the new model and who have reoffended, the types of crimes have not been as serious as before."

Other benefits included a drop in the Workcare levy due to less stress, and fewer injury-related claims by prison officers.

Dr Ellem said recent developments within Victorian prisons had placed the state at the forefront of prison management both nationally and overseas.

The changing face of prison management will be detailed at a conference at Monash's Centre for Police and Justice Studies on 17 May. Co-hosted by Monash and the Correctional Services Division, Department of Justice, the conference will be opened by the Victorian Minister for Police, Emergency Services and Corrections, Mr Bill McGrath.



Fashion – a cultural accessory

A Monash academic believes there's more to fashion than designer clothes and swanky cars. Brenda Harkness reports.

Making sense of fashion is a lot more complicated than just forecasting seasonal adjustments to hemlines, according to a new book.

Monash sociologist Dr Joanne Finkelstein says fashion is so riddled with ambiguities that the statement made by wearing an item of clothing or adopting a fashionable concept should not be taken too seriously.

"Fashion is full of anomalies – so what you are reading into it may not be what is there at all," said Dr Finkelstein, whose studies into the forces and trends that shape fashion form the basis of her new book, *After a Fashion*.

"Jeans, for instance, provide an interesting example of the ambiguities that occur when multiple fashion statements are mapped onto pieces of clothing," Dr Finkelstein explained.

She said blue denim jeans, traditionally associated with masculinity and images of rebellion, had been guaranteed widespread acceptance with the modern marketing machine having designed them around gender and social class lines.

"Jeans were once identified with youth, but nowadays nearly everyone, including former US president Ronald Reagan, wears them," Dr Finkelstein said. "Today, people can buy jeans and use them to express whatever they want. The nice irony is that we still think we're being an individual when we wear jeans."



The economic and social forces influencing fashion have captured the research imaginations of social theorists such as Dr Finkelstein, mostly for the rich clues they provide about modern cultural practices.

"Fashion serves a lot of purposes. It is a highly developed economic activity, an aesthetic form, like sculpture, a language and a form of urban experience," she said.

Fashion also reflected lifestyle choices, concepts and trends, or even food fads, such as those embraced by New Age and cafe society devotees.

According to Dr Finkelstein, anything that had value or the potential to become a sought-after commodity could become fashionable. But once these goods or ideas became easily accessible to shoppers, they often lost their exclusivity and elevated status.

She said access to knowledge about what constituted 'style' was also of value to followers of fashion.

This point has been aptly demonstrated in the popular British television show 'Absolutely Fabulous'. According to Dr Finkelstein, the program highlights the irony and absurdity of commodifying every aspect of people's lives, from what to wear (Lacroix), where to shop (Harvey Nichols), what to drink (Bollinger) and what to say ("sweetie").

Dr Finkelstein believes that contrary to popular perception, there is nothing either new or novel about fashion.

In fact, she says, the opposite may be closer to the truth – that fashion in all its forms is continually recycled, with the help of clever marketing strategies, to make fashion followers believe that what they are wearing is new and innovative.

For instance, the concept of femininity could be embodied in fashion as a frilly dress one season and as an Armani business suit the next. "There are different types of fashions, but I would argue that they haven't undermined the gendering of our society."

Dr Finkelstein said the study of fashion was a study of everyday life. "And everyday life is one of the most potent sources of information that we have, as it represents the history of the present."

She said the study of current events was one of the most challenging academic exercises as it hinged on developing arguments that could be immediately discussed and contested.

After a Fashion (Melbourne University Press, RRP \$14.95) is part of the *Interpretations* series, which discusses the latest theories and critical practices in the humanities and social sciences.



As the camera pans and swoops, clumps of huge plants germinate, grow and burst into flower. Large ant-like creatures roam across the screen. A living world evolves before your eyes, animated in startling clarity.

The 90-second video is an excerpt from a work which took first prize in an international competition for the application of multimedia techniques.

The competition, which attracted about a thousand entries, was organised by the American CD-ROM company Voyager and Interval Research, the corporation now headed by Microsoft co-founder Paul Allen. And the winner was Mr Jon McCormack, a lecturer in Monash's Department of Computer Science.

He has developed software for evolving and displaying three-dimensional artificial life. Using his program, you can construct artificial organisms which have never existed and make them interact with each other in logical ways. "It's an addition to the mind, an enhancement to the creative thought process. I wanted to use the power of the computer to generate animation artificially."

In his award-winning multimedia work, Mr McCormack used his software to produce a laser disk which allows users to call up, interact with and learn about imaginary creatures. Last year, he exhibited the work at the Ian Potter Gallery at the University of Melbourne – the gallery's most successful event for the year. Later this year, it will visit Melbourne's Scienceworks Museum.

The software was created over three years with the support of \$150,000 from the Australian Film Commission. It formalises the growth, development, movement and interaction of organisms into a series of rules which are subject to modification by means of 'mutation'.

As organisms develop to maturity, the operator can select those they wish to become the 'parents' or models for the next generation. Through many generations of mutation and selection, weird and wonderful organisms evolve on screen.

At the heart of program is a special language, known as L-systems, devised by Hungarian biologist Aristid Lindenmayer to represent biological development. Each part of an organism and its developmental state is denoted by a letter of the alphabet, with the whole organism represented by a string of letters. Using a set of rules that describes how each part is likely to develop, a growth plan for the organism can be plotted.

A group of researchers at the University of Calgary in Canada have used L-systems to present intricate and realistic pictures of 'virtual' plant growth on computer, and this work is now being used in Australia and New Zealand to develop computer simulations of real agricultural plants to assist research and crop management.

But Mr McCormack has taken things the other way, into a creative world beyond imagination. "The software can develop organisms you couldn't design. With it you can grow trees, flowers, shrubs – a whole forest. Start with a couple of hundred 'seeds' and cultivate them."

The method is also concise and avoids using large amounts of computer memory. All that is required is the L-systems text specifying the starting conditions and the rules for growth and development. "If you understand the language of L-systems, you can create a text of two or three pages (a small part of one standard computer diskette), which can replace thousands of disks of computer graphics," he said.

After three years' work, however, Mr McCormack still has plenty of problems to tackle. For instance, the software makes huge demands on computing resources, and the development of organisms takes a lot of time. Animation for the 90-second video excerpt took three weeks to complete.

And because development is less than instantaneous, there is limited opportunity for the animator, after creating the initial text, to interfere with the way their plan is played out. "The director can choose the camera angles, but the growth and change are procedural."

The Film Commission has awarded Mr McCormack a grant for a new work in which he will try to iron out some of these limitations. "I want to build a unit that operates in real time. This demands very high speed graphic computing," he said. "But the result will be a system which is more interactive, allowing the director to influence its behaviour as it operates."

BY TIM THWAITES

Cleaning up the drainage dollar

*A researcher has teamed up with industry to develop breakthrough drainage technology.
Tim Thwaites reports.*



Cleaning up: Dr Tony Wong has turned a simple idea into multimillion dollar technology.

Less than two years ago, two drainage contractors asked Dr Tony Wong of Monash University's Department of Civil Engineering to assess their idea for a litter trap in stormwater drains.

Today, Paul Blanche and Steve Crompton are the principals of Pollutec Ltd, a multimillion dollar company which is selling the technology worldwide. And Dr Wong is helping coordinate the company's research and development program.

It all stems from a simple, effective method of separating solid waste from water, a method which can be applied widely to trap litter in stormwater drains, vegetable peelings and soil in food processing plants, leaves in swimming pools, or metal shavings in manufacturing plants.

Dr Wong's initial report, submitted in early 1985, indicated that he thought the idea was a winner but needed a technical grounding and improved design. He got the job, and the report subsequently formed part of a successful submission for a research and development grant from the Federal Environment Protection Authority.

After further research, Dr Wong was able to show why the idea worked, allowing the company to lodge a worldwide patent, attract investors and launch a comprehensive program of research and development to design and test applications of the technology.

"The people from Pollutec knew how to make the thing work," Dr Wong said. "We provided a technical explanation of the mechanism involved so that it could be designed to perform better."

The separator's greatest asset is not just that it is efficient, but that it remains so. It is self-cleaning and easy to maintain, thus avoiding the problem which dogs most other competing technologies on the market.

Studies of tagged litter have demonstrated that about 95 per cent of all the litter polluting Port Phillip Bay enters from Melbourne's stormwater system. The standard method of controlling this destructive flow of rubbish is to insert grids or mechanical traps across stormwater outfalls. Unfortunately, these simple traps rapidly become clogged and overflow. And they are costly to clean and maintain.

After years of observation of these traps, and of the way water flows in stormwater drains, Mr Crompton and Mr Blanche came up with a new approach. They built a

separator which sits to one side of the stormwater system. A channel deflects the flow from the stormwater into a concrete basin, inside of which sits a cylindrical metal basket with screen sides perforated like a cheese grater. The holes are set back obliquely so that the screen presents a smooth opaque surface to the oncoming flow. Water can make a U-turn, however, and pass through the holes.

As stormwater is diverted to enter the basket, it swirls around the screen in a circular fashion. Litter is prevented from sticking to the screen by being continually scoured and moved on by the flow behind. The velocity of the water flow lessens towards the centre of the basin. This tends to push floating solids to the middle while the heavier solids sink as they are kept in continuous circular motion. Whatever floats just remains whirling in the centre of the trap. It cannot get out.

Meanwhile, water is pushed through the holes into the outlet section of the basin outside the basket. The outlet guides the water back into the stormwater system, downstream of the trap. Studies at Monash show that, depending on the design and size of the holes, recovery of solid litter down to the size of a match-head can be close to 100 per cent.

The system has other advantages. There are no moving parts, so it is easy to maintain, and it can be emptied mechanically. A truck can back up to the trap, lift out the screen basket and up-end it. As well, the trap is easy to fit to an existing system, and is designed with an overflow or by-pass which prevents spillage at times of flooding.

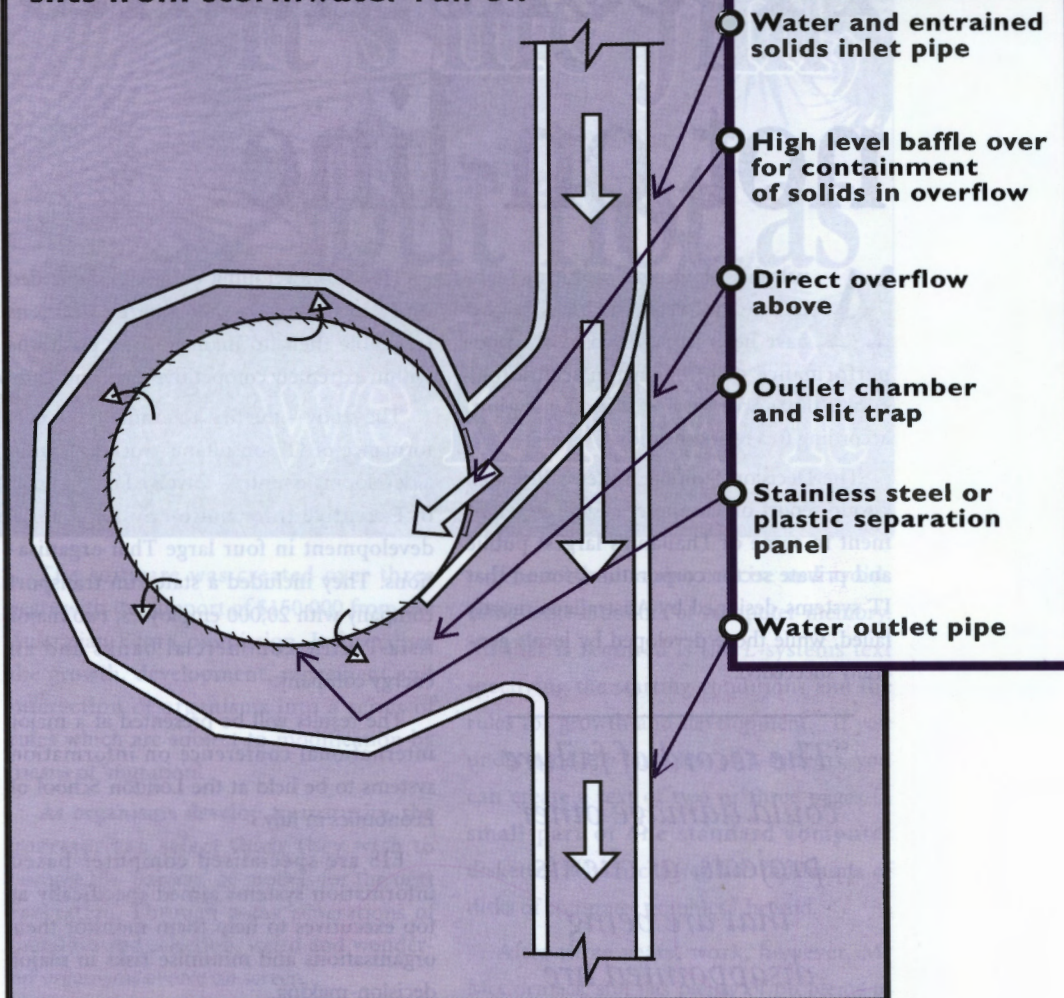
Already, local government and water authorities are fitting Pollutec pollution traps in Melbourne, Sydney and Adelaide. The technology is being sold under licence in New Zealand, and great interest has been shown in Malaysia, Singapore and a host of other countries.

But that is by no means the end of the story, for the technology that can separate litter from stormwater drains can be applied to many other things. For instance, a profitable partnership has been forged with PBR Automotive, manufacturers of brakes.

As traditional lathes and milling machines have been replaced by computer-controlled equivalents, the speed of producing of metal parts can be increased by up to eight times. The heat generated in the process is huge, and the new machines demand large volumes of coolant, while

Continuous Deflective Separation (CDS)

Units for collection of litter, debris and slits from stormwater run off



creating piles of metal shavings or swarf. The coolant and swarf need to be separated, so the coolant can be recycled and the shavings discarded.

Studies at Monash show that recovery of solid litter down to the size of a match-head can be close to 100 per cent.

With the help of Dr Wong, Pollutec was able to produce a separator to do the job better than traditional technology and for about half the cost. What is more, the unit fitted into the manufacturing process so easily, and required so little maintenance, that PBR was able to reorganise its production lines to work in a more efficient man-

ner. The initial order for three separators has now become six, and Mr Blanche says there is now a suggestion of commercial applications in the motor industry worldwide.

In fact, the list of general applications is growing steadily, and it is part of Dr Wong's job to help design, explore and test the possibilities. Interested industries include not only the more obvious, such as waste management and swimming pool maintenance, but also industries such as abattoirs, piggeries and food processing, where soil and food scraps can be recycled into fertiliser and cattle feed.

"Each application demands the right chamber size, screen design and geometry to make it perform in a hydraulically optimal way. We are now just finishing a computer program which will allow engineers to come up with the best design, without transferring to them the intellectual property behind making the system work," Dr Wong said.

IT consultants not on-line

Australia's chances of capturing high-tech service export markets in Asia have been jeopardised by the poor performance of information technology consultants working within the region, according to a Monash study.

The Decision Support Systems Research Group report on computer system development in some of Thailand's largest public and private sector corporations found that IT systems designed by Australians mostly failed, while those developed by locals generally succeeded.

"The record of failure could damage other projects, as clients that are being disappointed are among the most senior executives in Asia."

Professor David Arnott, head of Monash's Department of Information Systems and the research group's leader, said the findings should set alarm bells ringing for Australian consultancies that had their sights fixed on new export markets within the region's fast-growing economies.

"The record of failure could damage other projects, as the clients that are being disappointed are among the most senior executives in Asia," Professor Arnott warned. "These CEOs may be doubting the value of doing business again with Australian companies."

The poor performance record comes at a time when many newly industrialised countries – especially those in South-East Asia – have, according to Professor Arnott, been investing heavily in IT.

He said developing countries depended on IT to make faster and smarter decisions to enable them to manage their positions within extremely competitive environments.

The study – the first to examine the performance of IT consultants working within a developing country – involved case studies of Executive Information Systems (EIS) development in four large Thai organisations. They included a state-run transport company with 20,000 employees, two major Asia-Pacific commercial banks and an energy company.

The results will be presented at a major international conference on information systems to be held at the London School of Economics in July.

EIS are specialised computer-based information systems aimed specifically at top executives to help them monitor their organisations and minimise risks in major decision-making.

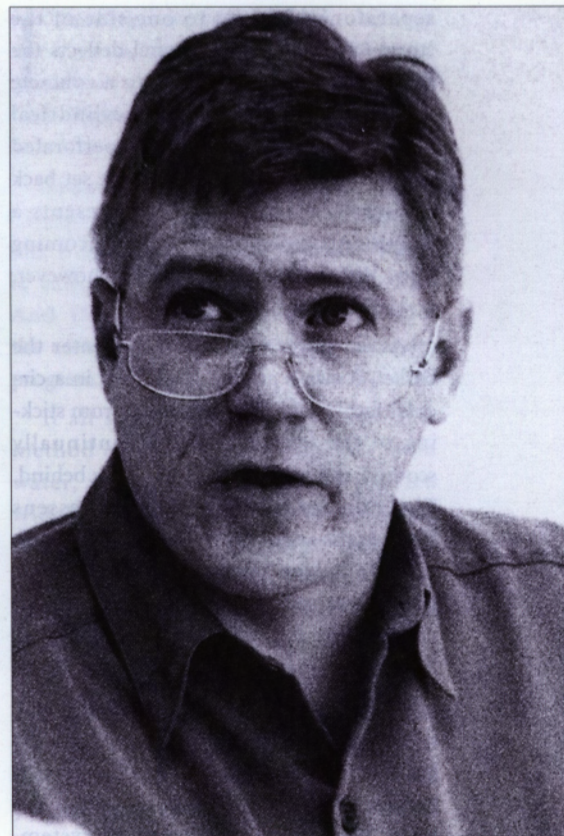
Professor Arnott said the results of the study impacted on other Asian export markets – Thailand, with a population of around 60 million and economic growth of about 8.5 per cent, was representative of many developing countries.

"It follows that many large organisations in developing countries will have implemented or are considering implementing EIS to support their senior executives," he said.

The main problem with using Western consultants, according to Professor Arnott, was that the systems they designed often failed only once they had left the company. "And obviously no-one in the client organisation is able to maintain the system."

Consultants also failed to make allowances for Thai management styles and language requirements.

"The lesson from these findings is that if we are to be successful in services export, we must properly train our own professionals and significantly modify our techniques."



Professor David Arnott: "... if we are to be successful in high-tech services export, we must properly train our own professionals and significantly modify our techniques".

Professor Arnott said language could be one of the major obstacles to EIS development in Thailand.

All EIS software had been developed in the West and was English-based, yet the Monash study showed that it was generally only highly educated Thais who read and understood English, and that virtually all corporate and government data was kept in Thai. "If an EIS vendor wants to promote its product in Thailand, it must modify the software to manage the Thai language," the report said.

Professor Arnott said the transport company's EIS was the only system the study found to be relatively successful.

"This EIS met the state-run enterprise's needs because it factored the impact of a dynamic political environment into the organisation's decision-making system," he said.

"The mix of a volatile political system and greater direct influence on industry means that the environment for EIS development in Thailand is much more uncertain and complex than has been assumed in most EIS research.

"Australian consultants need to understand this before attempting to export their services."

BY BRENDA HARKNESS

Bullying on the education agenda

Statistics revealing high levels of bullying in Victorian schools led Monash researchers to develop a program aimed at reducing aggression and violence. Gary Spink reports.

Victorian schools are being encouraged to reassess their approach to violence and human rights issues with the support of a joint project involving Monash Psychology staff.

The Options Project has initiated activities in 350 Victorian schools since October 1993, aimed at promoting healthy interaction between students and discouraging bullying and aggression.

Bullying became the project's first focus after initial Monash research revealed that nearly half of Australia's middle secondary students are bullied at least once a year, and close to 10 per cent are victims of bullying every week.

Only about half of the bullied students had reported it to teachers or parents, despite evidence that the situation improved for most students who did so.

Options Project research consultant and Monash Psychology senior lecturer Dr Barry Evans said the results were consistent with similar overseas studies and highlighted the need for schools to recognise bullying as a major educational issue.

"The consequences of bullying and harassment can be serious, affecting academic progress, wasting teaching time and generally causing a lot of stress and unhappiness," Dr Evans said.

An Options Project booklet details how a 1994 hearing in the Western Australian Small Claims Tribunal had found a school accountable for the alleged bullying of one of its students, and how similar cases in Melbourne had been settled out of court.

"Schools have been clearly put on notice that they have a legal, if not a moral, duty to promote healthy relationships among all members of their school community," the booklet says.

Named to reinforce the view that people have choices about the way they treat each other, the Options Project was funded by VicHealth and had the backing of the Victorian Council for Civil Liberties and the Mental Health Foundation of Victoria.

Initially, the project team helped schools tackle the problem of bullying, but it has also concentrated on other areas identified as necessary for "developing and enhancing a positive school culture".

These fell into six categories: tolerating difference, human rights for all, life and coping skills, peer relations, valuing the self, and conquering conflict and anger.

The Options Project began with an invitation to 20 schools (a mixture of primary, secondary, government and independent) to participate in a pilot study where research staff would help them identify cases of violence and harassment, and assist in developing strategies and skills to tackle problems.

Researchers then worked with teachers and parents to analyse each school's data and set about determining action plans for change.

However, as word of the program spread, hundreds of schools wanted to be involved and ended up receiving varying levels of assistance.

The result was two years of seminars and professional training workshops for teach-

ers, discussion sessions for parents, and the development of publications and video resources to help schools produce their own civil rights and mental health programs.

Last August, the Options Project team launched its *Stop Bullying* book and video, and this year it produced the *Healthy Relationships: Healthy Schools* guide to classroom activities. The guide aims to help students understand and control their behaviour and deal with bullying, ostracism, intimidation and racial and sexual taunts.

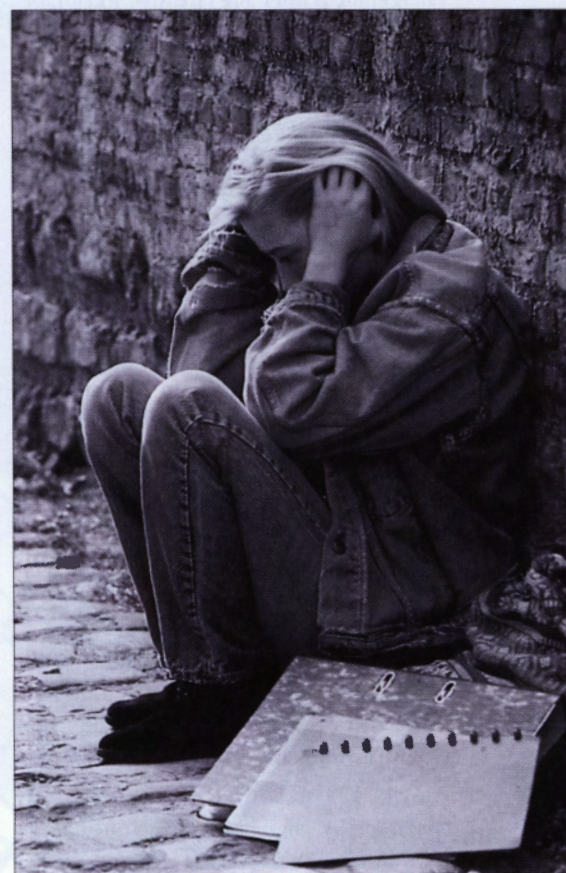
"We didn't want to walk in and tell schools what they should be doing," Dr Evans said. "The value was in empowering teachers to better deal with their own problems."

School-based solutions ranged from peer support programs and improved student counselling to curriculum changes and more consistent disciplinary procedures.

Dr Evans believed the project's biggest success was helping schools establish their own codes of conduct and welfare policies.

"These are the most effective ways of defining what is acceptable and what is unacceptable behaviour," he said.

Copies of the project's final report and the various resources it produced can be purchased from the project office. Telephone (03) 9496 3506 for further details.



The style file on labour relations



A study involving Monash labour experts questions myths surrounding industrial relations in Asia and Australia.

Georgie Allen reports.

Witchcraft and poison-pen letters, collective outbreaks of hysteria and fainting attacks are all characteristics of labour unrest in Asian countries, according to an Australian-Asian Perceptions Project report.

The report explores some of the myths of industrial relations in Australia and the Asia-Pacific, as well as the differences between the two. It concludes that the image of Australia's system as conflict-ridden, compared to industrially harmonious Asian systems, is based on exaggerated stereotypes.

Perceiving Labour Relations is one of a series of comparative perceptions studies that analyses specific themes, known as 'master ideas', operating in Australia and Asia-Pacific countries.

The study was jointly funded by Monash University's National Key Centre in Industrial Relations, Austrade, the National Korean Studies Centre and Melbourne University's Department of Management and Industrial Relations.

On the Australian front, according to the report, perceptions of conflict and disputes are based on strike statistics and the "subjective assessments of business people".

"Strikes in Australia are meticulously recorded by government instrumentalities and in a manner which exaggerates rather

than diminishes their frequency," the report says. "The concentration on strikes alone gives a false impression of the extent of conflict in any country."

The report suggests that adequate comparisons of labour relations in different cultures should account for the two main types of conflict: organised and unorganised.

Organised – or formal – conflict is reflected in strikes, work-to-rules and go-slows, whereas unorganised – or informal – forms of conflict are reflected in employee turnover, absenteeism, lack of discipline, sabotage and low morale.

"What is most distinctive about Australian labour relations is not the amount of conflict but rather the conflictual style."

According to the report, an "adversarial culture" dominates labour relations in Australia, as it pervades all aspects of Australian public life. It says opposing parties and 'battling it out' are considered to be the basis of a healthy democracy. Teachers encourage students to question, debate and form independent views; an aggressive technique is expected of journalists; and courtroom disputes are seen as the best way to solve legal problems.

In Asia, the style of labour conflict also reflects a dominant, region-wide culture but one that includes respect for authority,

loyalty to management and demand for paternalism.

However, the conflict within their industrial relations system is less public. Outbreaks of mass hysteria and the anonymous casting of spells are forms of protest that allow workers to express their frustrations without drawing attention to themselves as individuals.

"The anonymity does not undermine the personal relationships within the workplace and wider society, which are valued highly in many Asian communities," the reports says.

The strongly paternalistic workplaces of Indonesia, Thailand and Malaysia, where superiors typically involve themselves in the personal problems of the workers, also discourage formal types of protest.

The report says an unwillingness among Asian workers to openly challenge management is also often the result of both an imbalance of power and a fear of jeopardising job security. "High levels of unemployment combined with poorly developed social welfare networks induce industrial docility."

The Australian adversarial approach to labour relations, the report suggests, has led to misunderstandings between Australian expatriate managers and their Asian employees and work colleagues.

In Asia, if a supervisor loses their temper or shows aggression in dealing with subordinates, it results in a loss of respect because it is believed "a superior should act in a superior way".

"A heated exchange, which is generally thought to 'clear the air' back home in Australia, may well have the opposite effect in workplaces in many Asian countries," the report says.

"In Australia, aggressive behaviour in a male executive is seen as assertive and strong. In many Asian countries, however, it is seen as indicative of a lack of self-control."

The report also suggests that Australian business suffers from stereotyped depictions of the country as conflict-ridden and work-shy. "These criticisms are repeated by Asian business representatives and could be used strategically during negotiations."

Sports drugs not a level playing field

A Monash academic believes the recent Samantha Riley controversy highlights misunderstanding about drugs in sport and emphasises the need to fine-tune banned substance lists and testing procedures.

Exercise physiology lecturer Dr Glenn McConell said the public found it difficult to accept that the Australian swimming champion had faced being banned from the Atlanta Olympics for taking a pill to "relieve a headache".

Talk-back radio switchboards lit up with callers demanding to know how taking such a seemingly innocent drug could place Riley on the sidelines alongside disgraced anabolic steroid users.

Riley tested positive to using medication containing the banned chemical dextropropoxyphene after breaking a world record at the World Shortcourse Championships in Brazil last year.

After prolonged consideration, world swimming's governing body FINA accepted Riley's defence that the incident was a foolish but honest oversight by her coach (who had given her the pill) and didn't ban her from competition.

But Dr McConell said the sport's administrators were justified in taking time to consider all aspects of the case.

"Rather than being a simple headache tablet, dextropropoxyphene is a narcotic analgesic used to block moderate to severe pain," he said.

"Anyone judging the case would have had to consider the possibility that Riley used the drug to continue competing while suffering from some sort of injury."

Some leading sports administrators have argued that because narcotic analgesics (pain killers) only allow, rather than enhance, performance, they should be removed from the banned list.

Dr McConell said sports bodies were hesitant to do so because, as well as

guarding against artificial performance enhancement, one of the premises of drug restrictions was to protect the health of athletes. And the narcotic analgesics drug group also includes addictive substances like morphine, opium and heroin.

But he did believe there was scope for sports bodies to re-evaluate the banned list and be more specific about which narcotic analgesics to outlaw.

"The International Olympic Committee removed codeine (a pain killer of similar strength to dextropropoxyphene) from the banned list in 1993. Before that, it accounted for more than half of all positive test results for narcotic analgesic use among international athletes," Dr McConell said.

He is less convinced by arguments that test procedures are ineffective and the only way to get back to having a 'level playing field' is to permit all competitors to take performance-enhancing drugs under doctors' supervision.

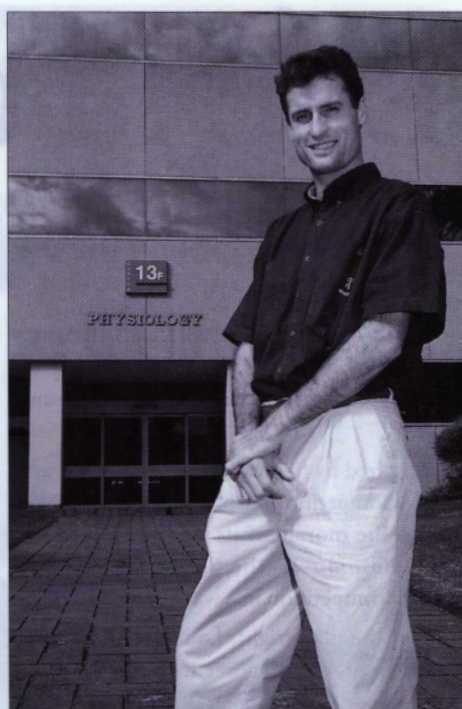
"I guess I'm old fashioned enough to say let's keep fighting it, but I'd have to acknowledge the anecdotal evidence that drug use in sport is more widespread than most people realise and that people who get caught are not the exception."

Judging by IOC drug test figures, the most commonly used drugs are stimulants, followed by anabolic steroids, narcotics, diuretics, masking agents and beta blockers.

Stimulants such as amphetamines, cocaine, ephedrine and caffeine speed up parts of the brain, making an athlete feel more alert and less fatigued.

Anabolic steroids stimulate muscle growth and slow protein breakdown, allowing athletes to train harder and recover quicker. Steroid users can build up muscle during training periods and then stop taking the drugs in the lead-up to competitions, thus avoiding detection at competition drug testing.

Beta blockers slow the heart rate, which can improve performance in sports like



archery and shooting by reducing tremor and improving aim.

Diuretics stimulate the kidneys to produce more urine, dehydrating the body. This can be useful for sportspeople such as boxers and jockeys who may need to lose weight quickly, but they are also used by athletes attempting to dilute the concentration of other banned drugs in their urine.

Masking drugs are also designed to reduce drug concentrations in urine samples, but do so by reducing the elimination rate of the banned substance from the kidneys.

Dr McConell said the use of masking drugs and sophisticated timing of drug consumption had created a belief among sportspeople that you would have to "make a mistake" to get caught.

The Australian Sport Drug Agency (the body responsible for testing in this country) is confident it can overcome masking and timing strategies by increasing tests outside of competition. It is testing 90 per cent of Australia's elite athletes in the lead-up to Atlanta, with tests carried out with as little as 24 hours notice.

But Dr McConell points out that there are some artificial performance enhancing methods, such as blood doping, for which there are no testing procedures.

Blood doping involves the infusion of red blood cells into an athlete's blood to increase oxygen-carrying capacity, thus boosting endurance in middle and long-distance events.

BY GARY SPINK

Life in comic relief

Nadia Tass takes her comedy very seriously.

One of Australia's finest film and theatre directors, Tass is currently rehearsing a comic play about the tragedy of the Bosnian war.

Inspired by the real Miss Sarejevo Under Siege Competition, held in Bosnia in 1993 to lift the morale of its besieged citizens, *Miss Bosnia* tells the bizarre story of a beauty competition in a war zone.

But the playwright, Louis Nowra, takes the story one step closer to farce, making first prize of the competition a seat on the last UN convoy out of Sarejevo.

The main character, Mira, described as a "big-haired super-bitch", runs the competition in which "bitchery is rife, adrenalin is the drug of choice and the comedy is bayonet sharp".

Despite being raucously funny, the play, to be performed at Monash University next month, is essentially about the destruction of humanity and the seemingly ridiculous things people do to maintain the human spirit.

In the real beauty competition, the city's most attractive women paraded in bathing costumes while shells exploded in the streets outside. The women smiled, waved at the audience and unfurled a banner reading 'Don't Let Them Kill Us'. The winner was 17-year-old Imela Nojic, who enjoys motorcycle riding and cooking and who won despite shrapnel scars on her legs.

When asked about her plans for the future she replied: "I have no plans. I may not even be alive tomorrow."

Tass said she was amused by a typical response to the play: "What sort of crass human being would make a joke about such human disaster?"

However, she believed that humour was often the most successful way to tell a tragic story, making it accessible to a large audience.

"It's easy to stand up and say, 'Here is my serious message'. But if you can also entertain, it is much more powerful."

"Besides, I don't direct plays so I can stand back and say, 'Aren't I proper?'"



Louis Nowra agreed. He wanted to write about the attempt to behave normally in abnormal circumstances.

"In a peculiar way comedy reinforces the idea that we are flawed and human. It seemed to me that the beauty contest was an act of wonderful, silly, brave defiance."

"I had seen plays, films and documentaries about the siege of Sarejevo, and I grew tired of the people being constantly portrayed as victims. It made the besieged into abstract entities, more to be pitied than respected."

Tass said she enjoyed working with the playwright, known for his comic approach to serious issues. She has directed a number of Nowra's plays including *Cosi* and *Summer of the Aliens* on stage.

"When working with Louis I go into rehearsals knowing that everything he has written is going to work. And when things don't work as originally intended I can always ring him to discuss any changes."

With a reputation for being intimidating and rather frightening to the crews that work with her, Tass admitted to being "always intense and frazzled".

She was never satisfied that her work was completed and was constantly nervous that it could be improved.

"At the end of the day I always think it could be better. There is always room for

change. The audience see it at the stage that it is being performed or filmed but in my mind the story continues to grow and develop."

Tass's story is the story of Australian drama itself. She supported herself through university by acting in some of Australia's best-known, and self-defining, television series such as 'Cop Shop' and 'The Sullivans'. She has directed some of Australia's finest films, including *The Big Steal*, *Pure Luck* (filmed at Universal Studios in the US), *Ricki and Pete* and *Malcolm*, for which she won the AFI award for best director. Since then Tass has directed the TV series 'Stark' and teamed up with playwright Louis Nowra to produce *Summer of the Aliens* and *Cosi* on stage.

She has recently finished directing the film *Mr Reliable*, which will be released later in the year. Starring Colin Friels and Jackie McKenzie, *Mr Reliable* is a true story about an archetypal Australian hero, Wally Malesh, who "took on the NSW police force and won".

BY GEORGIE ALLEN

Miss Bosnia will be performed at the George Jenkins Theatre, Peninsula campus, from 11 to 15 June, and at the Alexander Theatre, Clayton campus, from 18 to 22 June. Bookings at the Monash Box Office on 9905 1111.

Humanities: a question of survival



At a recent arts graduation, professor of English at Monash Terry Threadgold talked about modern-day threats to the humanities, including media portrayals of 'radical feminists' and David Williamson's "clever" but "dangerous" myth-making. This is an edited version of her speech.

The place of the humanities and of faculties of arts seem at present to be regularly questioned in the press. The values of a scientific education, or even of a more vocationally oriented education such as medicine, law, engineering, are – it seems to me – never questioned in the same way. Somehow they seem transparently useful to the community where what we do in a faculty like this seems mysterious, esoteric, not of much value in the real world. That at least is how the case against arts is often put. These are matters of economic value and of gender, and if they are of concern now, there is every indication, with the recent change of federal government, that they will be of even greater concern as funding to universities and to the humanities is further cut.

This kind of talk is the result of ignorance, the kind of ignorance that fails to recognise what a degree in arts, a specialisation in any of the arts disciplines, might really involve or contribute to late twentieth-century life in Australia. This ignorance may be partly our fault. We need to speak in public much more about the things we do. That is why you, as new graduates, moving to places where such questions are on the agenda and being discussed as part of the everyday work practices and the everyday lives you lead, will have an important role to play in changing the perceptions and

common sense beliefs which constitute and perpetuate this kind of ignorance.

I will try to sketch for you briefly the kind of image of the humanities that you might glean from the daily press. The humanities is a place where radical feminists abound – no-one knows quite what a radical feminist is, but everyone is agreed that there are plenty of them on university campuses – even writers like Helen Garner who should know better – and it seems they get up to unspeakable things all over the place. These radical feminists all believe in a dangerous thing called political correctness, and they all hate men. They are dangerous creatures – more like hippies and witches than anything else but certainly not women, not your feminine, motherly kind of woman, or your cuddly, soft, lover kind of woman. The cartoonist's version of Germaine Greer in a recent *Australian Weekend Review* portrayed a hideous hag, holding a disintegrating globe of the world in her left hand, her body and right ear inclined towards the heading 'If Women Ruled ...' – with the implications of that fate worse than death visible for all to see. She looks more like my recollection of the witch in my childhood picture book of Hansel and Gretel than anything else. Not a bit the way I remember her as a postgraduate student at Sydney University years ago. But this is how the myths that we come to believe as common sense knowledge, as realities, are constructed from day to day, in visual images and in words. And it is how

faculties of arts are constructed for members of the public.

And then of course there is David Williamson and the vexed issue of theory. For almost 15 years in the pages of the Western press, there have been regular, savage, and usually very ill-informed attacks on what is called 'theory', often associated with a kind of foreign virus which has invaded the humanities and destroyed all the values we grew up with. Theory is also often represented as political correctness and always associated with the dangers of arcane and difficult language. Anything that is not immediately transparent, anything that has to be worked over to be understood, anything that would actually require people to think about their positions, to question where they stand, to think critically about an issue, is far too easily dismissed as mad, or foreign or feminist theory of the academy, or as political correctness. All three mythologies – and that is what they are – are good excuses for taking no responsibility, for never questioning anything.

David Williamson is a particular problem because his plays are generally so very clever and so very funny. But like much comedy and satire, they tell only half the story most of the time and they twist the half they tell. The play that was taken up earlier this year in the press in the context of theory and the arts was *Dead White Males*, a play which juggled with some

Continued on Montage 16

pretty dangerous stereotypes, in particular the stereotype of the politically correct teacher who fails students for not toeing the party line. The program for the performances of the play contained pilloried quotations from well-known critical theorists, in a fictional – but again very selective and partial – show of authority and knowledge. The whole thing was and is a very clever linguistic, visual and performative construction. The problem is that this, like the media stories, is often taken for the reality, and provides grist to the mill of those who would like to believe that the academy, and particularly faculties of arts, are full of not only uncontrollable radical feminists but also useless and dangerous wankers and simply bad teachers. (And I use these categories advisedly.)

Now those of you who have just spent some years in this faculty, and expended a good deal of blood, sweat, tears and cold, hard cash, may be beginning to wonder why on earth you wanted to be in such a dangerous and unpleasant place. Except of course that this is not the place in which you have been. That place is a fiction, a total fabrication, which we all have to do everything we can to dispel and to change. And to do that we need the kinds of skills, the kinds of understanding of communication and of language, the critical reading abilities, the ability to make sense of the most arcane of theories and perspectives and to choose for ourselves the theories to follow, in short the abilities and skills, the knowledges, the multimedial literacies that are the fundamentals of, and the outcomes of, a demanding and challenging education in the humanities today.

This is one of the few faculties in the university where men and women are encouraged to think about and discuss gender relations, historically, at the present time, and in many different cultures and social locations. That is why the men and women who emerge from such faculties are actually such a rich resource for the Australian community. Nothing about the status of women, or anything else in the community, will ever change unless men and women work together to make it change. That is easily said but much harder to achieve. There is a real tendency in all our social organisations for the family narrative of a protective and providing father and a protected and nurturing mother with appropriate male and female offspring to perpetuate itself. This is actually what Germaine Greer was trying to say. In that context it is very hard for men or women to

change the way they live their lives or the way they are perceived to live them. What I would hope that critical understandings of the theory and practice of communication, of theory and of feminism, might achieve in this gendered context – and all contexts are gendered – would be the kind of changes Jane Flax imagined when she wrote:

“What if your mother refuses her gaze, turns her attention elsewhere? Does not serve as your mirror, your nurturance, your ground of continuity of being or of the semiotic, fertile source of aesthetic meaning ungoverned by the Father’s Law? If she is no longer outside, but inside, power? If she wields power not as care, nurturance, preservative love, but as assertion, need, desire of her own? Or if she is off playing, with other women or men? Or in her own head? Can daughters (or sons – or partners) stand to be cut off, outside the dyadic circuit?”

Flax is speaking of women, but what she says offers a new way of thinking the feminine and a new way of thinking what gender relations might be. Unfortunately we do know what happens now when, to quote Flax, your mother refuses her gaze and is found off playing in her own head – thinking, needing, asserting and powerful. The media rewrites her and turns her into a hag, and David Williamson has to put the kybosh on the whole enterprise lest it go too far, lest it get out of hand. It has to be stopped. It really has to be stopped. I hope all of you men and women will keep struggling to change not just the representations, the way you make your worlds in your artefacts, your art, your writing and your speaking, but in the realities of your lives as well.

Why is it that the humanities and faculties of arts are such a target for virulent and mostly quite fictional representations? Does it perhaps have anything to do with the parlous state of funding for the humanities at the present time? Does that have anything to do with the bias against arts subjects that is built into the marking of all our major public examinations in this country? Do all or any of these things have anything to do with what I will call here the feminisation of the humanities? In a brilliant book, *School for Women*, published in London earlier this year, Jane Miller argues that the notorious underfunding and undervaluing of work in the humanities is historically and ideologically related to the undervalued position of women as teachers, both in the home and in the schools in our society –

and of course her comments refer also to the men who engage in these feminised occupations. We have to stop thinking – and we have to see to it that others stop thinking – about the humanities as soft feminine subjects and the sciences as hard masculine ones. This is neither a helpful nor an accurate reflection of the significance of either. The best science is specifically not hard, any more than what we have to offer is soft.

What I have done here is attempt to relate some ways of talking and thinking to a number of wider social and cultural changes that are in process. This is no more than a tentative sketch, but what it does is give some sense of the importance of the question of language and texts (or discourses), of visual images and made realities – of the ability to read and interpret the complexities of the social world in contemporary society, of the gendered aspects of what appear to be, and are often argued to be, merely economic or rational or even just necessary. What you have to keep asking is, ‘necessary for whom?’ and ‘why economic?’

Levels of awareness about these questions of language and communication are actually very low. Few people have even an elementary metalanguage for talking about and thinking about such issues – and these people too often include those who are charged with the making of policies and decisions with respect to priorities in education and training and a whole range of complex social issues. I believe that a critical awareness of language and discursive practices, a critical ability to read, not just words but the culture – an awareness of the kind that forward-looking arts faculty disciplines and interdisciplines are beginning to provide – is becoming a prerequisite for democratic citizenship, and an urgent national priority. It is somewhat ironic that at the precise moment when this awareness is developing within the discourses of the arts disciplines themselves, they should be being appropriated by a commodity discourse which is blind and deaf to the kinds of critique and analysis the arts could be offering, and deprived of the financial and funding support which could make real social differences. It is equally ironic that the insights available here should so often be being labelled in the daily press as the dangers of foreign theory and radical feminists and the imminent destruction of the humanities as we know them.