

MONTAGE

NEWS FROM THE CAMPUSES OF MONASH UNIVERSITY

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Graduate lands on legal feet

Monash law graduate Ms Jenny Hardy is Australia's young lawyer of the year.

The energetic advocate recently won two of the three Law Council of Australia prizes for outstanding legal and community service.

But Ms Hardy faced a small problem while visiting Hobart to receive her prizes at the Australian Legal Convention – she was footsore.

Squashing feet into shoes had become a painful task after three months of voluntary legal work on the tiny Pacific island of Kiribati (pronounced Kiribas).

But her feet were not bound for long. Ms Hardy returned to Kiribati to continue her Australian Volunteer Abroad program after a whirlwind trip to see family and friends in her hometown of Shepparton.

Ms Hardy works as a state advocate, advising Kiribati's Attorney General and other government departments in areas such as civil and commercial law, criminal advocacy, and legal training.

She has agreed to earn the local wage and live like an islander for another 20 months, providing valuable insight for the Attorney General's Office.

But it was Ms Hardy's inspirational work in the Northern Territory that won acclaim from Australia's legal leaders.

After moving to Darwin in late 1987, Ms Hardy played a leading role in establishing the city's first community legal service.



Australia's young lawyer of the year, Ms Jenny Hardy: Her awards recognise the importance of law being accessible to the community. (Photo courtesy of The Mercury.)

She also developed the Northern Territory's original *Law handbook*.

Her jobs ranged from Crown Prosecutor through to working for Aboriginal Legal Aid.

She was also instrumental in setting up the Alicia Johnston Memorial Trust, in memory of her close friend who died at the age of 28 after working on the same projects in

Darwin. The trust provides funds to territory projects that focus on youth and the law, health and human rights.

In recognition of her work, Ms Hardy was awarded the individual Australian Young Lawyer Award, along with the Contribution to the Community prize.

During a short visit to Melbourne, Ms Hardy said she was proud of her awards because they recognised the importance of the law being accessible to the community.

She said that the accessibility of law is not only important in Australia, but also in other parts of the world.

"I feel that through my role as a volunteer lawyer in Kiribati, I am able to play a role in the development of their legal system so that it meets people's needs," Ms Hardy said.

About 350 people work in 30 different countries through the Australian Volunteer Abroad program. The non-government Overseas Service Bureau organises the program, providing opportunities for skilled Australians to live and work in developing communities in Asia, Africa and the Pacific.

For further information on the volunteer program, call Mr Graham Habgood on (03) 279 1761 or (03) 279 1788.

— BY WENDY BUSFIELD

Novel cure for ulcers

A simple seven-day treatment with yoghurt and common antibiotics may cure stomach ulcers for life.

The yoghurt, containing a cocktail of bacteria naturally found in the human gut, is the latest and most novel weapon developed by Monash researchers in the 10-year quest for an ulcer cure.

Led by Associate Professor John Lambert of the Faculty of Medicine, the Gastroenterology Research Group was the first in Australia to show that duodenal and gastric ulcers were associated with a bacterial infection.

"Back in the old days ulcers were thought to have been caused by excess gastric acid production. Patients were put on milk diets and ordered to give up alcohol and spicy foods," Dr Lambert said.

Even today, the most common treatment is acid-suppressing drugs. Although the ulcers may heal, they recur in more than 80 per cent of patients within a year.

An alternative and more effective therapy with few side-effects is available: one that kills a bacteria, known as *Helicobacter pylori*, thought to cause the ulcers.

But despite "very strong data" and the compelling statistic that 10 per cent of Australians will develop ulcers, the therapy has been slow to catch on.

"It's now well accepted that eradication of the bacteria will heal the ulcers for life," Dr Lambert said.

Unfortunately, the bacteria is not easy to kill. Most therapies are expensive and cause nausea and diarrhoea in 15 per cent of patients. By contrast, conventional acid-suppressing drugs are cheap and have minimal side-effects. They are still used in more than 70 per cent of patients.

The association of ulcers with the bacteria – accidentally discovered by a Perth researcher when he left a culture too long – was first confirmed by Dr Lambert in 1984.

Of 100 patients with duodenal ulcers, he found that all had evidence of bacterial infection, as did 70 per cent of those with gastric ulcers and 60 per cent of dyspepsia patients.

These findings, replicated overseas, sparked an explosion of research into this new genus of bacteria, one found to live only in the human stomach.

High success rate

Very soon a triple therapy regime of bismuth and two common antibiotics was developed, which Dr Lambert administered over seven days. In 80 per cent of patients, the bacteria was eradicated and these have not had a recurrence of ulcers over a follow-up period of eight years.

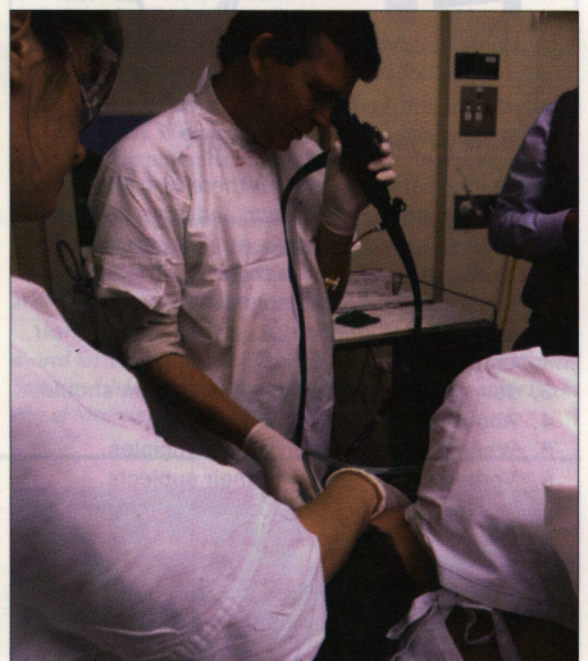
During that time, a further 16 new *Helicobacters* were discovered in animals, including a strain present in all adult Australian ferrets, many of whom also develop ulcers.

From obscurity, this genus was recognised as the most common cause of bacterial disease in humans in the world. About 70 per cent of people in China are infected and the bacteria has recently been implicated in stomach cancer.

The Monash group has undertaken 16 clinical studies of this organism in humans to determine how the bacteria spreads, its prevalence within the Australian community, why it causes disease, and how to best treat it.

Surveys here show that 20 per cent of the Australian-born population over 18 are infected with *Helicobacter pylori*, a prevalence that rises to 40 per cent over the age of 60. And the risk of getting an ulcer is increased 10-fold if the bacterial infection is present.

The bacteria is not spread by water or food but by close human contact. In Asian societies that have communal eating habits, the prevalence is greater.



Associate Professor John Lambert conducts a gastroscopy to detect stomach ulcers.

Recent work has focused on improving treatment of the infection. In conjunction with scientists from the CSIRO Dairy Research Laboratory, the Monash group have tested 50 lactobacilli, bacteria living in the human gut with natural antibiotic action.

Six have been identified which kill *Helicobacter pylori* and yoghurts are being developed for clinical trials, which begin next month. "Nine hundred people die of duodenal ulcers each year, more than the number from AIDS or motor accidents. All people with these ulcers should have the bacteria treated," Dr Lambert said.

Crime victims teach police vital lessons

Monash University research on crime victims in Melbourne's bayside suburbs has sparked changes to police training.

Victoria Police leaders have already adopted most recommendations in the new study, released recently by the Monash Centre for Continuing Education.

Assistant Commissioner (Training), Mr Bill Robertson, praised the Frankston-Chelsea Crime Victims Support Project as a valuable guide about the effects of crime on its victims.

Mr Robertson told *Montage* that police recruit trainers were already putting findings from the research into action.

"A police officer's responsiveness and sensitivity towards victims of crime is one of the most important issues in training," he said. "We're doing a good job at the moment, but that doesn't mean we can't do things even better."

"After all, every organisation tends to become inured to its environment, so there's a constant need to remind us what we're here for. Through this research, police are getting more practical knowledge on how to deal with a wide range of crime victims and related support services."

"It's important for police to respond well to all victims of crime, from major assaults through to vandalising a garden hose. Police need to be able to respond to both ends of the spectrum and the Monash report will help us do it."

Project officer Ms Christine Vincent started the research in September last year with assistance from Frankston and Chelsea police and the respective citizens advice bureaux (CABs). She worked from the Monash Peninsula campus with funding from the Police, Emergency Services and Corrections Directorate of the Victorian Department of Justice under the Vicsafe program.

Ms Vincent asked local officers to give crime victims a CAB card and a short explanation of the project. During a six-month period, about 80 victims were assisted, most of them female, aged between 11 and 40 years.

According to Ms Vincent's final report, most victims who sought CAB help suffered assaults, sexual assaults, domestic violence, armed robberies, aggravated burglary, aggravated assault, and thefts.



Ms Christine Vincent recommends that Victoria Police conducts research into the needs of crime victims from non-English-speaking backgrounds.

Although the sample of crime victims was relatively small, the level of violence or injury was described in the report as "substantial" and "prevalent".

Theft of personal belongings, such as handbags, wallets or money, was the second most common type of crime suffered by the victims who sought CAB help.

Half of the victims attending the CABs were either on a low income or no income at all, contributing to the significant number of requests for material aid and emergency accommodation.

"The general findings of this project highlight the many challenges facing communities, including police, in coming to terms with the issue of support services for crime victims and their families," the report said.

"In general terms, the victims' satisfaction with the police response was more likely to be favourable where police treated the victim in a sensitive manner and provided information on support services."

"Anecdotal evidence offered by victims to CAB staff reflected that victim sensitivity training given to CIB detectives and Community Policing Squad members consistently resulted in positive or favourable comments about contact with police."

"However, not every victim reports their situation or crime to police, therefore access points need to be available in local communities where victims can approach and request assistance, in a non-threatening environment."

Ms Vincent's report called for a more coordinated approach to dealing with crime victims, with increased training and development by the three key players: Victoria Police, Victoria Association of Citizens Advice Bureaus, and the State Government's Department of Justice.

Her recommendations also urge the Department of Justice to boost funding for information and support services, along with research into the needs of crime victims from non-English-speaking backgrounds and a small grants program for local community service groups.

Ms Vincent said current support services attracted a small portion of crime victims, but the trend was common throughout the world.

She said overseas research found a similarly low use of support services by victims, with many similar victim characteristics. In Australia – and abroad – the low response by crime victims was due to many factors, such as a reluctance to ask for charity, mistrust of community organisations or the victim's own perceptions of self-blame or fear.

But Ms Vincent said improved relations between police, CABs and the community would encourage more victims of crime to seek support services.

— BY WENDY BUSFIELD

THE SPIKE



How do you take your copy?

In the interests of those out there who still think grammar is an elderly relation and not a sentence endured as a child, we present 12 handy rules for the preparation of written copy:

1. Don't use no double negatives.
2. Make each pronoun agree with their antecedent.
3. Join clauses good, like a conjunction should.
4. About them sentence fragments.
5. When dangling, watch your participles.
6. Verbs has to agree with their subjects.
7. Just between you and I, case is important too.
8. Don't write run-on sentences they are hard to read.
9. Don't use commas, which are unnecessary.
10. Try to not ever split infinitives.
11. Its important to use your apostrophe's correctly.
12. Proof-read your writing to see if you any words out.
13. Correct spelling is esential.

Bureaucratic cold comfort

A Monash student recently rang the Australian Taxation Office to inquire about her HECS debt.

"It isn't really a debt," soothed the euphemism manufacturer at the end of the line, "it's just an amount outstanding."

NOW & THEN

25 YEARS AGO

The new theatre manager is Mr Philip A'Vard, who has had considerable experience in the professional theatre in Melbourne. He has been stage director of the Melbourne Little Theatre (now St Martins), the floorman/camera operator with Herald-Sun TV Pty Ltd, later promoted to floor manager and studio manager, and then with the Garnet H. Carroll organisation as stage manager of the Princess Theatre. Since the closing of the Princess Theatre he has been teaching at Essendon Grammar School. Mr A'Vard is expected to take up his position as theatre manager in early January.

15 YEARS AGO

The social composition of Monash students – judged on sex, the type of secondary school attended, father's occupation and parents' education – has remained largely unchanged over the last six or so years, the abolition of fees in 1974 notwithstanding.

This is apparent from figures quoted by Anderson, Boven, Fensham and Powell in their report 'Students in Australian higher education: A study of their social composition since the abolition', but gathered independently of their own survey.

FIVE YEARS AGO

The results of last week's election might have been vastly different if we'd had this poem in time:

Election guide for the newly naturalised

Option A

We stand for Christian Charity,
For mateship and for fair goes,
For levelling disparity,
For pensions when the hair goes.
And, if we find a millionaire
Has now become our neighbour,
We love him too and let him share
The charity of Labour.

Option B

'Liberal' means 'Lefty' in the USA,
In Britain it means 'somewhere in the middle',
Here it means the Party God
intended to hold sway,
If others get elected it's a fiddle.

Option C

Greeting Landed Privilege the
tongue takes on a civil edge,
The silvertail conceals a heart of gold.
Steadfast to Queen Victoria, we
National will five a pledge:
We cherish still the views She
used to hold.

Option D

Our Party was, for those who
mock,

A chip off the old Liberal block,
But now, of those dull ties bereft,
We outflank Labour on the Left,
For we, with artful statesmanship,
Have learned to block off that old Chipp.

Dissident

Tweedledum and Tweedledee:
Options are as normal
I, although they wheedle me,
Staunchly vote informal.

Hector Munroe

THIS MONTH LAST YEAR

Over the years, students have gone to exceptional lengths to explain why their assignments have been late. This is one of the best.

A distance education student rang Ms Sally Joy of the School of Marketing and was unable to explain why his assignment had not arrived. "It was definitely posted," he protested. The reply, a sceptical: "Please send it again." Soon after, the student arrived in person to deliver the goods.

He came bearing a replacement copy of the assignment and the original, which had been returned to him by Australia Post in a 'mortality bag'; the document within burnt and in poor repair. Apparently, the student had entrusted his precious parcel to a post box that was later set on fire by vandals.

MONTAGE

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Monash harbours top-secret race bid

John Bertrand's 1995 America's Cup syndicate has thrown a tight security net over the Monash University wind tunnel being used in top-secret design tests.

The syndicate, regarded by some US sailing authorities as a major threat to the American challenge, selected the high-tech tunnel to carry out vital development work on a range of keels and rudders.

Any advantage gained by work on these two components, particularly the keel, could give the syndicate the edge it needs to repeat the success of Mr Bertrand's last cup campaign.

Mr Bertrand was the toast of Australia in 1983 when he became the first challenger in the competition's 132-year history to prise the America's Cup away from the New York Yacht Club.

Mr Bertrand said Monash's newly extended wind tunnel was selected by the syndicate for the vital tests on their next challenger, 'One Australia', because of its state-of-the-art technology.

"We selected Monash because they clearly have the world's best facility for this sort of testing," he said.

Mr Bertrand remained tight-lipped about the details of the tests, except to say that he hoped to gain a competitive edge similar to that of the famous winged keel, which intrigued the yachting world 10 years ago. "We're in this to win," he said.

The boat that wins the next America's Cup series, to be sailed off the San Diego Yacht

Club, California, from October 1995, will certainly be the most technologically advanced 24-metre racing yacht in the world.

Understandably, Mr Bertrand wants to make sure he is the person holding "all the aces" when the starter's gun is fired.

His decision to conduct closed-door tests on components for the syndicate's new boat was to ensure the contingent retained its early lead with breakthrough designs.

Mr Bertrand said the security shield surrounding the Monash tests would be kept in place for the rest of the campaign. It would be even tighter than the security net thrown around Ben Lexcen's winged keel, he said.

Since the testing began at Monash in late October only six syndicate members and one key Monash academic have been permitted to enter the tunnel to witness and contribute to the experiments.

Fifteen America's Cup challengers have lodged their initial performance bond of \$US75,000. But Mr Bertrand will have a clearer idea of the serious contenders in January, when teams are required to submit a \$US250,000 entrance fee.

The main challengers at this stage, apart from Australia, are expected to come from France, New Zealand and Japan.

To achieve its goal of becoming the second non-American team to win the cup, the syndicate must minimise the time needed to take an idea from a conceptual stage to a race-ready working component.



Mr Bertrand said preliminary feasibility tests were being carried out on sophisticated supercomputers and further testing would be performed using scale models.

He said tests using full-scale replicas normally take about six months, model testing takes six weeks, and special computer technology can cut the lead time to just six hours.

The main benefit of the computer appraisal system was that a greater number of options and combinations of designs could be tested, Mr Bertrand said.

Mr Bertrand said 'One Australia' was the largest sporting project ever assembled in Australia, with the exception of the Olympic Games.

The syndicate aims to bring the America's Cup back to Australian shores, but long-term goals are also part of their vision.

Mr Bertrand is confident the technology being developed will lead to enormous export opportunities in international manufacturing.

Fluid Thinking, which is the technology partner coordinating the 'One Australia' tests, is negotiating with a Silicon Valley software corporation, Centric Engineering Systems Inc., to form a joint venture that could lead to continuing benefits from the America's Cup series.

Fluid Thinking hopes to tap into a market potentially worth \$70 billion by applying its America's Cup design technology to a number of manufacturing industries.

With the memory of the national pride from Mr Bertrand's last America's Cup assault still fresh and the potential of using the new technology to boost export earnings, the syndicate has attracted the personal support of the Prime Minister, Mr Keating, and Opposition leader, Dr Hewson, who are co-patrons of the bid.

— BY PETER HENRYS



Mr Brian Conway.

Medicos come up trumps

Monash medical students scooped the prize pool in the recent Bongiorno Medical Ethics Essay Award.

The annual competition, run by the Doquile Perrett Company and promoted by *The Age*, is designed to encourage debate among Victoria's future doctors on the issue of ethics.

Monash students won four of the six awards, with final-year Monash student Mr Brian Conway taking the overall prize for his essay 'Genetics and the fear of the unknown'.

Mr Conway holds a Bachelor of Medical Science with honours, and has studied at Monash for the past seven years. Recently he completed exams for his Bachelor of Medicine and Bachelor of Surgery.

He has spent the past year undertaking practical studies at the Monash Medical Centre and a handful of Victorian hospitals.

With an intern year to complete in 1994, Mr Conway says he intends to specialise either in endocrinology or general practice.

"I also have an interest in bioethics and philosophy, and once I have completed my studies I would like to further my interest in the area," he said.

Other Monash students to win awards were Mr David Morley (fourth year), Ms Anna Biedrzycka (third year), and Mr Matthew Bailey (second year).

This was the fourth Bongiorno Award. Due to company restructuring, the prize next year will be known as the Doquile Perrett Medical Ethics Award.

Mr Conway's winning essay is featured in 'Savant' on page 16.

OLA offers graduate courses in 1994

Monash University is providing five of the 19 graduate courses on offer through Open Learning Australia (OLA) for the first time next year.

The executive director of OLA, Mr Tony Pritchard, says the 19 courses will cover education, health, environment and business studies.

"The new graduate courses, including masters degrees, are in response to the clearly expressed desire by many people to continue their education at the postgraduate level through Open Learning," Mr Pritchard said.

"With these new courses and the continual expansion of the undergraduate courses, Open Learning certainly has added another choice to the higher education menu for all Australians."

A Masters in Practising Accounting, a Masters in Applied Linguistics, and a Graduate Diploma in Marketing will be offered by Monash through OLA next year. A Master of Education Studies will be run by Monash in conjunction with the University of South Australia and Curtin University, and a Master of Letters in Philosophy will be



OLA's broadcast 'footprint' covers 15 Asia-Pacific countries.

offered with the University of New England and La Trobe University.

The acting head of the Monash Department of Marketing, Ms Sally Joy, is particularly excited about the inclusion of the Graduate Diploma in Marketing, saying that it is sure to attract interest from across the nation.

"Medical practitioners, agricultural scientists, financiers and middle management from across the board of manufacturing, service industries, and commerce have shown an interest in the course on campus, so we can expect a similar response from a similar group of people in the Open Learning program next year," Ms Joy said.

The Monash-led OLA consortium is also considering a plan to offer undergraduate courses to Asia in the near future.

Fifteen Asia-Pacific countries now are receiving OLA undergraduate television programs as a test of the region's enrolment potential.

The programs are being broadcast through the Australian Broadcasting Corporation's international satellite following an agreement made in September with the ABC's overseas arm, Australia Television International (ATVI).

OLA is using ATVI's link with Indonesian Telecom's Palapa B2P satellite to broadcast from India to southern China and Burma.

To offset the cost of satellite time, two minutes of each half-hour broadcast is available to Australian universities in the OLA consortium for corporate advertising.

The broadcasting agreement opens the way for more educational exports to Asia, which coincides with the latest influx of universities tendering to be provider members of the OLA.

Sydney, Queensland, Adelaide, La Trobe, Macquarie and Murdoch universities, the Royal Melbourne Institute of Technology and the Victorian College of Agriculture and Horticulture recently have all won provider status to the OLA.



Dean engineers a life of adventure

For millions of people, Steven Spielberg's movie character Indiana Jones is the cinematic representation of a lifestyle many only dream about.

But for Monash's dean of engineering and acting deputy vice-chancellor, Professor Peter Darvall, life has been full of similar "adventures", as he calls them.

Falling down a frozen alpine crevasse at night, supervising a team of several hundred Egyptians digging for treasures from 3000BC in the Nile delta, being stranded in a 30-metre hole in the Alaskan ice, and travelling across South America's Andes – all could easily form part of an Indiana Jones story-line.

After graduating from Melbourne University in 1963 with an honours degree in engineering and following a brief stint with engineering consultants Maunsell and Partners in 1964, Professor Darvall suffered his first bout of 'adventuritis'. He elected to complete his masters degree at Ohio State University in the US.

While at Ohio State, he had the chance to spend three months in Alaska as a site engineer on an expedition to measure surface movement of glaciers.

It was on this trip that the intrepid adventurer agreed to be lowered on a rope into a glacier 'melt hole' to take photographs of the vertical profile of the ice formation.

With some fascinating and spectacular shots captured on film, everything seemed to be going well. Then, in true Jones style, the mood turned to one of drama when the

crew on the surface tried to hoist Professor Darvall back to the surface.

The rope kept snagging on the hole's edge, preventing the surface crew from lifting him to safer ground.

Although he shrugs off the incident, being stuck down a narrow shaft in a glacier prone to cave ins is not, by anybody's standards, a normal day at the office.

Another incident saw Professor Darvall fall into a seven-metre crevasse while out for an evening walk. Five years later, he was lowered 50 metres down one of the 1.5 metre wide foundation holes for the Westgate Bridge to attach strain gauges.

After returning to the US from the Alaskan expedition and completing his masters, Professor Darvall planned his next adventure.

For years he had dreamed of riding a motorbike from North America to the southern point of South America.

Spurred on by the thought of realising his pipedream, he set off on a motorbike that was clearly ready for a major restoration. After only 100 miles the engine decided it preferred North to South America.

While the motorbike engine had expired, the same could not be said of the Darvall sense of adventure.

The South American plans went west and he headed for England to work with the engineering company Freeman, Fox and Partners to design motorway bridges in Northern Ireland.



About six months later, Professor Darvall felt the need to travel again and, above all, escape London's miserable winter.

He arranged to work at an archeological dig near Alexandria in Egypt through a friend who was a leading Egyptologist.

Professor Darvall organised a team of engineers, drove a four-wheel drive vehicle to Marseilles, and then travelled by car ferry across the Mediterranean to Egypt.

His main task was to advise archeologists at the Telfar in site once the excavation in the muddy Nile banks went below the waterline. He also functioned as the site's paymaster and supervisor.

After Egypt, Professor Darvall travelled around Europe in a 30-year-old Austin 10,

which he bought for £UK25. A year later, he packed the Austin and all his belongings aboard a transatlantic ship and headed for Princeton University, New Jersey, to complete his PhD.

Professor Darvall joined Monash in 1970, became dean in 1988, and this year added the responsibility of acting deputy vice-chancellor (research) to his hectic work schedule. He is the longest serving dean among all the university's current deans.

Since joining Monash, Professor Darvall has continued to travel, both for work and his sense of adventure.

He eventually made it to Latin America by a means of transport other than a 'clapped-out' motorbike.

In Central America, he was consultant to the University of Mexico, where he investigated the strengthening of mud brick homes to withstand earthquakes.

On a following trip to South America, Professor Darvall led an engineering workshop in Argentina. This was not an unusual task, except that he was required to speak in Spanish, a language he had studied as a hobby since the mid-1970s. After his working commitments, he travelled through Ecuador, Peru and Bolivia, including a spectacular trip across the Andes ranges, which peak above 6000 metres.

But life has not been just a series of fascinating trips to unusual places – there has been much hard work as well. Professor Darvall has been one of the leaders in bringing about Monash's rise to prominence among Australia's universities.

He is a former president of the Federation of Australian University Staff Association and was actively involved with the formation of the national agreements on staff conditions. During his time as president, a High Court case was named after him.

Life has not been structured for this particular engineer.

— BY PETER HENRYS

Psyching young refusers back to school

Victorian children who refuse to go to school are learning to deal with their fears, thanks to a dynamic Monash University graduate.

Psychologist Mr David Heyne runs a School Refusal Clinic at the Monash Medical Centre to steer young 'refusers' back to their studies.

Mr Heyne and his staff have helped more than 100 children and teenagers deal with school problems, from severe anxiety over classroom performance through to malicious teasing from peers.

In addition to working with youngsters, the team liaises with their parents and teachers to provide advice on practical behaviour management strategies.

But Mr Heyne believes one of the more challenging tasks is winning a child's trust.

Since launching the centre early last year, Mr Heyne has spent many hours 'playing the big kid'. He often sits on the floor of his Clayton rooms playing games with his young clients.

"We have to make sure the kids enjoy coming to the clinic, which means earning their respect," Mr Heyne said. "Every case is unique and presents new challenges. I really enjoy being able to see the changes in the kids."

Recent clients at the clinic included a 13-year-old secondary college student who developed a major anxiety about separation from his family.

Mr Heyne said the boy was upset about returning to school after his mother developed a disabling condition and became confined to a wheelchair during the Christmas holiday break.

"He started telephoning home from school very often," he said. "The school tried to put a stop to it, so he started running back home. His mother was a bit ambivalent, but she wanted the problem solved."

"He was even going to the local shopping centre and calling his mother from there. One night, he camped in the

neighbour's yard because he was too afraid to go home and face his dad, but he wanted to keep an eye on the house. The police were called at this stage and a missing persons report was filed. That's when we became involved."

Mr Heyne said the boy learned to "see things rationally" and focus on his mother's quality of life, helped by a solid support network during school time.

In another case handled by the clinic, a 13-year-old girl developed a phobia in the lead-up to a class talk at her school.

"Her mum noticed a change in the days and weeks leading up to the talk," Mr Heyne said. "The girl just couldn't go to school and the longer students stay away, the harder it is to go back because they have to explain to their peers why they were away."

"This girl was actually away from school for two months after the talk because she couldn't face her peers, so we did some role playing and relaxation training, which helped a lot. She eventually realised that the

best way for her to overcome any fear or anxiety was to face it.

"We get a lot of feedback from the families, which is very rewarding. Quite often, parents come back to let us know that 'it's great to have our Johnny back again'."

"Most cases depend on the way parents respond to their children when they refuse to go to school."

Mr Heyne said children attending the clinic were referred by schools, private practitioners, and other agencies, with strong cooperation from parents. He said major issues tackled by the clinic included traumatic events, fear of separation, and fear of school.

In some cases, fears were inadvertently taught by parents, such as the fear of separation stemming from being comforted and reassured following periods of separation.

Accordingly, parents are encouraged to become highly involved in the clinic's program, offering support for their child while reducing family stress levels and other personal problems, such as marital conflict and uncertainty about the best way to deal with problems.

"Most cases depend on the way parents respond to their children when they refuse to go to school," Mr Heyne said.

"Parents want to know why their children don't want to go to school. They're worried that they might cause some underlying problem if they enforce their child's attendance. They also think there must be something intrinsically wrong with their child."

Mr Heyne wants to broaden the school refusal program to include behavioural family issues next year, but the idea depends on funding.

"A lot of parents say they would prefer all of their family to attend the sessions, so that the needs of other children in the family are also addressed," he said. "I think this is something we can achieve."

"Also, we want to set up a working party to teach school communities about our work, so they can nip the problem in the bud."

Since graduating from Monash in 1991, Mr Heyne has also worked at a special school, where he developed a keen interest in dealing with children and family dynamics.

Mr Heyne and his staff work under the guidance of the clinic's directors, Monash University academics Associate Professor Neville King, of the Education faculty, and Professor Bruce Tonge, head of the Centre for Developmental Psychology.

The clinic is a joint project operated by Monash University and the Monash Medical Centre, with funding from the National Health and Medical Research Council. For further information, contact the Department of Child and Adolescent Psychiatry, telephone 550 1300.

— BY WENDY BUSFIELD



Clinical assistant Miss Melinda Pritchard (left) and psychologist Mr David Heyne (right) with a client at the clinic.



Sexual values steeped in tradition

Traditional values towards sex are as strong as ever among today's adolescents.

This was one of the major findings of a study recently presented by Monash University's senior education lecturer, Dr Susan Moore, and La Trobe University's Professor Doreen Rosenthal at the Australian Psychological Society conference in Queensland.

The study, 'The social context of adolescent sexuality: Safe sex implications', involved interviews with 153 adolescents aged 15 to 18 on the topics of love, romance, relationships, sexual values, and sexual behaviours.

Dr Moore and Professor Rosenthal targeted homeless youth, Anglo-Australians and Greek-Australians in order to expose a diversity of sexual attitudes among Australian adolescents.

Dr Moore said despite this diverse group, the majority of the adolescents surveyed held traditionally romantic views about sexuality.

"Traditional values are still very prevalent in the community and interestingly these values are even evident among young people who are having sex," she said.

"Most still have romantic notions, with the attitude that sex is okay as long as it is within a romantic context.

"Even though the youth of today are more sexually active than youths 10 years ago, these sentimental notions still remain."

The survey also revealed that only 27 per cent of those interviewed felt comfortable with the idea of one-night stands and yet nearly all respondents approved of sex before marriage.

Dr Moore said the reason so many adolescents objected to one-night stands was because they wanted to be in caring relationships.

"As has been tradition, this was more relevant to the girls. The girls and boys interviewed felt it was more acceptable for boys to sleep around," she said.

"However, there was a general feeling that there should be a move toward equal sexual rules for males and females."

According to Dr Moore, the overwhelming approval of premarital sex was a clear indicator that the attitudes of adolescents were less conservative than their parents.

"Even seemingly traditional Greek-Australian girls approved of sex before marriage, as long as the person with whom they did it was the person they loved or wanted to spend their life with," she said.

While adolescents appeared more sexually aware, Dr Moore concluded there was still a greater need to make adolescents more aware of the risks of unsafe sex.

Her concerns stemmed from recent figures indicating that about 30 per cent of teenagers would contract a sexually transmitted disease (STD) by the age of 21.

"Of the 153 adolescents interviewed, we found that at least 40 per cent of them have had unsafe sex or continue to have unsafe sex," Dr Moore said.

"They are knowledgeable when it comes to what is safe and unsafe sex, but many of them have the attitude 'it won't happen to me'.

"AIDS is the only STD that most of them consider to be serious. Since it is virtually non-existent in their age group, they don't necessarily see the need to practise safe sex."

Dr Moore hoped the information gathered would be used to influence policy related to sex education, so that educators, parents, community workers and adolescents could benefit from it.

Dr Moore and Professor Rosenthal's study stemmed from a Commonwealth AIDS grant given to them in 1989, where they looked at adolescent sexuality and safe sex practices.



Dr Susan Moore.

They carried out surveys in 15 major tertiary institutions throughout Victoria.

They had found that 65 per cent of the 2000 first-year university students surveyed had had sex and a majority had experienced unsafe sex.

As a result of both their studies, Dr Moore and Professor Rosenthal have produced a book on the topic titled *Sexuality in adolescence* (Routledge, London, 1993). It is due to be released in Australia in December.

— BY SIMON DARLING

Just briefly

Science writers awarded

Monash senior lecturer in earth sciences and dinosaur expert Dr Pat Vickers-Rich and her husband, Dr Thomas Rich, have won the Eureka Science Book Prize for *Wildlife of Gondwana* (Reed Books).

The \$10,000 NSW University Press award is Australia's only Science book prize and one of its richest literary awards. It is one of the five Eureka science prizes administered by the Australian Museum.

Foundation professor retires

Professor Noel Murray, foundation professor of structural engineering at Monash, will retire at the end of 1993 after 33 years of service to Monash and the engineering profession.

Professor Murray has made major contributions in the areas of stress analysis, plastics design, thin-walled structures, pressure vessels, pipelines, and crashworthy resistance of structures and vehicles.

Frankston name change

Monash University's Frankston campus has changed its name. The bayside campus is now known as Monash University, Peninsula Campus, Frankston.

Computer upgrade planned

Monash University is about to embark on a \$2.5 million upgrade of its computer network and software systems. The upgrade, which will take effect from January, is part of a new information technology and services strategy proposed by the Computer Centre.

Research funding

The Federal Government will provide more than \$105 million next year to support leading Australian researchers.

The federal Minister for Education, Employment and Training, Mr Kim Beazley, announced the government's decision to allocate funds in 1994 based on advice from the Australian Research Council. Funding for next year includes:

- \$81.08 million for 1573 major research projects (more than \$7 million over last year); and
- \$24.14 million for higher education institutions to fund less costly research projects (more than \$5 million over last year).

There were 3779 applications for major research projects funded under the large grants scheme, of which 2790 were for grants to support projects starting next year.

Mr Beazley said the average size of the 1994 grants was more than \$50,000. Nearly 600 awards were given to new projects starting in 1994.

South Africa takes Monash counsel

Economic experts at Monash University are playing a leading role in reopening international trade links with South Africa.

Two academics are working with South Africa's powerful Industrial Development Corporation (IDC) to create a new economic model for the politically-reformed nation.

IDC officials approached the Monash Centre for Policy Studies earlier this year to tap the expertise of deputy director Professor Brian Parmenter and senior research fellow Dr Mark Horridge.

As the pair were adding finishing touches to a new general equilibrium model (GEM), the Australian Government handed down a historic decision to lift all trade, investment and financial sanctions against South Africa.

Trade links between Australia and South Africa were building fast when Dr Horridge installed the IDC-GEM computer program in Johannesburg last month.

Professor Parmenter followed up the technical work with a series of lectures for South African Government officials, academics, and the private sector.

Both academics returned to Melbourne astonished by the strength of commitment in South Africa to reforming the country's political and economic future.

Dr Horridge described the officials he dealt with as "forward thinkers" and "very committed to reform".

He said Australian news reports painted a violent picture of South Africa, failing to show the "huge national process of consultation and reform".

These views were echoed by Professor Parmenter, who said the IDC's commitment to "outward-looking" policies was shared by the powerful African National Congress (ANC), which was expected to be the dominant force in the Government of National Unity, likely to take power after next year's elections.

He said South Africa was determined to reduce its protective barriers and promote the international competitiveness of its manufacturing sector.

"South Africans now want to take their place in the international economy, but while there's a protective wall around

industry, the country can't be competitive," Professor Parmenter said.

"So it's not surprising that South Africa is tapping our expertise. We're world leaders in this type of model for policy analysis. Our models are being used to capture the effects in all kinds of policy areas. In fact, they now are a very powerful tool."

IDC-GEM evolved from the well-known MONASH model for the Australian economy. The new model was designed to project the impact of economic policy changes in South Africa, while showing future income changes for the country's four major racial groups: white, black, coloured and Asian.

Professor Parmenter said IDC officials were delighted by the Australian-made model, especially since South African leaders had spent "a great deal of money" on less successful models in recent years.

He said IDC-GEM was the first model to produce interpretable projections of the effects of policy changes on the structure of South Africa's economy.

Dr Horridge said people from across the world had converged on South Africa in search of trade opportunities since sanctions had been dismantled. Throngs of tourists were also visiting the country.

"South Africa is on the brink of making numerous important decisions," Dr Horridge said. "It was certainly an exciting time to be there."

During 1991-92, Australia exported \$226 million in products to South Africa, while service exports totalled \$55 million. Although South Africa represents only 0.6 per cent of Australia's total exports, experts anticipate a 50 per cent jump in the next few years.

Trade Minister Senator Peter Cook revealed recently that Monash University's Professor John Button, a former Federal Government minister, would lead a special trade mission to South Africa.

— BY WENDY BUSFIELD



Dr Mark Horridge (left) and Professor Brian Parmenter have recently returned from South Africa where they met with the Industrial Development Corporation.

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Ms Lyn Grasby, executive assistant to the pro vice-chancellor (Gippsland).
"I would have to say that my biggest fear is that Monash University may amalgamate with the University of Melbourne."



Mr Ian Newbold, building attendant, university administration, Clayton.
"My biggest fear is being unemployed and having to live on a pension, hanging around idle."

Miss Olive Yee, administrative officer, student administration, Clayton.
"I hate lizards. I don't know why, but I just can't stand them. I can't recall any particular event which caused this, but I've always hated them."

What is your biggest fear?

AIDS is the most common fear of Melbourne teenagers, according to research by two Monash University academics.

Dr Eleonora Gullone and Dr Neville King have found that the killer disease scares a majority of local 15 to 18-year-olds.

But AIDS was not the biggest fear for younger age groups, who were more frightened by death, kidnapping and not being able to breath.

Dr Gullone and Dr King recently drew widespread media attention when their fear research was unveiled at the Australian Psychological Society conference.

The academics, who work with the Education faculty's School of Graduate Studies, surveyed nearly 1000 children from Melbourne's inner and suburban schools. The children, aged from seven to 18, were studied over a three-year period.

The first part of the study was carried out in 1989, with follow-up studies of the same children in 1992 to determine the relationship between fear and maturation.

Dr Gullone told *Montage* that girls expressed more fears than their male peers. She said females reported fears that were more intense and different from those of male participants.

"In particular, females were more likely than males to report being fearful of rats, fire, spiders, snakes, bush fires, creepy houses, bad dreams and being alone," she said.

"These findings support the most commonly proposed explanation for gender differences, which essentially argues that being fearful is consistent with the feminine gender stereotype, as is being expressive about feelings and emotions. In contrast, the male stereotype promotes characteristics such as courage and control over emotions."

Dr Gullone said the research also found that most childhood fears dwindled with age.

"The only fear which continued to show an increase over time beyond 15 years of age was the fear of spiders," she said.

"But when examining changes in fear over the three-year period, we found that the number and intensity of fears decreased over the three-year period.

"This was particularly the case between seven and 10 years of age, when the most marked decrease occurred. Beyond 10 years of age, approaching adolescence, a degree of stability in fearfulness became apparent."

Research also showed that younger participants had more fears of greater intensity than older children.

"The fears of younger students also differed from those of older students," Dr Gullone said. "Younger children were more likely to report fear of situations or stimuli, such as getting lost in a strange place or a crowd, dealing with strangers, drunk or strange-looking people, being sent to the principal and tigers.

"These fears represent situations which are more realistically threatening to the younger child. They also indicate that younger children evaluate the threat of stimuli and situations at a level which is consistent with their stage of cognitive development. As such, their evaluations of a threat are less reality-based than those of older children and adolescents."

Dr Gullone said males and females from all age groups expressed fears indicative of death and danger.

She said the most feared areas were dangerous drugs, being unable to breathe, sharks, being threatened with a gun, nuclear war, kidnapping and being hit by a car or truck.



Associate Professor Phil Rayment, acting head, School of Applied Science, Gippsland.

"That a re-elected Mrs Kirner would reintroduce the old VCE maths, that's what I really fear."



Mr Paul Strickland, education research officer, student union, Gippsland.

"My biggest fear is that I might lose my job because of voluntary student unionism legislation."

Mr Eddie Hall, technical assistant, Teaching Services Unit, Clayton.

"What do I fear the most? I suppose I'd have to say snakes, and I mean the poisonous type. Whenever I walk through the bush, I always think I'm going to step on one."

The economics of education

A recent Monash study has shown that tertiary education may not necessarily be making Australia a clever country.

The controversial study, commissioned by the Economic Planning Advisory Council (EPAC) and conducted by the Monash Centre of Economics of Education, studied the contribution of education to economic growth and development.

While conventional wisdom has it that any money spent on education is a good thing, study coordinator Dr Leo Maglen says the evidence does not support the assumption.

"Despite emphasis on increased participation rates, transition to higher education and tertiary qualifications, Australia is not much better off economically," Dr Maglen said.

"The links between education and the productivity of labour, while stronger at the base level, are not clearly established."

Since the 1960s, education has expanded in Australia, with the number of full-time workers with degrees rising 400 per cent (a 700 per cent increase for females, 300 per cent for males).

But despite a better educated workforce, the growth in average productivity has remained steady.

"Current evidence does not support the notion that educational expansion is capable of achieving the broad economic

objectives that have been assigned to it," Dr Maglen said.

The study compared Australia with the US, UK, Germany and Japan, using a variety of educational performance indicators. It found little relationship between the countries.

Dr Maglen says these results do not point to a greater quantity of graduates as the path to increased productivity, competitiveness and economic growth.

The evidence suggests that improved quality of education and training may be the key.

"It is more important to improve education through primary and secondary schools. With a thorough grounding in general knowledge, literacy and numeracy skills, people are better prepared and equipped for their future careers in the workforce," he said.

"Far greater attention should also be given to employment-based training schemes.

"The release of the EPAC paper appears to have come at an opportune time, for it has sparked a lot of interest and generated considerable discussion."

The centre is looking at a wide range of issues in economics and finance of education and training, including internal efficiency, links with the broader economy and international perspectives.

Win a lunch at Wellington's

Why do you deserve a free lunch at Wellington's? Answer this question in 30 words or less and you could win a lunch for two at the Clayton campus cafe.

Four lunches for two people, which include a two-course meal and bottle of wine, will be won by Monash staff or students. The winning responses will be published in the next issue of *Montage*.

Just fill in the coupon below and send it to the Public Affairs Office, Main Administration Building, Clayton campus.



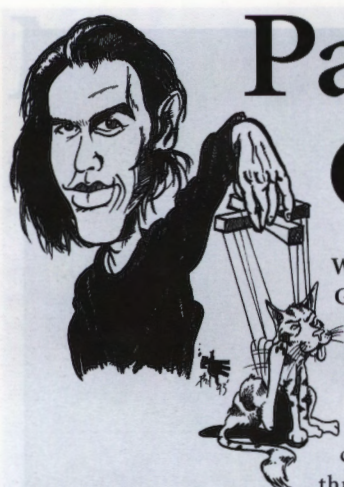
Name: _____

Staff or student number: _____

Position title or course of study: _____

Why I deserve a free lunch at scrumptious Wellington's:

Paw vs. Claw



Wandering the corridors of the Geography and Environmental Science department, you would never guess you were in the middle of a battle zone. But should images of crazed climatologists and geologists throwing rocks at each other spring to mind, fear not.

The war is being waged between Paw and Claw, two illustrated characters that in inimitable cartoon fashion have been unsuccessfully trying to knock each other off.

"It all began five months ago," explains Claw's master, Mr Phil Scamp, whose artistic insignia of a hand was blatantly stolen by friend and fellow cartoonist Mr Danny Penny.

The feud began when Mr Penny, a masters student in the department, was enlisted by a mutual friend to design a house-warming invitation. As a joke, his illustration of a cat curled up in front of a fire was signed with a foot.

Not willing to have his symbol tampered with, Mr Scamp responded with a cartoon of Claw threatening Paw to "lay down his pens or die".

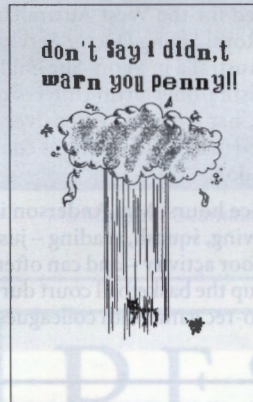
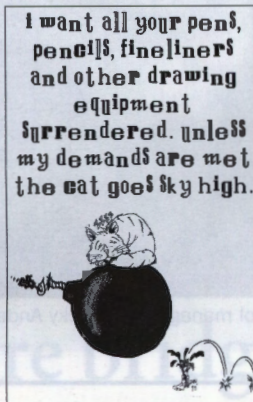
Nineteen cartoons later the battle still rages. Claw has been staked through the palm, slashed, abducted, blended, and even become bionic. In turn, Paw has

been electrocuted, shot, poisoned, microwaved, and has visited Bangkok to study martial arts.

Mr Scamp's freelance artwork, with his signature hand, can be seen throughout Monash publications. During business hours, he is a cartographer in the Department of Geography and Environmental Science.

Mr Penny is studying the palaeoecology of North Eastern Thailand, using fossil pollen grains and algae to infer environmental change.

The Paw versus Claw saga will continue next year and *Montage* will bring you more of the epic in 'Spike'.



Talking about crime

Police are turning to a Monash University forensic linguistics expert to help piece together criminal cases.

Dr Kate Storey's expertise in voice identification is drawing strong interest from law enforcement agencies in Australia and overseas.

The Ballarat-based research consultant is in constant demand, as one of only a handful of experts in forensic linguistics in the Southern Hemisphere.

Dr Storey has helped law enforcement agencies prosecute more than 40 cases in the past four years with her thorough analysis of recorded voices presented in evidence.

She has appeared in more than a dozen courtrooms across Australia, performing the bulk of her work for the Department of Public Prosecutions and the Federal Police, along with defence work, legal aid and private cases.

"I've always liked doing puzzles, so I suppose that might explain why I like the job," Dr Storey said.

Dr Storey finished her masters and PhD studies at Monash in 1990. After graduating, she worked as a Monash linguistics researcher and started specialising in forensic work.

As her papers on the subject attracted more widespread attention, she started developing a consultancy for the Monash Linguistics department to handle the flood of inquiries.

To cope with the growing demands and to further her research, Dr Storey recently applied for a grant to purchase a high-technology sound spectograph.

"When police arrested him ... they asked him to do an imitation of Mickey Mouse."

Areas tackled in Dr Storey's research include masking and distorting in recording devices, text analysis, identifying disguised voices, verballing, forgery and scripting.

She speaks French, German, Spanish, Italian, Portuguese and understands Irish, Catalan, Thai and Italian, allowing her to work on several criminal cases involving languages other than English.

One of her most challenging jobs was working with police investigating a drug case. The evidence included an audio tape of six foreigners in one room, speaking six different languages.

"It was a bit like a jigsaw puzzle, sorting out who was who in the room," Dr Storey said.

In another interesting case, several young men were accused of stealing a CB radio and tampering with the equipment to access the police D24 line.

Dr Storey said a defendant used the stolen equipment to gain access to D24 headquarters and communicate with police operators. The defendant provided car registration numbers and asked for details of ownership and any criminal records.

She said the taped conversations included an Indian accent, similar to impersonations by actor Peter Sellers.

"When the police arrested him, they asked him if he was good at imitations," she said.

"He actually said yes, so they asked him to do an imitation of Mickey Mouse, which he did. They then asked him to read out some information in an Indian accent, which he also did. I had to decipher the tapes that the police recorded. He ended up in Melbourne Magistrates' Court getting a fine and a bond."

Forensic linguistics first became popular in US courthouses in the 1950s and 1960s, soon after the invention of the first sound spectograph.

Dr Storey said her US predecessors "went a bit overboard" and treated evidence from the new equipment with the same legal weight as fingerprints.

"There were several miscarriages of justice in those days and the Americans backed off a bit," she said.

"But this sort of work is becoming more common today, even though there are still only 40 members in the International Association of Forensic Linguists (IAFL)."

Dr Storey, a member of the IAFL editorial board, maintains close contact with colleagues in Australia, the UK, Germany, Eastern Europe and other countries delving into forensic linguistics research.

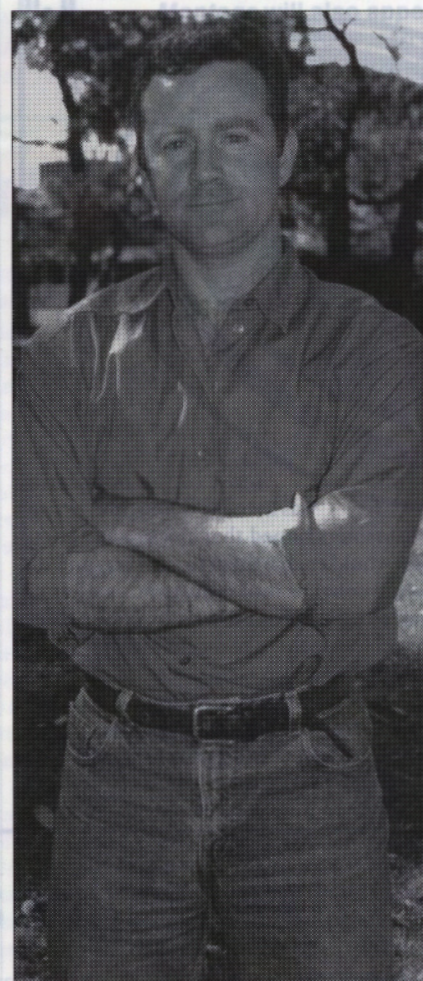
Her specialist papers have attracted international interest, the latest work being 'Constants in auditory and acoustic voice analysis in forensic speaker identification in cases of disguised voice'.

The paper, which was presented in Germany and Adelaide earlier this year, investigates the use of assumed accents or disguised voices in spoken threats, extortion, blackmail and conspiracy.

Dr Storey will present her latest paper on 3 December in room S426 of the Menzies building, Clayton campus, at 11 am.

— BY WENDY BUSFIELD

New creative directions for student theatre



Four weeks into his appointment as Monash Student Theatre's creative director, Jim Lawson is busy planning next year's productions and summer holiday workshop program.

Mr Lawson's role is to develop and offer workshops in performance and technical skills to students and staff, direct plays, and offer assistance and funding support to students wishing to produce or direct their own works.

Mr Lawson is keen on supporting contemporary and Australian works. Of the six shows being produced by Student Theatre next year, four are Australian and two are English works produced within the past 10 years.

Mr Lawson has an extensive background in theatre. He studied at Rusden, has performed with the Woolly Jumpers in Geelong, wrote plays and devised new works in both Melbourne and Geelong, worked backstage in theatres in Australia and London, and has had minor roles on television shows such as *Feds* and *Phoenix*.

He is also interested in improvisation and is a foundation member of the Flying Pig Theatre Company, which has the rights to Theatresports in Melbourne.

Mr Lawson believes that Monash is a perfect environment for student theatre. "Students are the greatest free thinkers, are willing to take bigger risks, and are more supportive of each other in their endeavours," he said.

"I hope I can offer my skills and directing experience to the students, use the relative freedom to explore new and experimental works, and encourage more people, including staff, to discover the experiences of student theatre."

"Being a great actor is not a prerequisite for becoming involved. There are many openings for those with interests in technical skills, theatre design, set construction and stage management."

Productions planned for next year include Louis Nowra's *Inner Voices*; Monash students' *Brave New Works*; Steven Sewell's *Dreams in an Empty City*; Jim Lawson's adaptation of A. Wearne's novel *The Nightmarkets*; John Godber's *Bouncers*; Carol Churchill's *Cloud Nine* to be staged at the Malthouse Theatre, and a Monash students' production of Kit McMahon and Steven Kwong's *Suicide Piece*.

The Shakespeare Society will produce *A Midsummer Night's Dream* and the Monash Players will produce *Sex and Other Frustrations*, Tennessee Williams' *A Streetcar Named Desire*, Oscar Wilde's *Salomé*, David Hare's *Secret Raptures*, Monash Players' *Revue* and Kira's *The Edge*.

The courses on offer to staff and students during January and February include acting, devising theatre, writing for performance, circus skills with Circus Oz, lighting and orientation week activities.

"STEP INTO MY OFFICE..."

Vicky Anderson

The word 'protocol' usually evokes images of famous people, cocktail parties, and meeting the high powered.

But the actual work is far from glamorous, says the university's protocol manager, Mrs Vicky Anderson.

"Although I meet a lot of distinguished visitors to the university, I usually only spend a few minutes greeting them as they get out of a taxi or accompany them around campus," Mrs Anderson said.

"My role is an organisational one where I do all the work prior to the visit, such as organising appointments with relevant Monash staff, setting up programs, organising catering, transport, and arranging suitable Monash gifts."

Mrs Anderson has a background in public relations. She started at Monash in 1992 as a public affairs officer and was seconded to the protocol role early this year.

Since her appointment, she has revamped the university's protocol arrangements and streamlined operations.

Her work for the Public Affairs Office entails writing press releases and articles for *Montage*, and organising special projects such as the Monash involvement in the World Trade Fair, to be held in Sydney next year.

The Protocol office is always busy. Her phone rings constantly and despite schedule alterations and an unending stream of visitors, little fazes the well-organised Mrs Anderson.

She came originally from a sheep station in outback Western Australia. Mrs Anderson later worked for the West Australian Section of the Royal Flying Doctor Service and Greening Australia in Perth. She holds a BA in journalism from Curtin University of Technology, has travelled extensively, and once worked in a public relations consultancy in London.

Outside office hours, Mrs Anderson is interested in diving, squash, reading – just about any outdoor activity – and can often be seen tearing up the basketball court during a Monash co-rec game with colleagues.



Protocol manager, Mrs Vicky Anderson.

Telling a timely tale

Living by the clock is now a way of life. But it has not always been so. Author of *The unforgiving minute*, Professor Graeme Davison, explains here how Australians learned to tell the time.

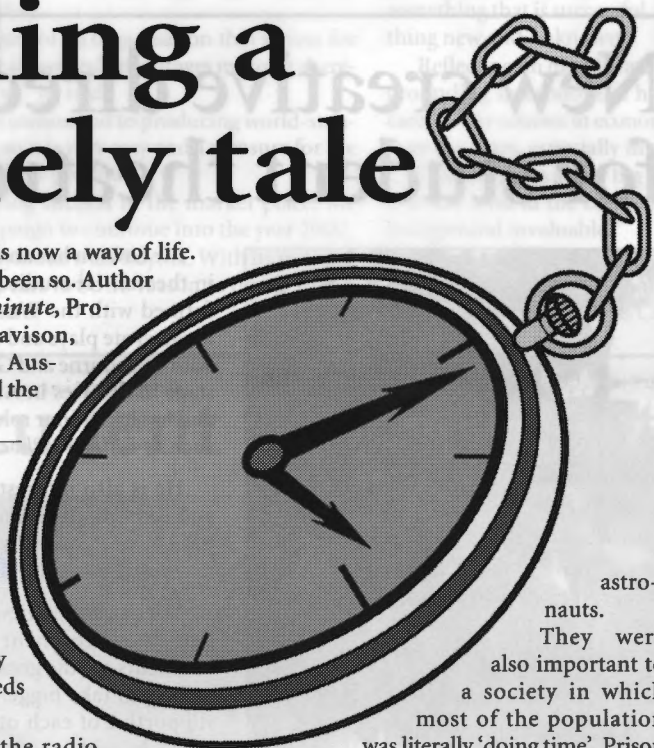
Ours is a clock-wise society. From the moment the clock-radio wakes us to the moment we take off our wristwatches and go to bed our lives are governed by the ticking of hundreds of clocks.

Time checks on the radio prompt us to depart for work. Punch clocks monitor our arrival on the job. Microwave cookers time our evening meal. Video recorders punctually tape our favourite television programs. Much of the time we do not notice them, but that is because we have become so accustomed to the rule of the clock that we obey it automatically.

Clocks are so essential to our way of life that it comes as a shock to discover that only a hundred years ago many Australians could literally not have given the time of day. If they kept track of time at all it was by the age-old methods of monitoring the progress of the sun across the sky. Many men and most women did not possess a watch and lived out of sight or earshot of a public clock.

So how did Australians learn to tell the time? Historians have seldom asked themselves this simple question, yet the answers throw light into many dark corners of our past. Clocks, I argue in the *The unforgiving minute*, have been the quiet revolutionaries of Australian history.

The age that witnessed the European discovery of Australia was the great age of the clock. Highly accurate clocks, such as the marine chronometer carried aboard Governor Phillip's flagship *The Sirius*, enabled the First Fleet to navigate its way to New South Wales. Clocks were as essential to the exploration of Australia as computers and gyroscopes would become to 20th century



astrometers. They were also important to a society in which most of the population was literally 'doing time'.

Prison reformers hoped that clocks and timetables would enable them to turn lazy and dissolute convicts into industrious and punctual citizens. From the 1830s public clocks began to appear, like mechanical police, on church towers, in factories and in schools. Later, as the telegraph transmitted time signals from the capital city observatories to the farthest corners of the country, people could get the time from the local post office or railway station. Cheap American pocket watches enabled every man, if not every woman, to carry time with them.

Society itself gradually became more time-conscious. Working men observed a strict eight-hour day, housewives began to time the preparation of meals, schoolchildren were punished for being late, and football matches were timed to the minute. Only at the close of the century, however, in 1895, did Australia adopt a system of standard time zones.

In the 20th century, more time-shattering changes were in store. Radios, aeroplanes, automobiles, wristwatches, and later, computers and automated time-control systems helped to create time regimes that were more flexible than the old ones.

Yet, in this supposedly more leisured age, why do we seem to have less time than ever before?

The unforgiving minute is published by Oxford University Press and is available from the University Bookshop for \$18.95.

One way to earn your daily bread

No saying better captures the concept of Wholefoods than "earning your daily bread".

Students who volunteer to work at the Clayton campus vegetarian restaurant know exactly what the phrase means – an hour's work for a two-course meal, salad and a free drink.

This kind of restaurant could not survive outside a university environment.

At Wholefoods, success depends on a huge campus demand for healthy, nutritious, good-value food.

The restaurant also depends on its student volunteers, who wander in at an appropriate time, don an apron and, according to abilities, are signed up for work.

Wholefoods coordinator Ms Kylie Weaver says the 15-year-old restaurant is an institution at Monash.

"We aim to offer a healthy nutritious alternative for students and staff," she said.

"For many students living out of home with little time to cook, Wholefoods is their main meal so we like to make sure that what we are offering is of substance."

Ms Weaver said Wholefoods had an unusual staffing structure, but like any other

restaurant had to comply with the health, and cleanliness standards of the hospitality industry.

"We also need a certain level of staff to function effectively so we are always looking out for more volunteers," she said. "Team spirit is especially good for new and overseas students if they are feeling a bit lost and want to get into student life. Once you have worked at Wholefoods, you are never short of a friend."

Wholefoods, which has support from the University Union, broke even for the first time last year. Any excess profit goes back into the restaurant for items such as extra tables, chairs, crockery.

Ms Weaver, who enjoys cooking, was originally attracted to the restaurant's casual atmosphere.

As a full-time arts student in classical studies, she understands the pressures on volunteers who combine work and studies.

Wholefoods and the nearby coffee and cake counter will operate during the summer vacation. Volunteers are always needed. For further information, contact Ms Weaver on extn 75 4156.



Wholefoods coordinator Ms Kylie Weaver with volunteer cook Mr Tony Sidgwick.

RESEARCH

MONASH

Does society lack emotional depth?



Providing answers to asthma's many mysteries



Engineering for the disabled

Growth in Australia's aging population is placing increasing pressure on the health system. Rehabilitation is needed to ease the pain of physical disabilities and improve the quality of life. A new Monash research unit is helping those in need by developing an array of high-tech orthotic and prosthetic devices.

Monash University has established a new Rehabilitation Technology Research Unit to serve as a national centre for research into technologies to assist and rehabilitate disabled people.

The unit, part of the Department of Electrical and Computer Systems Engineering's Centre for Biomedical Engineering, is a joint venture between the university, the federal Department of Veterans' Affairs, and the Alfred Hospital Group.

The director of the Biomedical Engineering Centre, Associate Professor Ian Brown, said the research unit would replace the former Central Development Unit (CDU) of the Department of Veterans' Affairs, which has provided most of the funding for the project.

In an unusual administrative move, some of the CDU's former research staff were transferred from the Commonwealth Public Service to work in the unit. Mr Bill Contonoyannis is manager of the new unit and Dr Andrew Nunn, who is the head of the Caulfield General Medical Centre (CGMC) Amputee Unit, has recently been appointed medical director.

Dr Brown said the unit was not only responsible for the rehabilitation of Australia's war veterans. Its services were also available to disabled people, including road trauma and stroke victims and the congenitally disabled.

By drawing on a wide range of disciplines within the Faculty of Engineering, the unit's research will be expanded beyond orthotic and prosthetic devices into a broad range of technologies for the disabled.

"In addition to the staff transferring from Veterans' Affairs, we have a number of academics and research students who have expressed interest in developing technologies for the disabled," Dr Brown said.

"The faculty has academics interested in biomaterials, biomechanics, communications, robotics, and medical technology. The range of disciplines we can bring to bear on a particular problem makes us unique.

"It's important to try our ideas out in a clinical setting, which will be one of the main functions for the rehabilitation unit."

Early next year, a newly refurbished building at the CGMC will become the unit's permanent home.

"The CGMC-based unit will occupy 1000 square metres and will provide a prosthetics workshop, biomechanics research laboratory, and training and education facilities," Dr Brown said. "Research students will be able to work on projects that relate to real clinical problems."

Dr Brown said that with the average age of Australians rising steadily, there would be increasing pressure on the health system from aging people needing rehabilitation. The unit provides for a range of disabilities caused by stroke, diabetes, and other age-related medical problems.

The unit is also expected to draw its clientele from a diverse group of disabled people whose problems cannot be solved by off-the-shelf devices.



From left: Dr Andrew Nunn, Mr Bill Contonoyannis and Dr Ian Brown.

"We've got a number of potential projects that will involve engineers from several disciplines, occupational therapists, physiotherapists, podiatrists, and a range of medical specialists. They will work together to develop novel devices to assist these people," Dr Brown said.

As an example of its potential, the unit recently designed a carbon-fibre orthotic device for a Paralympic discus thrower, who had had his right leg amputated at the knee. The device allowed the athlete to pivot smoothly during his throw and it absorbed a great deal of recoverable energy during impact. Dr Brown said an ordinary orthotic leg would have been useless because its rigidity would not have permitted a smooth pivoting movement.



With the aid of a specially designed orthotic device, Mr Chris Gomersall has resumed roller-blading following a motorcycle accident in which he lost his leg.

Another young Melbourne man who was a keen roller-blader before losing his leg in a motorcycle accident was fitted with a special orthotic device to which a roller blade could be attached. He has resumed his sport as a result of the device.

Dr Brown said that in both of these cases, independence and lifestyle were the emphasis.

"At Caulfield we are developing a substantial laboratory where we will be able to assess or measure a variety of biomechanical parameters in patients, such as locomotion actions, the size and range of movement of particular parts of the body, underfoot pressures, and the loads being taken by people with artificial limbs," he said. "We also will have a teaching area and a training facility so that when we devise a novel prosthetic device, we will be able to teach others to use the technology."

Reactivating paralysed muscles

Dr Brown said the Biomedical Engineering Centre's research interests extended beyond rehabilitation technology to cover medical technology including diagnostic equipment, medical imaging and informatics, medical expert systems, and physiological control systems. The centre's work will involve liaison with two of Melbourne's major general hospitals, the Monash Medical Centre and the Alfred Hospital Group, which includes the CGMC.

"We are presently looking at the development of devices to help activate the muscles of paralysed patients," Dr Brown said. "Several academics in the department have a long-standing interest in muscle contraction. There are opportunities for restoring some activity to paralysed muscles by stimulating them electrically with devices implanted within the muscles."

While a primary role for the Biomedical Engineering Centre is to engage engineers in the development and application of a broad range of medical technology, Dr Brown emphasises that the research focus of the centre is in the area of rehabilitation technology. The size of the potential market for the centre's activities is very large and growing. Dr Brown said the market could be further expanded if the centre was successful in extending its operations into the Asian and Pacific regions where there is a higher rate of disabling injury.

"We're not doctors, we're engineers," Dr Brown said. "If we can link up with doctors and disabled people in a clinical setting at Caulfield, we should be able to achieve commercial returns while providing practical outcomes for patients as well."

Wiring up for sound

The sensory systems that control vision and hearing have been considered less resilient to damage than those serving the sense of touch. But research by Monash neuroscientists has found that the regions in the cortex that control hearing are not as 'hardwired' as was previously believed – similar results have been found in the visual cortex.

In the 1940s, German-American neurologist Hans Lukas Teuber found that people who had had limbs amputated developed greater sensitivity in the skin around their stumps.

Changes were obviously occurring in the peripheral nerves on the damaged limb, but Teuber suspected that significant changes might also be occurring in the brain itself, in areas where signals from the amputated limb were formerly analysed.

Modern neuroscientists have confirmed Teuber's insight. The brain has some capacity to reorganise itself following damage to the nerves concerned with transmitting information from the senses. The region of the brain known as the somatosensory cortex, for example, can reorganise itself in response to changing inputs from nerves serving the sense of touch.

Dr Dexter Irvine, of the Department of Psychology, says the same seems to be true of the sense of hearing, in which such reorganisation has not been observed previously. But the nature of the changes, and where in the nervous system they originate, is still unclear. Such questions go to the core of how the brain is organised and works: how much of its neural architecture is 'hardwired' during development, and how much remains plastic and capable of reorganisation later in life?

Changing cortical 'maps'

Dr Irvine and his colleague, NHMRC research fellow Dr Ramesh Rajan, have been trying to find answers by studying the brains of laboratory animals whose sense of hearing has been selectively damaged. The damage causes the animals to become insensitive to a range of frequencies towards the middle of the normal spectrum of audible sounds.

"When neuroscientists speak of receptor surfaces being 'mapped' on the surface of the brain, they are referring to the way that adjacent points on the body's receptor surface are represented at adjacent points on the cortex," Dr Irvine said. "Most of us thought those maps, once established, were

stable in adult nervous systems because they represent fixed neural connections.

"Some of the simplest experiments in laboratory animals have involved amputating a digit and then testing the part of the cortical 'map' representing that digit. Instead of becoming silent, that area becomes occupied by enlarged maps of the adjacent digits.

"Professor Mike Merzenich of the University of California has also shown that if you overstimulate a particular area of skin, you get an enlarged map of that skin area on the cortical surface. So it appears that even use or disuse of a sense can result in changes to the cortical map that serves it."

Studies of visual and auditory maps have been more problematic, because of the difficulties involved in making a specific lesion on the retina of the eye, or on the basilar membrane within the cochlea – the region of the inner ear where sound-pressure waves are converted into nerve impulses.

With the approval of their department's animal ethics committee, Dr Irvine, Dr Rajan, and a colleague from the University of Western Australia, Dr Don Robertson, used the guinea pig and the cat as experimental models.

"We selected the guinea pig for practical considerations," Dr Irvine said. "It has a cochlea that spirals out into the middle ear and is protected only by a thin bony wall that makes access easy. In most other animals, the cochlea is buried in the temporal bone.

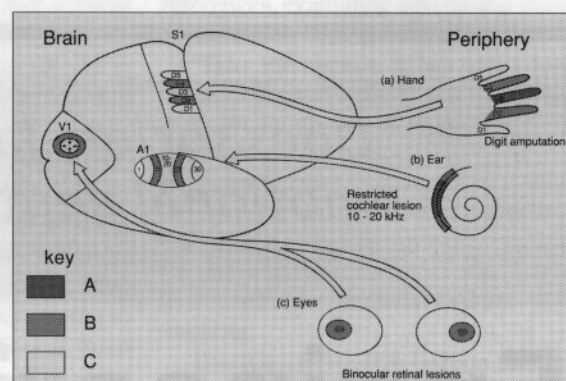
"We made the lesions mechanically, using a fine pipette to destroy the hair cells on just one part of the basilar membrane. This type of selective damage is similar to that seen in some people whose hearing has been damaged by exposure to loud noise, or by certain drugs that are toxic to hair cells.

Repairing hearing damage

"The basic technique involves making a restricted lesion and allowing the animal to recover for two to three months. Then we examine the representation of the cochlea in the cortex. We use fine probes to monitor the electrical activity of the nerve cells in the auditory area of the cortex while feeding sound of different frequencies into that ear."

Dr Irvine says that at the input end, in the cochlea, the hair cells respond to increasingly lower sound frequencies further along the spiral of the cochlea. At the processing end – on the surface of the sensory cortex in the brain – the map of frequency is approximately linear. In the auditory regions of the guinea pig's cortex, nerve cells responding to increasingly higher frequencies are located towards the back of the brain.

Nerve cells along narrow strips of the cortex are most sensitive to pure tones of a particular frequency; the position of the cells responding best to a single frequency can be represented like contours on the map.



Schematic illustration of sensory plasticity in the primary somatosensory (S1), visual (V1) and auditory (A1) regions of the cerebral cortex in response to peripheral lesions. Selective peripheral lesions (A) lead to a similar reorganisation of all three sensory maps in the brain: the regions deprived of their normal input are filled in (C) by signals from the border of the peripheral lesions (B). Modified from an illustration by U.T. Eysel.

Dr Irvine and Dr Rajan found that when the cochlea is selectively lesioned, the cells in the cortex corresponding to the particular frequency monitored by the lost hair cells stop responding to that particular frequency of sound. Within two or three months, these cells are found to respond to frequencies immediately above and below the 'lost' frequency. In other words, a larger area of the cortex is now devoted to representing sound frequencies just outside the lost frequencies.

The change, says Dr Irvine, is directly analogous to the change in the somatosensory cortex when a digit is amputated, and similar changes have recently been described in the visual cortex after restricted retinal lesions. So all sensory cortical areas have similar capacity to reorganise themselves (see diagram above).

However, the allocation of more nerves to monitor adjacent frequencies in the ear does nothing to 'fill in' the sound blank spot produced by the cochlea lesion. Dr Irvine doubts that it makes an animal any more sensitive to the sounds, because the threshold of sensitivity is limited by cochlea mechanisms, rather than nerve sensitivity.

If the change does not improve the animal's hearing, why does it occur? "We think the change is an extreme manifestation of the processes used to establish and maintain sensory maps," Dr Irvine said.

He said the way nerve cells in the deprived region of the cortex are slowly reassigned to adjacent frequencies is consistent with a theory advanced by American Nobel laureate Professor Gerald Edelman. "Professor Edelman talked about the wiring of the brain being diffuse, rather than precise. He said the brain relies on intrinsic self-organising mechanisms to extract precise organisation out of these diffuse connections," Dr Irvine said.

"It's clear from our work, and that of others in the field, that Edelman is right – the wiring is not all that precise, so that any given point on the cortex actually receives signals from a much larger, more diffuse area of the receptor surface. But only some of those signals are effective in exciting the neurons at that particular point.

Selective filtering

"So there must be some process, intrinsic to the cortex, which selectively filters the inputs, so that each point on the cortex is dedicated to monitoring only one type of input – in the case of the ear, one frequency dominates. But if you eliminate input from the dominant frequency, other frequencies intrude and eventually take over.

"The genetic specification that determines the connections between nerve cells in the brain is remarkable, but it is not precise enough to determine each connection. The brain maintains enough flexibility to decide on the precise connections and to adjust them according to changing requirements."



Dr Dexter Irvine (left) with Dr Ramesh Rajan.

continued page 3

Investigating asthma

Until recently, little has been understood about what happens in the lungs of an asthmatic. Now, extensive studies being undertaken by a team from the Faculty of Medicine are providing unique insights into the condition.



The asthma research teams: (from left) Dr Michael Abramson, Professor Haydn Walters, Dr Melissa Robbie, Dr John Wilson and Dr Jenny Rolland.

Answers to asthma's many mysteries cannot come soon enough: the condition is becoming more prevalent in Australia, particularly among the young.

Professor Haydn Walters and Dr Michael Abramson of the Monash Faculty of Medicine lead an epidemiology group that aims to provide some of the answers.

The group, a satellite member of a major European Community project to study asthma prevalence, sent at random a questionnaire to 4500 living in Melbourne's inner eastern suburbs. Seven hundred and fifty were then selected to participate in a series of physiological tests to determine whether they had asthma.

"About 10 per cent of the group we surveyed had been diagnosed with asthma and were taking some form of treatment. Another 10 to 15 per cent seemed to have the symptoms, but had not been diagnosed," Professor Walters said.

"Our Victorian data, and other studies done in NSW and Western Australia, suggest that the prevalence of asthma is three to four times higher than in western Europe." The reason for the high prevalence in Australia is unknown, but results suggest city air pollution is not solely to blame.

Professor Walters said that because the methods being used in his study are the same as those used in the European Community study, good comparative data is becoming available. Instead of relying on anecdotal accounts, it should be possible to determine why Australians seem to be more susceptible to asthma.

"Almost certainly it's a complex phenomenon," he said. "The Australian and European data will allow us to compare the relative contributions of things like environmental pollution, weather and climatic changes, and allergen loads. We need more detailed information, and not just from outdoor studies. It's quite likely that indoors, house-dust mites and moulds are very important.

"It's probably partly a consequence of affluence. Our houses are well-sealed and humid, they're carpeted and well-furnished with curtains, plush settees and chairs – they are tremendous breeding grounds for house dust mites, and, in some parts of Victoria, for moulds."

"We're looking at these factors in Melbourne at the moment, and have applied for grants to look into the situation in Moe, the Latrobe Valley, and the wheatbelt of north-western Victoria. From these different environments, we should be able to dissect the various factors that trigger asthma."

While the causes of asthma are unclear, some interaction between an individual's genetic make-up and environment are said to be responsible.

One of asthma's unexplained mysteries is that one in two asthmatics recover spontaneously during their teenage years, while the remainder will suffer attacks throughout their lives and may develop permanent lung damage.

Professor Walters says the problem with asthma is that until recently, very little has been understood about what goes on in the lungs.

"It has been a black-box diagnosis," he said. "You could measure the physiological changes of those people with symptoms by measuring the volume of air expired from the lungs during intermittent bronchospasm, but the underlying disease process was poorly understood. It was like diagnosing jaundice in somebody whose skin had turned yellow, without really understanding what was happening in the liver."

Professor Walters also heads a respiratory immunology group at the Alfred Hospital, which includes senior lecturers Dr Jenny Rolland, Dr Melissa Robbie and Dr John Wilson. The group is using the most up-to-date techniques to recover and study tissue samples and cells from the lungs of asthmatics and other people with lung disease.



Professor Walters' group is one of just a few in the world using these techniques to recover tissue samples from the lungs of asthma patients. Both are relatively simple and non-traumatic, causing little discomfort to volunteers.

They employ a device called a fibre-optic bronchoscope, widely used for clinical investigation of lung disease, including cancer. A tiny pair of forceps is passed down through the bronchoscope to snip off a small piece of tissue – about 2 millimetres in diameter – from the airway. Because there are no pain-sensing nerves in the lungs, the procedure is painless. A local anaesthetic is administered to prevent discomfort in the trachea and upper airway.

The prevalence of asthma [in Australia] is three to four times higher than in western Europe.

The second technique, called broncho-alveolar lavage, involves taking washings from the interior of the lungs. Usually a small amount of sterile saline fluid is introduced into the lung, providing a medium to carry the cells as they are aspirated up a tube.

About 20 million cells may be recovered by this technique. Professor Walters said it is difficult to correlate these free-floating cells to those obtained by the biopsy technique, but they are still providing valuable information about inflammatory processes in the lungs.

"We can culture the cells, see what type they are, count them to determine which cells are proliferating, see what cell-activating substances and growth factors they are making, and then relate these to the acute symptoms or chronic disease processes we see in the individual," he said.

Professor Walters describes his group's work to analyse the hormonal profiles of lung tissues as a "fishing expedition". Previous research has found that a group of cell-activating hormones called interleukins occur at

elevated levels in the lungs of patients whose asthma is allergy-induced. It is not known whether certain interleukins play a primary role only in the allergic response, or are useful markers for other processes that are damaging lung tissue.

Several other interleukins, along with colony stimulated factors (CSF) and tumour necrosis factor (TNF), are also often elevated in asthma patients' lung tissues. Professor Walters said TNF may be involved in fibrosis – the tendency of chronically affected airways to develop high levels of connective tissue (collagen) that reduce their flexibility and compromise ventilation.

Professor Walters and his colleagues are using a range of techniques, including advanced methods from recombinant DNA technology, to see which particular types of cells are producing these growth factors and cell-activating factors.

The Alfred Hospital study is seeking volunteers in the early as well as later stages of asthma, as well as healthy volunteers to serve as control group members.

The cross-sectional bronchoscopic study is seeking to identify people with allergic and non-allergic asthma, childhood and late-onset asthma patients, and people who have fixed airway obstruction, or totally reversible narrowing. "We need people who have had relatively little treatment, who are still fairly fit but are displaying definite symptoms," Professor Walters said.

However, not all studies into asthma are so invasive, and the Alfred research group is also interested in following the natural history of asthma and the effects of a variety of promising new drugs on symptoms and lung function.

A general practitioner and two research nurses put each volunteer through a full physical examination, and in the case of the asthmatics, record the history of their medical treatment, the drugs they have been prescribed and airway narrowing measurements for inclusion in a database.

Volunteers interested in any of the studies should contact research nurse Ms Rosalyn Bish on 276 3476.

from page 2

More recently, using the cat as a model, Dr Irvine and Dr Rajan have been trying to determine whether the change occurs in the cortex itself, or somewhere between the ear and the cortex. There is no direct connection – typically, the signal must cross between five and seven synapses (nerve junctions) before it arrives in the cortex.

"The results of these studies indicate that the reorganisation doesn't only occur in the cortex itself. Some changes take place within the pathway from the damaged ear, prior to the level at which the pathways from the two ears are integrated.

"The cortical map seems to be constantly changing as a function of use and disuse," Dr Irvine said. He, like most neuroscientists, believed that

areas of the cortex dedicated to senses like vision and hearing were the most 'hardwired'. "But it's obvious that even the most hardwired areas of the brain are capable of change," he said.

"In two representative mammals, the guinea pig and the cat, damage to a restricted region of the peripheral nervous system resulted in a dramatic reorganisation of the brain. A large number of people have similar

cochlea damage, so one would expect some analogous reorganisation in their brains, and we would also expect that to have some functional consequence.

"Our animal studies allowed us to make predictions about the nature of these effects, and we are planning studies of hearing in people with partial deafness of this sort to test these predictions."

Consuming pleasures

Everything we wear, eat and buy has more significance than we realise. A Monash academic's cultural analysis of such things as greeting cards, modes of transport, and restaurants reveals the possibility that our society lacks spontaneity and emotion, preferring a shroud of rules and consumerism.

Toorak Road is a symbolic battlefield where the doomed middle classes are making a last stand in their four-wheel-drive tanks.

Bum bags are just a modern-day version of the cod piece – the bigger and more ornate, the more important the personage.

Greeting cards and their pap messages are creating a mass-produced intimacy that is sabotaging our personal relationships.

These are just a few of the pithy observations in an irreverent but disturbing book on the cult of consumerism by Dr Joanne Finkelstein, a senior lecturer in the Monash Department of Anthropology and Sociology.

The A-Z of consumer pleasures will be released by Heinemann next year. If it follows in the footsteps of the cultural analysis outlined in her two previous books, *Dining out* and *The fashioned self*, it is bound to provoke controversy.

Translated into Spanish and Italian, these books have pushed the outspoken sociologist into the limelight. She is regularly called upon to comment on popular culture, be it the rage for platform shoes or virtual reality.

"What interests me are individuals' relationships to their consumer opportunities," Dr Finkelstein said. "Who buys greeting cards, for example? What do they think they are buying?"

Worldwide, about 10 billion cards are exchanged annually. Manufacturers, such as Hallmark, employ industrial psychologists to design the most enticing point-of-sale material.

Anonymous authors write puerile messages like, 'I love you because you are the best granny in the world'.

"Someone buying that card is relieved of the difficulty of working out their personal relationships," she said.

"It is a tool by which a technological advance such as mass media publishing has become a means of insinuating market-driven and trivialised messages into the fabric of everyday life."

Dr Finkelstein has similar biting conclusions about the fashion industry that "exploits our naivety" and warns how our increasing collusion with machines is making us less adept at social interactions.

This is the evaluative and critical approach of cultural studies, a rapidly growing academic field that reads everyday life and examines the economic and political influences.

It brings a scholarly eye, "a serendipitous look at the accumulation of knowledge", to bear on items as seemingly humble as the bum bag or necktie.

It takes the researchers into the laboratory of life to observe drivers trying to park their Range Rovers in Toorak Road or to interview budding executives about the trivia they record in their Filofax diaries.

One cultural studies graduate is taking a trip down the east coast of Australia, from the Big Pineapple to the Giant Earthworm, to record the string of kitsch attractions masquerading as museums.

As well as observing modern manners, the dynamic research methodology might include searching for historical

references, examining advertising statistics and interviewing manufacturers.

"Take the necktie. It has a very long history but as an item it's utterly decorative. Its longevity intrigues me," Dr Finkelstein said.

An early reference was that of Beau Brummel in the late 18th century, who expounded on his preference for a country cravat because the water was cleaner and hence the material crisper after washing.

Tracing the necktie fashion into the 20th century, Dr Finkelstein observed the sub-culture of the stock market where a certain kind of tie is a signal that the wearer has donated a week's wages to a charity.

"The tie is used as a signal of status and of conspicuous consumption; this is a private language for the people who know. Absolute frippery," she concludes.

More disturbing conclusions for Melbourne's burgeoning cafe society are contained in the book's chapter on dining out.

"I was living in New York where no-one visits each other in their houses. They always meet in restaurants. There must be thousands to every square kilometre," she said.

"What kind of a society supports a dining out culture? What kind of a society have we got where romances, family get-togethers, and business deals all take place in restaurants?"

"My conclusion is that it's a sign of our increasing instability. Individuals are subsumed under the rules and structure of a restaurant where there are no opportunities for idiosyncratic exchange."

"In this structured, almost totalitarian environment, we release ourselves of the difficulty of sorting out our own emotional and social ties."

Dr Finkelstein predicts that by the year 2000, one third of the meals consumed in Australia will be prepared outside our homes.

She says the largest growing sector is the chain and fast food restaurants – the McDonald's and the Kentucky Fried Chickens. These, she says, are the most rigid and standardised of them all.



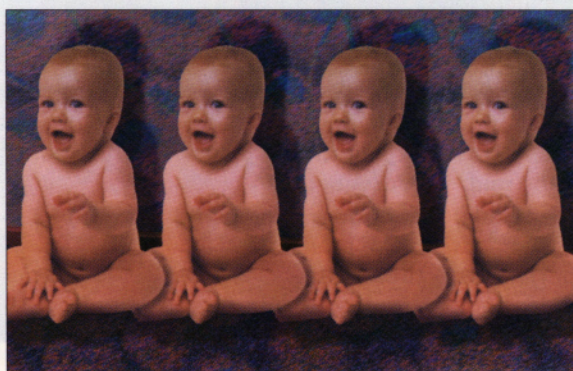
Dr Joanne Finkelstein amidst the greeting cards that she says relieve consumers of the difficulty of working out their personal relationships.

Multiple birthrates rise

Victoria's birthrate of triplets and quadruplets has tripled in the past eight years mainly due to IVF and other similar techniques, a Monash study has found.

Between 1982 and 1990, 133 sets of triplets and six sets of quadruplets were born in Victoria, raising the higher order (three or more) multiple birth rate from 3.5 per 10,000 in 1982 to 10.9 per 10,000 in 1990.

According to the study, conducted by Dr Helen Jonas and Dr Judith Lumley, of the Monash Centre for the Study of Mothers' and Children's Health, the rise was partly due to increased use of in-vitro fertilisation (IVF) and gamete intrafallopian transfer (GIFT).



In 1990, 42 per cent of all triplet and quad pregnancies were due to IVF and GIFT.

The research findings, which were published in the *Medical Journal of Australia*, showed that other states experienced an even greater increase in the incidence of quads and triplets than Victoria, due to the wider use of such techniques.

The study is the first of its kind in Australia and provides a detailed account of the impact of IVF and GIFT technology on the higher order multiple birth rates of a whole population over an extended period.

The researchers not only wanted to document the rising birth rate with the study, but also wanted to look at the various difficulties associated with such births.

According to Dr Jonas, the increase in higher order multiple birth rates was of concern because the death rate for triplets and quads was very high (10 per cent for triplets and 25 per cent for quads), mainly due to immaturity.

"Rough calculations indicate that during the study period, a third of triplet and quad births occurred naturally, another third were due to non-IVF and non-GIFT procedures, such as ovulation induction, and the other third were due to the IVF and GIFT programs," Dr Jonas said.

"Triplet and quadruplet pregnancies impose health risks on the mothers and babies, not to mention

considerable financial and emotional strains on the parents."

In their paper, the researchers said the complications of higher order multiple births could be reduced considerably by careful monitoring of ovulation induction and by limiting the number of eggs or embryos transferred during IVF or GIFT.

The authors also discussed recommendations made by the Reproduction Technology Accreditation Committee of Australia in 1988. The committee proposed that no more than three embryos or eggs be replaced during IVF or GIFT procedures. In 1990, these recommendations had not made any significant impact on the rising rate of triplet and quad births in Victoria. But by 1991, the proportion of triplets and quads conceived through IVF and GIFT had decreased to 14 per cent.

The study was compiled over a 12-month period with data provided by the Victorian Perinatal Data Collection Unit, Australian Bureau of Statistics, National Perinatal Statistics Unit, perinatal units from other states and the Victorian IVF and GIFT units.

The Centre for the Study of Mothers' and Children's Health, under the helm of Dr Lumley, is part of the Faculty of Medicine, and is funded by the Victorian Health Promotion Foundation. It brings together a diverse team of researchers, with expertise in epidemiology, women's health policy, psychology, education, historical and social research, biomedical research, consumer advocacy, medicine, and nursing.

— BY VICKY ANDERSON

Monash joins fight against AIDS

A Monash-designed computer-based teaching program was launched last month to help combat the HIV infection.

The Monash University HIV Hypermedia Medical Education Software, aimed at medical students, general practitioners and other health care professionals, provides the latest information on the management of patients with HIV.

Project coordinator Dr Michael Kidd, of the Department of Community Medicine, believes the new software will improve awareness in a vital area of clinical medicine.

"The new program highlights different patient scenarios, and will help the user understand and manage difficult clinical and ethical issues affecting people with HIV," Dr Kidd said.

"A feature of the program is its extensive base of reference material on HIV, including a series of interactive patient management problems and tutorials on the prevention and management of infection."

The reference material includes sections on virology, immunology, epidemiology, clinical manifestations, diagnosis, management, prognosis and ethical issues. Multimedia elements include clinical photographs, x-rays, diagrams, charts and animation.

The computer program was created by the Monash University Unit of Medical Informatics and the Department of Community Medicine, with assistance from the Department of Microbiology at Monash Medical Centre, the General Practice HIV Education Unit, and the Medical Library at Fairfield Hospital.

Program software is available through the AIDS/Communicable Diseases Branch of the Department of Health, Housing, Local Government and Community Services. Information about the program may be obtained from Ms Robin Baker on (06) 289 8351.



Ms Margaret Bearman accesses the HIV Hypermedia medical education software, launched last month.

New centre bridges the gap

The National Technology Demonstration Unit (NTDU), which opened officially last month, is helping to bridge the gap between Monash University's research efforts and Australian industry.

An extension of the already successful Centre for Advanced Materials Technology (CAMT), NTDU aims to demonstrate potential industrial applications of university research to relevant industries, particularly in material science and engineering.

CAMT director Professor Paul Rossiter said NTDU would target adhesives and optical fibre sensors as its two main research interests in its first years.

Professor Rossiter said the sensors used in optical fibres could detect such things as chemical species in solutions or gases, vibrations in mechanical devices, strains in structures, and could act as security devices or proximity sensors.

He said CAMT had generated much interest among local companies and had already embarked on joint programs with several of them.

"As we add to our existing client base and become more established, we will also be looking at developing active links with our Asian neighbours," Professor Rossiter said.

CAMT recently established an alliance with Cambridge University's Centre of Adhesive Technology (CAT). It has since become its agent for the Asia-Pacific rim in the development, demonstration and distribution of CAT's adhesive technology expert system.

NTDU is a Department of Employment, Education and Training (DEET) priority



Professor David James: The NTDU is "an ideal way for interaction to take place between industry and universities".

research funds project, which is overseen by the Australian Research Council (ARC). DEET funding totalled \$56,300, with an equal amount forwarded by CAMT and the Faculty of Engineering at Monash.

At the opening of NTDU, Professor David James, a member of the Institutional Grants Committee of the ARC, said the units incorporation into CAMT should prove "a singular success", offering a blend of engineering, chemistry and physics.

He said the introduction of NTDU was a critical phase in developing stronger links between universities and industry.

Professor James said: "It is an ideal way for interaction to take place between industry and universities in a practical situation, where each learns from the other with the ultimate goal of achieving technological advances."

RESEARCH

We want to hear about research at Monash for next year's scientific publications.

Some articles featured in *Research Monash* and *Montage* will also appear in the university's annual research review *Eureka*.

If you believe your work would interest readers within the university and in the wider community, please complete the coupon below and send it to:

The Editor, *Research Monash*, Public Affairs Office, Administration Building, Clayton campus.

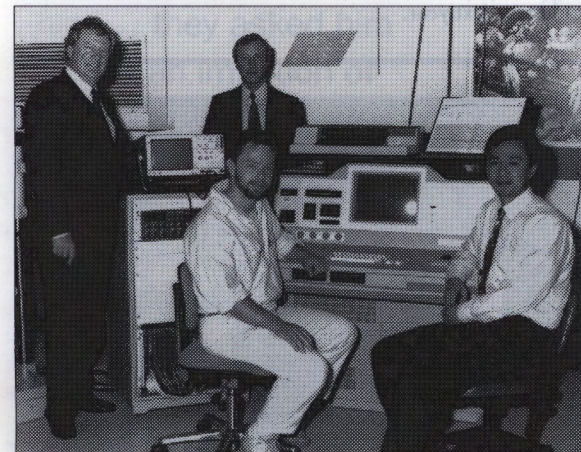
Name.....

Department.....

Synopsis of topic, including potential applications

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Research opportunities rise with new purchase



Professor Mal Logan (vice-chancellor), Professor John Pilbrow (head, Department of Physics), Mr Chris Noble (honours student), and Dr Yong Zhong (postgraduate fellow).

Monash University's Physics department has opened the doors to more sophisticated research following its purchase of the Bruker ESP 380 Pulsed EPR Spectrometer at a cost of \$630,000.

The only one of its kind in the Southern Hemisphere, the spectrometer determines the properties of electrons in solids, chemical complexes, and biological molecules.

It has potential applications in the petroleum, chemical and food industries.

The spectrometer has been in use by Monash researchers since March this year and was officially launched by the vice-chancellor, Professor Mal Logan, in September.

Physics head Professor John Pilbrow said the department had been delighted with the versatility of the new equipment, which allowed them to conduct sophisticated new experiments, as well as conventional ones.

"The exciting thing about the new equipment is that we have been able to extend the range of experimentation well beyond what we have ever achieved before," Professor Pilbrow said.

"We have been able to use the apparatus productively and creatively since day one, and the results have proven that it was a worthwhile investment for the Physics department."

Since its installation, Professor Pilbrow, postdoctoral fellow Dr Yong Zhong, and honours student Mr Chris

Noble have successfully used the spectrometer to make new observations, with one paper already in publication and another accepted by the *Journal for Magnetic Resonance*. A third paper has also recently been submitted for publication.

The equipment is also to be used on a casual basis by researchers from Melbourne and La Trobe universities.

The equipment was purchased through a shared ARC Mechanism C grant of \$700,000 to Monash, Melbourne and La Trobe universities. Funds were also donated by the Monash Development Fund and the Physics department.

From economics graduate to marketing hotshot

The marketing genius of one-time Monash student Mr Bob Miller has won him two of Australia's most prestigious marketing awards this year.

Mr Miller, the general manager of marketing for the Toyota Motor Corporation, has been given *Business Review Weekly's* award for best marketing director for 1993 and the Australian Marketing Institute's (AMI) Sir Charles McGrath Award.

Both awards recognise outstanding contributions by individuals and companies to the Australian marketing industry.

Mr Miller completed a BA in economics and Indonesian at Monash in 1967 and has been involved in marketing for most of his 25-year career.

His working life began at Ford Motor Company's Asia-Pacific export office, where he spent eight years, before moving to the Melbourne-based advertising agency USP Needham as an account executive.

Since 1982 he has been at Toyota, where one of his most outstanding marketing successes has been the 'Oh, what a feeling!' campaign.

Over the past 10 years the campaign's catchy jingle and fun visuals have been successful in luring 22 per cent of the Australian sales market, earning Toyota the title of Australia's number one sales distributor.

Mr Miller adopts a modest attitude to his recent awards, claiming he has been very fortunate to be able to work with such a marketable product.

"I'm lucky to be a part of an organisation that strives for excellence, and one that allows and encourages me to be as creative as I can possibly be," he said.

"Toyota Australia is committed to producing world-standard quality products, so it is very easy and a pleasure for me to market such an excellent product."

With Toyota enjoying success in the market place, Mr Miller expects the campaign to continue into the year 2000.

"The jingle is synonymous with Toyota. With its tremendous success, there appears to be no reason to dump such a winning formula," he said.



'Oh what a feeling!': Mr Bob Miller has taken out *BRW's* award for best marketing director for 1993 and the AMI's Sir Charles McGrath Award.

"In my mind it is better to maintain momentum with something that is successful, rather than try to recreate something new and unknown."

Reflecting on his education at Monash, Mr Miller says his grounding in economics has been useful in his marketing career: "My courses in economics have been very helpful to me over the years, especially in marketing statistical analysis."

"Toyota plays a very big part in the economy and being at a senior level in the company, I have found my economics background invaluable."

The Sir Charles McGrath Award will be presented to Mr Miller at the AMI National Awards for Excellence at Melbourne's World Congress Centre in February next year.

New society links neighbours

Ties between Australia and Indonesia were strengthened last month when the vice-chancellor, Professor Mal Logan, launched the Monash Society in Indonesia in Jakarta.

The society consists of 10 selected Monash graduates who are senior academics, mainly social scientists, in Indonesia. Their task will be to increase Monash University's profile in the archipelago, advise the vice-chancellor on possible projects, and lobby authorities on collaborative projects. The society plans to meet every two months.

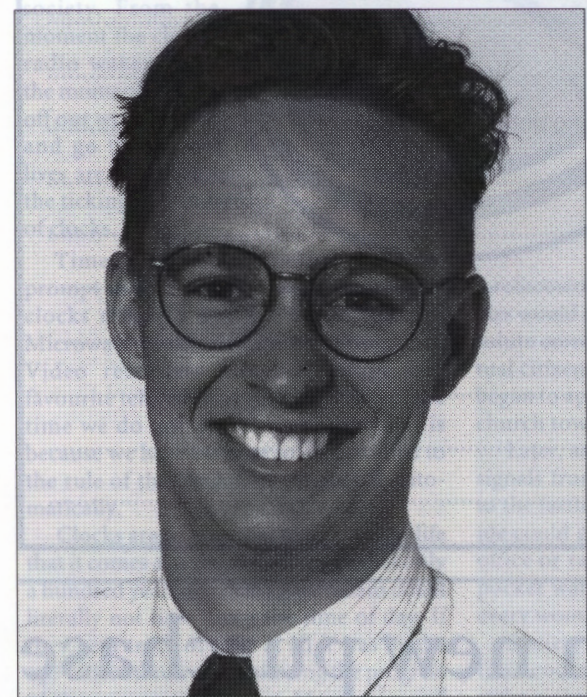
An important part of their brief will also be to establish an annual conference on Australian-Indonesian relations. It is expected the conference will alternate between the two countries.

Many members of the society, says chief organiser and lecturer in Asian languages and studies, Mr Bas Koesasi, are also members of political organisations and advisers to government.

The society consists of the coordinator Professor E. Saefullah Wiradipradja, deputy rector, Padjadjaran University; Dr Wies Lalamentik, deputy dean, Faculty of Letters, Universitas Sam Ratulangi; Professor I. Gde Widja, rector, STKIP; Dr I. Ketut Nehen, head of International Cooperation, Universitas Udayana; Dr Suparman Kardi, deputy dean of education, IKIP Surabaya; Professor Dr Tengku Amin Ridwan, professor of linguistics, USU; Dr Djoko Suryo; dean of letters, Universitas Gadjah Mada; Dr Ichlasul Amal, dean of political science and social science, Universitas Gadjah Mada; Professor Nazaruiddin Samsuddin, Faculty of Social and Political Sciences, Universitas Indonesia; and Dr Dewi Fortuna Anwar, head, Regional and International Affairs Division, Centre for Political and Regional Studies, Indonesian Institute of Sciences.

Mr Koesasi said the society was the first of several planned internationally.

Top student takes quantum leap



Mr Grant Pill.

A talented Monash student has won a scholarship to work with Europe's leading infomercial company in London.

Mr Grant Pill will join Quantum International's senior management team for up to five months next year.

The 23-year-old undergraduate has been hand-picked for the position as the most outstanding student in the university's Syme Marketing department.

Mr Pill, originally from Albury, will gain important work experience in one of the world's fastest growing industries when he joins Quantum International in the new year. The company is internationally recognised as a leader in home shopping infomercials.

Winning the scholarship capped off an impressive academic performance by Mr Pill, particularly in psychology and statistics. His degree course combines a Bachelor of Business in marketing with a Bachelor of Arts in psychology.

Since joining Monash in 1991, Mr Pill has become well known on Caulfield campus. He is a former president of the Monash Marketing Society and a current board member of the Monash Student Union.

Deputy dean of the Business and Economics Faculty, Professor Peter Chandler, a leading marketing academic, said Mr Pill would gain work experience in an industry accounting for \$1 billion in sales in the US alone.

He said the scholarship was created by Quantum's managing director, Mr David Carman, a former Syme Fellow in Retail Management.

Japanese students flying high on success

Five return airfares to Japan have been awarded to honours students from the Department of Japanese Studies.

Donated by JTB Australia Zaidan, a non-profit education foundation established by the Japan Travel Bureau, the air tickets, worth \$9000, were presented to students who won a speech contest held last month.

Mr Chuah Chong Hee, Ms Nita Chow, Ms Katrina Walsh and Mr Rohan Bramley each won an airfare for speeches made on topics ranging from 'The overseas student's life at Monash' to 'A comparison of Japanese, Chinese and Australian weddings'.

The three-member judging panel could not decide between speeches presented by Ms Rosemary Chang and Ms Joanna Strzalecka and so they shared the fifth prize.

The general manager of JTB Melbourne, Mr Iwao Kohno, awarded the prizes to the students, who will travel to Japan next year.

New creche for Clayton

The Monash Student Creche Co-operative has a new purpose-built complex at 62 Beddoe Avenue, Clayton.

The building, which provides direct access to the campus for the first time in the creche's 25-year history, was opened officially by the vice-chancellor, Professor Mal Logan, on 22 October.

Professor Logan said it was on such facilities that the university should be focusing.

"The university should be about service," he said. "We are trying to identify more services that we should provide for students so that we can get back in line with overseas universities, which have a better service record than Australia."

When it opened in 1968, four children were looked after by one carer. Today, about 100 children attend the creche, with 12 child care staff offering an education and care program.

Until now, the centre has been located at various converted university houses in Beddoe Avenue. The new premises includes three rooms for children under the age of three, two rooms for children over three, a sleep room for babies, three bathrooms, and three large outdoor play areas.

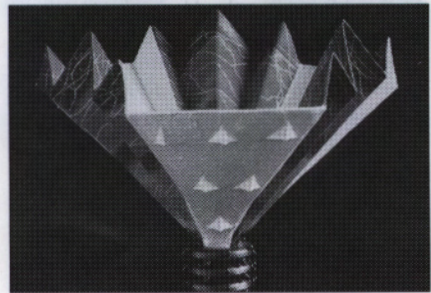


The vice-chancellor, Professor Mal Logan, with coordinator of the creche co-operative, Ms Ellinor Campbell.

Awards flow from overseas

Monash ceramics lecturer Ms Andrea Hylands has basked in the international limelight this year.

Ms Hylands has shared the 1992 grand prize at the 13th Biennale Internationale de



One of Ms Andrea Hylands' creations.

Ceramique D'art at Vallauris, France, and received an honourable mention at the third International Ceramics Competition at Mino, Japan.

She recently exhibited at Distelfink Gallery in Hawthorn, and if that wasn't enough, still manages to find time to teach full-time at Caulfield campus and practise her art at her hideaway studio near Castlemaine.

Ms Hylands, who has been at Monash since 1986, believes in the virtues of combining teaching with her own artistic development.

"I use distortion and deception in my abstract pots, which places them between the ordinary and the extraordinary," she said. "While there is no overt symbolism,

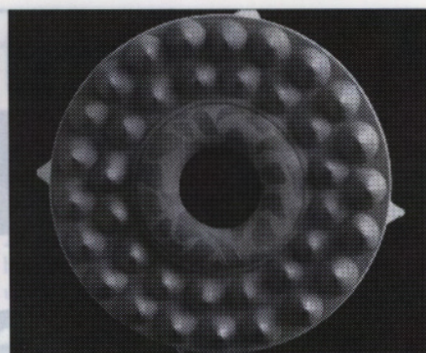
the familiar is turned into surprise. I like exaggerating the surreal aspect of a pot as opposed to a commonplace object."

The absolute whiteness of the porcelain and bone china pots are an ideal empty canvas for an exploration of colour and decoration.

Ms Hylands is proud of her achievements overseas and says it reflects the high standard of ceramics and pottery in Australia.

"We have an active ceramics industry and practice in Australia," she said. "This is reflected by the abundance of ceramics and pottery magazines and also the number of artists exhibiting overseas."

"There is also a heightened awareness locally. People have become much more appreciative over the past few years through



And another...

better education, publicity, and understanding of ceramics and art in general."

Future directions for Ms Hylands include further abstraction of her pieces and a deeper exploration of colour. She has also bought a new computer and is interested in designing up-market tableware and interiors for manufacturers.

Threading Japanese-style ceramics

Textiles provide a provocative medium for works by six staff and postgraduate students in the School of Early Childhood and Primary Education, Peninsula campus, in their latest exhibition.

The artworks include collage, multi-panelling, layering of paper and fabric materials which explore strong figurative and landscape themes. They are embellished with dyes, stitching, hand paints, screenprint, machine embroidery, collage, fibre manipulation, bark, hand embroidery, applique, and beading.

Ms Sue Wippell's flora images incorporate a dynamic palette and bold design where she uses her rekindled interest in embroidery to explore new techniques and procedures.

Ms Gayle Murphy experiments with natural dyes and the felting process in her subtle landscapes interpretations.

Ms Jenny Hall explores the textures and patterns found in close-up images of nature.

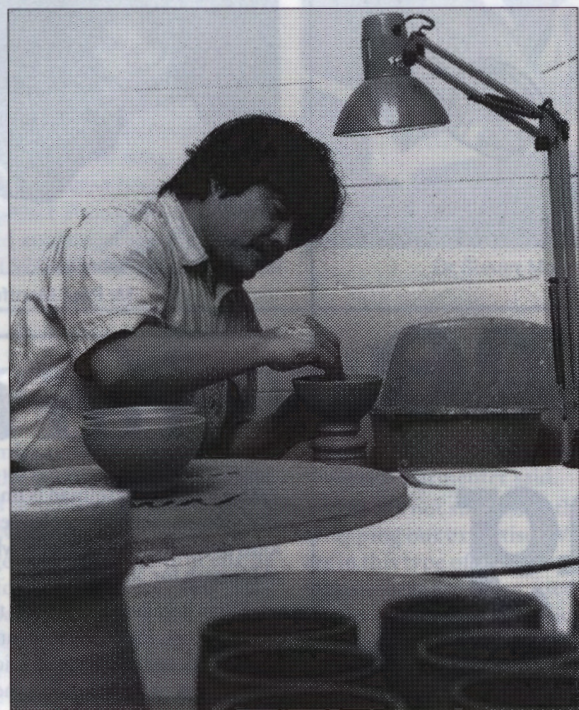
Printed and stitched collages by Denise Forsythe intimate geological and archaeological sites where she endeavours to capture the affinity between a tribal culture and the land.

Ms Illi Pellitier continues her exploration into psychological portraiture and cultural mores searching for the reason behind injustice in society. Her textiles use long stitch and appear as drawings.

The exhibition is being held in the McClelland Gallery, Frankston, until 6 December.

The Department of Ceramic Design at Caulfield campus has become home to visiting lecturer, potter, and professor at Fukuoka University of Education, Shunichi Inoue.

During his 10 months at Monash, Professor Inoue will undertake research into the unique characteristics of



Professor Shunichi Inoue at work.

Australian ceramics, give occasional lectures, and create his own collection, to be displayed at the end of his term at the university.

When *Montage* met Professor Inoue, he was busy at work, not producing the ceramic works for which he is renowned, but turning rice bowls, plates and sake bottles to use in his new home.

His topic for research seems strange for a Japanese artist, but Professor Inoue has been inspired by Australia and its art works since he spent four years at the now-defunct Bendigo Pottery.

"I find Australia fascinating because of the evolving culture here," Professor Inoue said. "Despite Australia's comparatively recent settlement, each migrant has bought something of their 1000-year-old culture and recreated it slightly differently. It is this adaptation of the cultures that is reflected in the works."

Professor Inoue's own work reflect his interest in glass and music.

"If someone can hear the music in my works then I know that I have captured them and they understand my own inspiration," he said.

Professor Inoue believes that the potential for ceramics and pottery are unmatched. "As a potter, I create objects that make a contribution to daily human life."

Professor Inoue's non-lecturing appointment with the Department of Ceramic Design means that he is free to assess the students' works with an unbiased eye and can encourage them to experiment in ways previously unimagined.

Watching Professor Inoue at work, even if it is just turning rice pots, is seeing the timeless art of a master at work.

Potters in a spin

Potters from the Peninsula School of Art scooped the pool at last month's annual Victorian Ceramic Group awards.

Final year student Ms Mary Lambie won the award for the best emerging potter, and the deputy head of the Peninsula School of Art and part-time masters student, Mr Paul Davis, took out the prize for the best non-functional piece of ceramics.

Both winners received material and equipment to build their own kiln.

Ms Lambie, who has spent six years at Monash, began studying part-time for a BA major in English at Clayton campus. On the strength of an invitation to do honours, she was accepted into the art and design course.

"I returned to study for my own enjoyment, but I didn't enjoy commuting every day," Ms Lambie said. "When I saw the art and design course advertised locally, I thought it was a perfect opportunity."

"I enrolled to do stained glass, but changed my major to ceramics because I enjoyed the work so much."

Ms Lambie, who specialises in ceramic wall hangings, has set up her own studio at home. "I finish my studies this year, so the prize will be a big boost for working effectively from home."

Mr Davis believes students should be encouraged to enter their work in exhibitions.

"I think it is a really important aspect of learning, particularly for final-year students who need to put work into the market place and get a feel for how the public responds to their work," Mr Davis said.

"It is also important for staff, because not only do you have to be a professional teacher but also you have to be a practising artist. Winning awards recognises and helps reinforce the teaching program. It helps to give you credibility as an educator."

Mr Davis said students are encouraged to develop their own style and technique as well as their own glaze blends.

He said the School of Art was unique in that it provided opportunities for students to study a combination of metal, glass and clay.

"Wherever possible, we encourage students to do cross-disciplines in their training," Mr Davis said. "Aspiring artists need to be seen as public artists rather than individual craftspeople working in their own cocoon."

Final-year students will showcase their work in a two-week exhibition at the State Gallery, Meat Market Craft Centre, corner Courtney and Blackwood streets, North Melbourne, beginning 17 November.



Ms Mary Lambie (left) and Mr Paul Davis.

Alex plans the 1994 season

The Alexander Theatre will once again host a season of some of the best shows in Melbourne next year.

The Monash season will start with the Sydney Theatre Company's only Melbourne run of the Broadway musical and winner of many Tony awards, *Falsettos*.

In May, the Monash community will have a chance to see David Williamson's latest play, *Sanctuary*, directed by the new Playbox Theatre director, Mr Aubrey Mellor.

Louis Nowra's comedy *Cosi* will be performed by the Melbourne Theatre Company in June.

The director of University Theatres, Mr Phil A'Vard, is negotiating for a number of other top professional productions from around Australia, including the Sydney Theatre Company's definitive production of *The Crucible* and the award-winning Broadway hit, *Sisters Rosenweig*.

Other productions under consideration are Hanni Rayson's *Falling from Grace*, presented by Monash University's Playbox Theatre Centre, and David Mamet's controversial gender play *Oleanna*.

The George Jenkins Theatre season at Peninsula campus will feature a selection of these shows.

Mr A'Vard is pleased with the line-up for the 1994 season and says it equals the quality of this year's productions.

"I was very pleased with the response to the 1993 season and look forward to a greater awareness next year with the shows offered," he said.

The new Monash phone system will have everyone talking

From 1 January 1994, Monash University will have a new phone system across all campuses which will affect all internal and external telephone and fax lines. The following examples illustrate how the internal system will operate in the new year.

Campus	Existing extensions	New extensions
Clayton	(75) XXXX	5 XXXX
Caulfield	(73) 2XXX	32 XXX
Peninsula	(74) 4XXX	44 XXX
Gippsland	(72) 6XXX	26 XXX
Parkville		39 XXX
Monash Central (30 Collins St)		38 XXX

The new external numbers will be (03) 90 and then followed by the five digit extension number.

Other features of the new system

- Both the old and the new external numbers will be operational for an initial period of six months.
- Churchill campus will have a permanent system of two numbers:
Local callers: (051) 22 6XXX
National callers: (03) 902 6XXX
- All extension numbers become five digit numbers from 1/1/94. No numbers will be repeated across campuses.
- The current four digit form of extension numbers finishes on 31/12/93.

The new main numbers:

Clayton (03) 905 4000 • Caulfield (03) 903 2000 • Peninsula (03) 904 4000
Gippsland (051) 22 6200 (unchanged) • or (03) 902 6200
Parkville (03) 903 9000 • Monash Central (03) 903 8000
• All operator inquiries: dial 9



A NEW COMMUNICATION SYSTEM THAT GROWS WITH MONASH

The man behind the bust

The memory of Sir John Monash has always been alive in Melbourne, most notably as the namesake of this university.

In 1928, long before the university's establishment, Sir John was immortalised in bronze by famous artist Paul Montford.

Mr Montford was renowned for his many sculptures of famous Melburnians and Australians, and maybe more so, for his eccentricities and energy.

Professor Jenny Zimmer, of the School of Art and Design at Caulfield, a distant relative of the late Mr Montford, said she used to hear stories from her grandmother who visited her Kew home in the 1920s.

"My grandmother considered him a charming bohemian," Professor Zimmer said. "She told me how he tried to borrow a lion from the Melbourne zoo to serve as a live model for the lions on the Shrine of Remembrance. When George V died, he stood in Myer's window and modelled a bust of the late monarch in front of a huge crowd of mourners out in Bourke Street."

Professor Zimmer says Mr Montford was frequently pictured in the daily papers. His outrageous activities and eccentric dress made him very newsworthy.

Mr Montford, who came from England in the 1920s, was a prolific artist who made more than 70 sculptures while in Australia.

Among them are John Wesley outside Wesley church, the Adam Lindsay Gordon Monument in Spring Street, the Water Nymph in the Queen Victoria Gardens, and the Peter Pan from the Alexandra Gardens.

Professor Zimmer says the artist held humanitarian beliefs extending to women's rights, animal liberation, and the fostering of universal creativity. He was a tireless advocate of sculptors, and was concerned for the beauty of the city of Melbourne. He was president of the Victorian Artists' Society in the early 1930s.

Despite his standing and productivity, he struggled to find commissions and received meagre financial reward.

The Montford family returned to London when the sculptor died in 1938.

Despite guarded critical acclaim, Professor Zimmer says Mr Montford was an excellent portraitist and modeller in bronze. His considerable contribution to the development of sculpture is being reassessed in the light of recent research. He left Melbourne enriched and the university in possession of a memorable sculpture to honour its namesake.



Mr Paul Montford works on a bust of Mr Butler-George, 1925.

Thirty years on

Professor Mollie Holman is one of the university's longest serving employees - this year she joins only a handful of people who have worked at Monash for 30 years.

Three decades after joining the Department of Physiology, Professor Holman has established a host of personal and professional milestones to mark her success. But still she remains modest.

"I have been very lucky," she said. "When I started my medical career, I was interested in a field that had not been investigated in any detail, so I had an opportunity to find a niche for myself."

Professor Holman's lifetime of work in medicine has been well recognised. In August this year, she delivered the inaugural Edith Bulbring Memorial Lecture in Oxford. Last year, more than 100 colleagues and friends from as far away as Japan, England and the US gathered in Queensland for a symposium in her honour.

When Professor Holman delivered the Edith Bulbring Memorial Lecture, it brought her association with the university full circle. As a scholar at the university in 1955, she studied for her Doctor of Philosophy on the electrophysiological properties of the smooth muscle under the supervision of Professor Bulbring.

After completing her PhD, Professor Holman established an active research program in physiology at Melbourne University. Along with several colleagues, she published a series of landmark papers on the innervation of smooth muscle.

As a lecturer at the University of Melbourne in the 1960s, Professor Holman was faced with a daunting decision. "I was offered work at Oxford and a lectureship at Monash," she said. "I chose Monash because it was young and exciting, and I wanted to be part of a new era."

Professor Holman, who is now considered a leading authority on smooth muscle and its innervation, has been invited to speak at more than 50 international symposiums.

Professor Holman began her career in medical science by completing her undergraduate



Professor Mollie Holman has passed many personal and professional milestones in her 30 years at Monash.

studies in physics at Melbourne University in 1951. She followed this with a Masters in Physiology and Pharmacology. She began work at Monash in 1963, and was awarded a personal Chair in the Department of Physiology in 1970.

Over the years, Professor Holman has held numerous appointments, including associate dean (research), a member of the Committee of Associate Deans (Research), deputy chairperson of the university's PhD and Scholarships Committee, and chairperson of the Faculty of Medicine's Scholarships and Graduate Matters Committee.

Professor Holman is also a fellow of the Australian Academy of Science (vice-president in 1982), and a fellow of the Australian Institute of Physics. She is a long-standing member and supporter of ANZAAS and was awarded the association's medal in 1985.

She was a member of the Interim Council of Deakin University (1974-78), a part-time member of the executive of the CSIRO (1975-78), and has been a member of the Council of Geelong Grammar (1981-90).

Dealing with benzo junkies

By Dr Michael Kidd

Beatrice Faust is one of the most prominent and well-recognised members of the Monash community. Her books and magazine articles and her pioneering work in women's rights and civil liberties have made her a public figure and voice of influence in Victoria.

Her latest book, *Benzo junkie* (Viking), is remarkable for its candour and self-revelation. Ms Faust reveals the harrowing and very personal details of her dependence on the prescribed benzodiazepine Ativan and the difficulties of withdrawing from the drug.

Despite its emotive title and offensive by-line (*How doctors and drug companies get us hooked*), this book offers insight, support and encouragement to other people who have gone through similar difficulties with benzodiazepines. It should also cause those of us in the caring professions to reflect seriously on our own patterns of prescribing and the potentially damaging impact of this class of medication.

The book offers a well-researched and presented dissertation on the marketing practices of some elements of the pharmaceutical industry, and highlights the need for doctors to balance the 'continuing education' provided by drug companies with their own reading and analysis of the medical literature. This is particularly important when considering the prescription of new drugs.

Ms Faust describes feelings of euphoria and falling in love with her own reflection...

When the first benzodiazepine (Librium) was introduced in Australia in the 1960s, it seemed to offer a much needed and keenly awaited panacea for many common problems. Benzodiazepines replaced barbiturates, bromides, and chloral hydrate as the drugs of choice for treating anxiety disorders and sleep disturbances. They transformed the lives of many individuals who had been crippled by these disorders. This made them very appealing to doctors for they clearly made many of their patients feel a lot better.

Ms Faust describes feelings of euphoria and falling in love with her own reflection in the days after she started taking Ativan. It is significant that benzodiazepines were also vastly safer drugs than barbiturates, in that they were far less

likely to cause death following accidental or intentional overdose.

Very quickly, benzodiazepines such as Valium, Serepax and Mogadon become household names. The Australian population of the 1970s was much more likely to seek a pharmaceutical remedy for everyday complaints – many people found relief from modern day anxieties through the use of these and other medications.

Unfortunately, it took a little longer for some of the insidious side effects of the drugs to become apparent. Ms Faust, along with thousands of other Australians, became addicted to the drugs and, when she tried to wean herself off them, suffered serious and unpleasant withdrawal effects.

Fortunately, many factors have changed in the past decade. Medical practice is now much more patient-centred and holistic in its approach. Medications are less readily prescribed and the side effects of benzodiazepines are well recognised.

Despite the problems, there is still a definite place for benzodiazepines in clinical medicine in Australia today. They are valuable drugs in the treatment of neurotic disorders, characterised by anxiety, tension and agitation, and in the management of sleep disorders. They are also used in the management of alcohol withdrawal, in severe epilepsy and in some operative procedures, such as endoscopy.

The medical profession in Australia has been well aware of the problem of dependence and withdrawal associated with benzodiazepine use since the mid-1980s. *The psychotropic drug guidelines*, published in 1989 by the Victorian Medical Postgraduate Foundation, recommended the following prescribing guidelines for doctors:

- dependence, tolerance and withdrawal symptoms can develop;
- they should only be used for anxiety symptoms that interfere with family relationships and work, or which are subjectively distressing;
- reduction in dosage must be gradual; and
- combinations of benzodiazepines are difficult to justify.

In 1991, the National Health and Medical Research Council produced a monograph called *Guidelines for the prevention and management of benzodiazepine dependence*. The publication, distributed to all medical practitioners, detailed practical alternatives to benzodiazepine treatment including the importance of counselling and referral to self-help groups and organisations.

BEATRICE FAUST

MORE THAN A CASE HISTORY

BENZO JUNKIE

HOW DOCTORS AND DRUG COMPANIES GET US HOOKED

The guidelines also provide advice on relaxation techniques and structured problem-solving in the management of anxiety. Simple hints for better sleeping include having a comfortable sleeping environment, establishing a regular sleep-wake cycle, avoiding daytime naps, and avoiding coffee, tea, cola, cigarettes, and physical exercise before bedtime.

At Monash University, our medical students are now taught the importance of other skills in the management of anxiety and insomnia, such as competence in communication, thereby lessening the need for recourse to pharmaceutical solutions to these problems.

The sensitive 'new age' Monash medical student is well-versed on the need to adopt a 'whole person' approach to medical practice, with a keen awareness of the important influence of psychological, family, social and environmental factors on health, illness and human behaviour.

Dr Michael Kidd is a general practitioner and senior lecturer in Monash University's Department of Community Medicine. He chairs the Faculty of Medicine's Curriculum Review Subcommittee on Alcohol and Drug Education.

Benzo junkie is available from the Monash University Bookshop (rrp \$19.95).

Earnest appraisal of a painter's life

A Monash sociologist has temporarily swapped his scrutiny of prison life for the study of paintings – to be exact, a painter's life.

The result is that senior lecturer in anthropology and sociology Mr Barry Ellem has just witnessed the launch of a labour of love – a book he co-edited on the life of noted Australian painter and 1932 Archibald prizewinner Ernest Buckmaster.

Art by Ernest Buckmaster renders the artist's life in the artist's words; Buckmaster (1897–1968) left about 100,000 of them in various diaries and notebooks when he died.

Two weeks after declaring to Buckmaster's son (and the book's other editor) Norman that he saw publishing potential in the notes, Mr Ellem was presented with a box containing the unfinished manuscript and the words: "You've got yourself a job."

That was six years ago. Succeeding Saturday afternoons over the following months were spent pruning the sprawling and cumbersome manuscript down to 30,000 words.

"Our aim was to preserve Ernest Buckmaster's original words while at the same time removing the repetition. So what you read are Buckmaster's own words," Mr Ellem said.

The 150-page book contains 61 reproductions of Buckmaster's most noted paintings, many of which change hands today for more than \$20,000.

"While we were working on the manuscript, the paintings for the book were selected by Norm and his mother as representative of the artist's best works," Mr Ellem said.

Buckmaster was a traditionalist. Although too young for the Heidelberg School, he followed in Streeton's and Roberts' footsteps, lending his versatile brush to portraiture, still life, flower pieces, interiors, and landscapes.

Buckmaster's commitment to his art was such that he would often paint for days without a break. The same fastidiousness appears to have been inherited by his son, Mr Ellem said.

"Norm was concerned that the prints had to be reproduced so that they would appear as authentic as possible. He knew he would not have total control if they were printed offshore, so a local printer was chosen," Mr Ellem said.

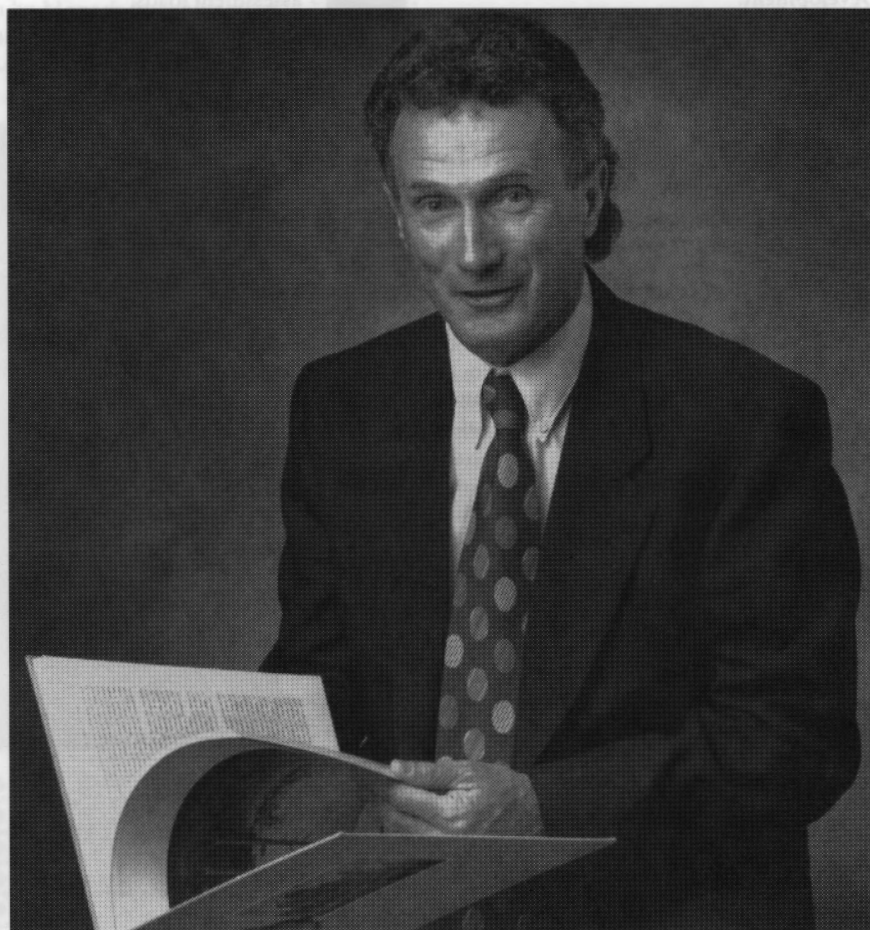
The time and patience expended seem to have paid off. More than 700 copies of a limited edition print run were sold within three weeks of publication.

Another traditionalist, Premier Jeff Kennett, launched the \$95 book last month at a special reception in Queen's Hall, Parliament House.

Footnote: Most Victorians would be familiar with Mr Kennett's agenda since he became Premier more than a year ago. But few would know that at 9 am on his first day in government he was scouring the National Gallery of Victoria for a painting to hang in his new office.

His choice? *The Jolly Swagman* by Ernest Buckmaster.

(Copies of *Art by Ernest Buckmaster* are available from Evelyn Fine Arts Pty Ltd, telephone 898 2212.)



Six years after he began work on Ernest Buckmaster's manuscript, Mr Barry Ellem holds the book of the artist's life.

Downturn leads to safer roads

Victoria's ailing economy has contributed to a dramatic decrease in road deaths over the past three years, according to a recent Monash study.

The fall has prompted the director of Monash University's Accident Research Centre to warn that as the state's economy improves, road fatalities and injuries could start to rise.

In his report – 'The road toll in Victoria: An objective analysis' – Dr Peter Vulcan indicated that the recession, random breath-testing, speed cameras, and intensive publicity were equally responsible for halving the road toll.

Dr Vulcan said these factors had seen road fatalities drop from 776 in 1989 to 396 in 1992, bringing annual road deaths below 400 for the first time since 1948, when there were 87 per cent fewer registered vehicles.

Less significant factors included the bicycle helmet law, special enforcement campaigns, improvements to roads, and the

reduction of speed limits from 110 km/h on some freeways.

Dr Vulcan said there was strong evidence that a reduction in employment was usually accompanied by a fall in the number of road deaths and injuries.

"A recent study estimates that a reduction of 53 fatalities in 1990 could be associated with the increase in unemployment," Dr Vulcan said.

"Both in Australia and overseas, studies have shown that fluctuations in road deaths move in accordance with the economy.

"Social driving, such as commuting to pubs and parties, is a significant contributor to road deaths, and the downturn in the economy has seen far less of this over the past three years.

"Perhaps people are driving more carefully now because they do not have the money to pay for speeding fines, drink-driving charges, and repairs to vehicles."

Dr Vulcan said that as the state's economy begins to pick up, road safety author-



Random breath testing has contributed to Victoria's decreased road toll.

ities are faced with the challenge of keeping fatalities at their current low levels.

"When the economy improves again people will be more inclined to become involved in social activities, which will lead to more social driving and unfortunately an inevitable increase in the number of accidents," he said.

"It is important for accident prevention authorities to be aware of this, so they can take all the preventive measures necessary to ensure that current low levels are maintained and improved."

Part of that push will be to continue Victoria's intensive road safety programs,

which have received an increase of about \$80 million funding in the past three years.

While a seemingly excessive amount, Dr Vulcan estimates that over the three-year period the new programs have saved more than \$800 million on insurance payouts, medical costs, and related expenses.

"The estimated savings are more than 10 times the estimated maximum costs of implementing such programs," Dr Vulcan said.

"And most importantly they have been responsible for saving a large number of lives, which has been the primary objective of such extensive campaigning."



Return of the symphony

The Melbourne Symphony Orchestra will return to Monash for an exciting series of Friday night concerts next year.

Robert Blackwood Hall is noted for its acoustics and atmosphere, and the orchestra is looking forward to performing for the Monash and local communities.

A new bar and refreshments area at the hall will allow patrons to enjoy a customary glass of champagne before and after the show.

The first concert will be held on Friday 25 March, when the MSO will perform Saint

Saens' *Danse Macabre*, Saint Saens' *Cello concerto No1*, and Mahler's *Symphony No1*.

Concerts in May, September and November will feature internationally renowned conductors and soloists.

The Monash series subscription prices include \$110 (A Res), and \$80 (B Res), pensioner/unemployed \$90 (A Res), \$60 (B Res), students/youth \$58 (A Res), and \$40 (B Res).

To book, contact the MSO booking office on 682 7471.

Monash universally

An array of publications promoting the university's events, facilities and research are produced by the Office of University Development.

The booklets, brochures, pamphlets and newspapers are available to anyone interested in Monash – particularly students and staff travelling overseas on university business.

For copies of the publications listed, fill in the return slip and send it to the Public Affairs Office, Administration Building, Clayton campus.



Courses at Monash details courses of study, including prerequisites and expected assessment loads.



Graduates at Monash outlines courses of study available to postgraduates.



Mosaic is a quarterly magazine for the university's graduates highlighting events and stories of interest.



Eureka profiles the year of research at Monash.



Business Victoria is a monthly newspaper targeting the business community.



Monash International is a promotional booklet describing the university's international activities.



Monash University profiles the university's campuses, facilities and study areas (available as a booklet or pamphlet).

Name _____ Contact number _____

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Publications you would like to be sent _____

Taking centre stage at the World Trade Fair

Monash and Open Learning Australia have joined forces to take a prominent stand at the 1994 World Trade Fair in Sydney next year.

The five-day exhibition will promote Monash's research and international alliances and highlight opportunities to study through Open Learning.

Display coordinator Mrs Vicky Anderson believes the exhibition will showcase Monash as one of Australia's leading international universities.

"The exhibition is an ideal platform for Monash to enhance our reputation and market the university to a large national and international audience," she said.

The fair has already attracted national and international exhibitors, with thousands of people expected to visit the exhibition.

The World Trade Fair, which will be staged in the Sydney Convention and Exhibition Centre at Darling Harbour, takes place between 5 and 9 February.



The Monash stand planned for next year's trade fair.

From stars to volcanoes

A new mathematical technique designed by a Monash academic is helping to solve problems in astronomy and vulcanology.

The director of the Centre for Computational Mathematics, Professor Joe Monaghan, has developed a technique called Smoothed Particle Hydrodynamics (SPH), which solves complex three-dimensional problems in astrophysics and is now finding wider uses in studying waves, satellite break-up, galaxy formations and volcanoes.

Professor Monaghan, who is considered a leader in the field, was invited to present his work on SPH at several conferences this year, including two international symposia devoted to advances in SPH.

A workshop was held in the US in September to discuss advances in the SPH technique, based on concepts developed 16 years ago by Professor Monaghan and two colleagues.

"The first problems we studied were in astrophysics and concerned the formation of stars," he said. "We looked at how clouds of gas in the galaxy collapse under gravity,

cool by radiation, and break into small pieces, which we believe are the precursors to star formation," he said.

Professor Monaghan said no one had been able to analyse this phenomenon up until now because there was no technique that could simulate it on a computer.

"Now, hardly an edition of the main astrophysical journals goes past without mentioning this SPH technique," Professor Monaghan said.

Applying SPH

"It is almost like an observer having a new telescope – it is a technique that enables you to explore things on the computer in a way that has never been done before."

An example of how the technique is being used to explore new territory is a project being conducted by Professor Monaghan with two colleagues from the Mathematics department, Dr Tony Lyn and Dr Leo Brewin.

"We will be exploring phenomena near black holes using SPH to simulate the

relativistic fluid dynamics in curved space-time," Professor Monaghan said.

The project has been funded by the Australian Research Council for the next three years.

The SPH technique is also assisting work in a US Government laboratory directed at impact problems, where experts are analysing what happens to the material of satellites when they are hit by large pieces of metal.

"They do this by computer simulation made possible by SPH, which can pinpoint how the satellite breaks up and the speed of the fragments," Professor Monaghan said.

In addition, a joint project between the Mathematics department and CSIRO is studying jets and sloshing fluids using the SPH technique.

"So already we have gone from star formation and galaxy structure to industrial fluid dynamics," Professor Monaghan said. "More and more uses are being found for SPH."

Professor Monaghan said SPH is an equation that can describe simply the way

particles move around and interact in fluid. "The collective motion of these particles then simulates the motion of actual fluid," he said.

In a joint project with Dr Peter Bicknell of the Department of Greek, Roman and Egyptian Studies, Professor Monaghan is using SPH in an archaeological study of the decline of Minoan civilisation on the Greek island of Crete following a volcanic eruption.

"There is evidence that Minoan civilisation on Crete was disrupted by the volcano eruption. One of the things an island volcano does, apart from putting up ash, is create waves. We have set about finding out how those waves propagated, with the aim of finding out what actually happened," Professor Monaghan said.

The understanding of volcanic eruption is also an important research area in earth sciences. Through their joint interest in volcanic eruptions, Professor Monaghan and Professor Ray Cas from the Department of Earth Sciences are collaborating on a study of volcanic outbursts.

"The SPH technique is ideally suited to simulating dusty gas erupting from a volcano at near the speed of sound," Professor Monaghan said.

Exploring the market's market



Clayton campus residents have been enjoying the market's extended trading hours. According to the manager of the Union's operation group, Mr Joe Curtis, Wednesday,

Thursday and Friday markets are being trialled until Christmas so that the best two trading days may be offered next year. While the array of stalls changes every week, products that are regularly on offer include jewellery, clothing, hats, pottery and flowers.

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Genetics and the fear of the unknown

If adequate regulation is not introduced, private biotechnology companies may offer genetic testing without adequate counselling. Their primary interest is not in treatment of the disease, but in profit and therefore the turnover of the number of people who take the test.

In the US, without the consent of parents, a paediatrician in Denver entered schools trying to select children she thought might have a condition known as fragile X (which results in a slightly odd appearance, and learning difficulties or mental retardation). She would then write a letter asking permission of the parents to genetically test the children for the condition.

The study was part of a private genetic testing company's pilot study to introduce the testing to the US, UK and Europe. One mother who had received one of the letters commented: "I really don't care whether she has fragile X syndrome. She's a very happy child; she's very well. I wonder why it matters so much. I wonder why people can't be accepted for who they are."

The paediatrician in question (who was funded by the company) claimed: "The fear generated by genetic testing in general was really a fear of the unknown." This is a dangerously naive and short-sighted view.

Patient privacy and confidentiality are very important. Already there are 'genetic registers' operated by medical geneticists who store information about individual patients with genetic diseases, as well as information about relatives with the disease, and information about relatives whose disease status is unknown.

Much of this information is recorded without the consent of those relatives. It is suggested, in the National Health and Medical Research Council's guidelines for use of such registers, that the individual affected should attempt to make contact with relatives who may also be affected, and if this is not possible, that such relatives be contacted through their medical practitioners.

There may be some medical benefit to such individuals if they are informed of their risk and are subsequently tested.

But there could be other, far-reaching ramifications for them. Insurance companies may require the disclosure of even the receipt of communication or letter from the genetic registry, regardless of whether it has been requested or subsequently acted upon. Just as sending a letter home to the parents of children in Denver was an invasion of their privacy, so too is any communication arising out of information stored on the genetic register without consent.

What are some possible solutions to these dilemmas? One would be to cease operating such registers altogether, but this would have the negative effect of reducing the opportunity for early intervention to minimise the impact of treatable diseases.

An alternative approach would be to educate people widely as to the existence of the register, cease to trace people who are on it, but allow people to consult it if they so desire. Or those who undertake to operate such a register, for example the government, could also take upon themselves the burden of providing adequate insurance, employment and counselling for those who would be worse off as a result of the information.

In this way the loss of distributive justice would be minimised. But it may make the operation of such a register untenable, and in any case could not hope to alleviate the psychological suffering of those who come to discover that they have a genetic predisposition to disease.

Advances in the technology of genetic testing may prove to be of benefit in some aspects of health care. But there is the possibility that precisely because of the tests, some people will experience hardship due to their genes. It would be a tragedy if people's misfortune was compounded by the injustices of discrimination, ostracisation and stigmatisation.

A prudent society and a caring medical profession ought not let this happen. We ought to seek creative and just solutions to the many dilemmas that the expanding technology of genetic testing will bring.

We are in a curious position. We have already failed in the past with some uses of this technology. Will we have the foresight to tread wisely into the future or will we let ourselves arrive there by accident?

Mr Brian Conway won the Bongiorno Medical Ethics Essay award for 1993 with this piece. He holds a Bachelor of Medical Science with honours and recently completed exams for his Bachelor of Medicine and Bachelor of Surgery.

Cycling deaths tumble

Victoria's compulsory bicycle helmet law has resulted in a dramatic reduction in cycling fatalities and head injuries, according to Monash University research.

Figures released this month by the Monash Accident Research Centre (ARC) show a 70 per cent drop in the number of Victorian cyclists killed or hospitalised through head injury since the helmet law was introduced on 1 July 1990.

After only a year of mandatory helmet regulations, the number of cyclists killed or hospitalised with head injuries was almost halved.

Research on Melbourne metropolitan cyclists showed a 66 per cent fall in the number of head-related deaths and severe injuries since legislation was introduced.

ARC research fellow, Ms Caroline Finch, said the report was based on insurance claims lodged with the Transport Accident Commission by Victorian cyclists injured in motor vehicle accidents.

She said Victoria was the first state in the world to introduce compulsory wearing of bicycle helmets. The legislation followed a decade of work by traffic accident experts across the state.

But Ms Finch said the years of work paid off with massive increases in the number of cyclists wearing helmets since the legislation was introduced.

She said the results of the study were welcomed by interstate and overseas road traffic experts seeking guidance in the fight to cut the number of cycling deaths.



Genetics and the fear of the unknown

There is a project going on around the world, mostly in France and the United States, called the 'Human Genome Project', in which scientists are trying to sequence and map the whole of the human genetic code. Scientists hope that the project will shed more light upon many diseases such as cystic fibrosis, haemophilia and Huntington's chorea, which are known to be solely genetic.

Some scientists believe virtually all diseases will have some component of genetic predisposition. Scientists are also looking for genes which may make people susceptible to later development of common diseases such as high blood pressure, cancer of the bowel, and diabetes, as well as mental illnesses like schizophrenia and manic depressive illness. This opens up the prospect of testing people to see if they carry the genes.

Finding out that someone is at risk of developing a given disease may prove to be of great benefit, because there are sometimes ways of intervening early to prevent the disease or to detect it while it is still curable.

But there are many potential ethical problems in this. Genetic testing has wider implications, particularly in regard to employment, health and life insurance, justice, and privacy.

To what extent ought clients seeking insurance be directed to have tests for susceptibility to disease?

What employer, for example, would want to take an employee and invest in a lengthy training period if it was known that the person was at high risk of developing a disease that could cut short his or her working life?

Insurance companies would have an interest in knowing the genetic risk of people seeking coverage, as a client who is susceptible to a disease is more likely to want to take out insurance. If enough high-risk people did this, the price of premiums for everyone would rise. Conversely, those who had genetic tests and were proved to be at low risk might demand lower premiums.

For example, people who have a parent with Huntington's chorea (a late onset brain disease), have roughly a 50 per cent chance of contracting the disease themselves.

by Brian Conway

Insurance companies won't insure people with such a risk. But if they have a test, 50 per cent will be able to show that they do not have the disease and so become eligible for insurance, while the other half will have to cope not only with being uninsurable but also with the anxiety of knowing that they will later develop the disease.

Questions arise. To what extent ought clients seeking insurance be directed to have tests for susceptibility to disease? To what extent should individuals have to disclose genetic risk to insurance companies?

At present, the insurance industry advocates a 'level playing field' approach. If an individual has had a test, then the insurance company would want to know the result. But if the person doesn't know, the insurance company does not want to know either.

This is the traditional position on disclosure. But will insurance companies always take this view? Life insurance companies tend to rely upon a declaration of past and family medical history, as well as a physical check-up, which includes a blood pressure check and a urine test. This could change. The potential for further testing is enormous.

Only when testing for HIV do companies need specific consent from the client. Theoretically, once you provide a sample of blood they could run a whole battery of tests, and that could include genetic tests.

Indeed, insurance companies could even store the sample and later do further tests as they become available at low cost. This may not affect the individual who has already taken out a policy, but it may give companies cause to deny insurance to a client's relatives. Just as an information data bank is used to establish a person's credit rating, so – in theory – insurance companies and employers could begin to construct a genetic data bank of information through which they could weed out high-risk individuals.

Thankfully, we have not yet gone that far. Insurance has for some time been functioning as a mechanism of distributive justice. The financial burdens of the less healthy are spread over a large number of people. From an ethical viewpoint this is desirable.

Despite scientific advances, some people would rather take their chances of having a child with a genetic disorder or of dying prematurely than have information

on risks pressed upon them. This is worth bearing in mind. For if we use genetic testing unwisely, we risk creating a sub-class of individuals who are unemployable, uninsurable, and who it seems are likely to later become unwell – all through no fault of their own.

Will we battle racism, sexism, and even ageism, only to be saddled with a sinister 'geneism'?

In the United States, some people were denied insurance and employment after a screening program for carriers of sickle cell disease (a blood defect) among blacks. In a similar program in Greece, carriers were socially ostracised and seen as undesirable marriage partners. People, it seems, do discriminate genetically. Will we battle racism, sexism, and even ageism, only to be saddled with a sinister 'geneism'?

It is difficult to come up with solutions. One possibility, aimed at protecting individual privacy, is to legislate against insurance companies and employers asking questions about genetic risk, and in this way maintain a system of distributive justice.

An alternative is to legislate for compulsory insurance, as people do already for third-party vehicle insurance, to distribute the burden. Another option is to factor into the cost of conducting the screening tests, the cost of insuring those who may otherwise be disadvantaged by the result. In this way, those who receive a bill of genetic good health are still contributing to the care of the weaker members of society. Much thought needs to be given to this field, but solutions may emerge if creative minds apply themselves to the task.

The ethical dimension of informed consent takes on a new twist in the field of genetic testing. Is such testing to be regarded as a medical procedure? Normally, when we think of consent to a medical procedure we are inclined to think about the physical risks to our health and the associated side-effects and complications.

But the risks with genetic testing are more likely to be psychological, social and financial. If someone comes to psychological, social or financial harm as a result of having a genetic test, ought they have any redress for negligence against the person who ordered the test, if that person failed to warn them of the risks?

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DIOGENES



Our friend telephoned recently to say she'd just read an article that seemed, in our case, more than pertinent.

We listened carefully – the fact that she hadn't said "pernitent" made us think this was serious.

University tests, she explained slowly – knowing the juxtaposition of the two words usually provides us with the perfect excuse to slouch off and overhaul the lint filter on the washing machine – had shown that mild depression can be treated by jamming a pencil between your teeth.

To cut a short story even shorter (after all, it was a tabloid), it transpired the simple act was enough to lift you out of whatever trough you happened to be splashing about in at the time.

More than enough, she said, to make a pair of jeans out of your blues. Certainly enough to trick you into thinking that Bronwyn Bishop and the Sydney Olympics were not only viable but also probably good ideas.

The sceptical soul we are, we gave her an undertaking: we would conduct our own trials.

The next day we sat at our desk and thought of Her Majesty's State Government – just sufficient to bring on a low-grade depression – and selected a Copperplate 4B, one of our favourite writing tools.

We persisted for half an hour, with Australia's contribution to the pencil world dangling from our lip like a forgotten Gitane.

It didn't work. The blues were on the verge of singing.

Perhaps we were meant to light it? Knowing slightly more about the combustibility of pencils than we do about popular psychology, we thought we'd play safe and check with our source.

Fool (or a muffled utterance to that effect), she said, you're meant to clench it crosswise, between your teeth.

We tried again. The second attempt, however, drew blood from our lips.

We persevered, waiting for the warm glow of mindless happiness to envelop us. But the only warmth we got was spit.

Then suddenly we remembered the way our dogs down through the years would drool at the thought of food, the fact of food, or a gentle pat.

It was tolerably simple: salivation and a good time went hand in hand.

We rang our friend and ventured our theory.

The lead-weighted silence at the end of the phone suggested as a pop psychologist we made a pretty good patient.

Look, she began. We looked...at a pencil that only 10 minutes previously we had considered inhaling.

The pencil, she illuminated, forces you to smile, fooling the brain into thinking you are having a grand old time and that Dame Bronwyn should be nominated for a Nobel Peace Prize.

Realisation dawned, and we rose slowly from our bed of ignorance to greet it.

Then we laughed. Pretty much loudly. It had the desired effect. Blues turned into gold.

We resolved then and there to write our own sequel to Christopher Koch's *The year of living dangerously*.

We would draft it in a spitless, bloodless 4B and call it *The danger of living seriously*.