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NEWS FROM THE CAMPUSES OF MONASH UNIVERSITY

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Why all the political pundits were wrong

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RESEARCH

The platypus: feeling without touching?

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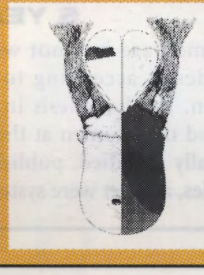


HISTORY

Tall timber tells its own tales

➤ Pictures P6, 7

Beating stress by conquering the heart

Taking control of your own heart is the nucleus of a proven new method for overcoming the many stresses of the modern workplace – and for improving relationships at home.

Workplace stress cannot be avoided, but a remarkable research project led by Associate Professor Christopher Sharpley, of the Centre for Stress Management and Research, has shown that individuals can be trained to lower their stress levels, allowing them to perform more efficiently in stressful circumstances.

One of the most reliable indicators of stress is a rising heart rate. After five weeks of training, Dr Sharpley's subjects are actually able to lower their heart rate in stressful situations. Follow-up studies indicate that the benefits are permanent, and flow through to other aspects of the person's life, including family relationships and sporting performance.

Dr Sharpley, who first demonstrated *reduced heart rate reactivity in a pioneering* study in 1989 using a form of biofeedback training, is applying the findings in the Stress Management and Counselling Clinic's training programs. The clinic at Monash operates as an independent, self-funding enterprise, offering stress management courses, both to individuals and to companies.

The research has followed a test group of volunteers, who were successfully taught heart rate control techniques under laboratory conditions, and a control group. The result of these trials was a world first: subjects in the test group halved their heart-rate reactivity in stressful situations, and the improvement was maintained when they were retested seven and 18 weeks after training.

It was one thing to see an effect maintained under laboratory conditions, but did it persist under real-world conditions – in the working environment?

Members of both the test and control groups were classified into three categories, depending on how many beats per minute their heart rates increased in stressful circumstances. "We fitted all the members of the test and control groups with ambulatory heart monitors wired to special wrist-watch type monitors, and recorded for two hours a day in their working environments.

"The monitors took heart rates every five seconds, and we downloaded the data from the monitors into a PC at the end of each day. During the two-hour monitoring period a research assistant followed the subjects around and recorded their behaviour at 10-second intervals."

Four times over three years, Dr Sharpley and his assistants monitored 86 volunteers in this manner, obtaining nearly 100,000 heart rate readings, and correlating them with nearly 50,000 behavioural observations.

Before training, there were no significant differences between the treatment and control groups. After training, the difference was dramatic, measured in terms of the average decrease in heart rate reactivity across all three reactivity categories. Members of the test group had heart rate increases which were between 10 and 25 per cent of those in the control group.

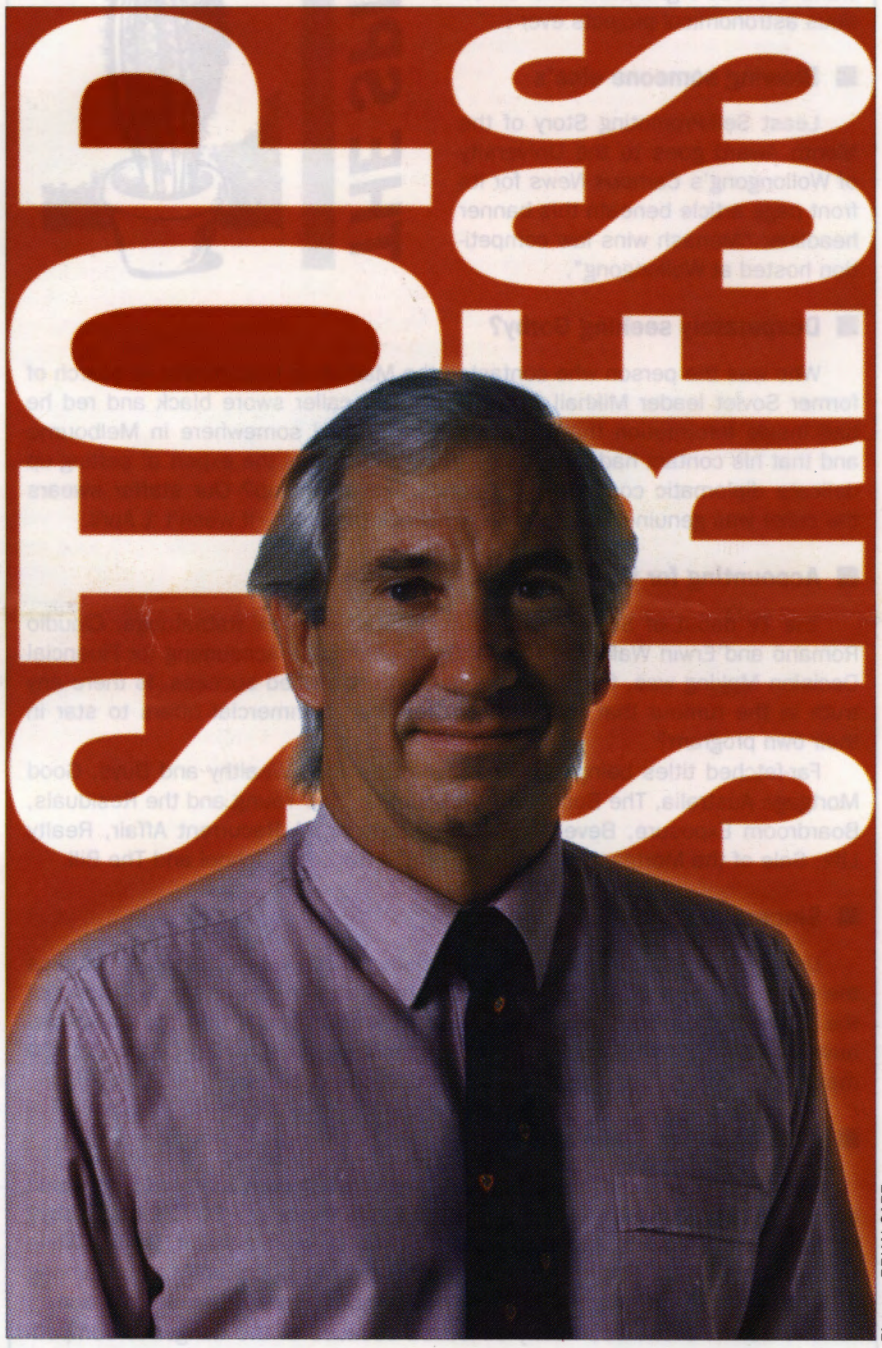
Thirty months later, Dr Sharpley's researchers managed to contact 31 of the 43 people who had undergone the training, and asked them a series of questions: What did they remember most about the training? What elements had been most helpful? Had they changed? Did they still make use of what they had learned?

"Thirty said they still used their training on a daily basis; 22 out of the 31 said they had improved their overall work performance, and 21 said they were less stressed now than they had been before they did the training," Dr Sharpley said. "All 31 subjects said it had been a beneficial experience."

"Interestingly, 23 out of the 31 said it had helped them in other areas such as sport, their relationships with spouse and family, their relationships with workmates, with their leadership skills, with sleeping patterns, and had improved their well-being overall."

Until now most stress management programs have been based on individual experience, which has the disadvantage that what works for one person may not work for others. Dr Sharpley says he has hard physiological data to back up his approach, as well as the personal testimony of the participants from his first experimental program nearly three years ago.

Research liftout: *Training for low stress.*



Picture: BRIAN CARR

Dr Chris Sharpley: the benefits of his stress-reduction method are long-lasting and extend to relationships beyond the working environment.

All the members of the test and control groups were 'wired' with ambulatory heart sensors on their chests, connected to wrist-watch type monitors (inset), and observed for two hours a day in their regular working environments.

IN THIS ISSUE

NOW & THEN

25 YEARS AGO

"New members of staff and their wives" were cordially invited to join the Monash Staff Theatre's play reading group for its next meeting at the Vice-Chancellor's House, where a new play was to be read from the *Plays and Players* periodical. Copies of this theatrical monthly had been ordered from England.

15 YEARS AGO

Monash students were given a clean bill of mental health by the Health Service. In view of "some pretty alarming statistics about mental illness in students, especially those at Monash", the service found that only six individuals (or one-third of one per cent of the students surveyed) had been rated as severe or psychotic – well below figures for the general population.

5 YEARS AGO

Women are just not welcome in the upper strata of academe, according to research student Ms Felicity Allen. For her thesis in the Faculty of Education, she found that women at the University of Melbourne were equally qualified, published more, didn't leave to have babies, and yet were systematically discouraged.

THIS MONTH LAST YEAR

University education entered the television age with the first broadcasts in the TV Open Learning project. Organisers were overwhelmed by public interest in the seven subjects on offer in the project's first year.

■ Burns victims with horrific injuries now have a better chance of recovery as a result of pioneering work in the Department of Surgery at the Alfred Hospital. Cultured skin grown to order in the tissue culture laboratory is now saving lives in cases which only a few years ago would have been fatal.

THE SPIKE

■ Blowing your own trumpet

Hyperbole of the Month Award goes to the *ANU Reporter* which began a story thus: "In one of Australia's most significant and ambitious astronomical projects ever ..."

■ Blowing someone else's

Least Self-Promoting Story of the Month Award goes to the University of Wollongong's *Campus News* for its front page article beneath this banner headline: "Monash wins law competition hosted at Wollongong".

■ Desperately seeking Gorby?

Who was the person who contacted the Marketing Department in search of former Soviet leader Mikhail Gorbachev? Said caller swore black and red he had inside information that Gorby was ensconced somewhere in Melbourne and that his contact had named one of our officers as the expert at setting up delicate diplomatic connections. Sounds like a wind-up? Our staffer swears the caller was genuine, although he did check the date – it wasn't 1 April.

■ Accounting for the stars

The TV debut of School of Accounting staff – Janek Ratnatunga, Claudio Romano and Erwin Waldman – in TV Open Learning's Accounting for Financial Decision Making was, from all accounts, an unqualified success. Is there any truth in the rumour that the trio have received commercial offers to star in their own program?

Far-fetched titles being floated include: Wealthy, Wealthy and Buys, Good Mortgage Australia, The Bond and the Bountiful, The Young and the Residuals, Boardroom Exposure, Beverly Hills $9021 Owing, A Recurrent Affair, Realty Life, Sale of the Mortgagee, Wheel of Fortune 500, Pay School and The Bill.

■ Sincerely flattered

Unlike academia, the world of advertising is rife with plagiarism. Witness the latest batch of corporate advertising from another university just north of the Yarra. If the advertising concepts look familiar, recall that the same creative approach was used by Monash six months ago. Charles Colton's 1820 maxim still stands: imitation is the sincerest form of flattery.

■ Mad dogs and businessmen

Mad dogs and Englishmen may still go out the midday sun, but who would endure temperatures of –25°C with a wind chill factor of –30°C for a hobby? Professor John Miller, head of the Syme School of Management, would. While visiting Ottawa's Carleton University, he seized the opportunity to be among 625 cross country skiers lining up for the start of Canada's premier ski race.

The 25 km event was nearly cancelled because of the danger to competitors from frostbite and hypothermia; only 402 skiers completed the course. Professor Miller crossed the line in 299th place in 3 hours 3 minutes. The winning time was under two hours. "Good for the character," he says.

■ Sorry, this cubicle's engaged ...

From a cubicle in a Caulfield campus toilet, a passing stranger overheard the sound of conversation. Figuring it was none of his business, he was about to leave as quietly as he came when the voice asked his hitherto silent partner to call him back on his mobile phone.

■ Grapes of sloth

Question: Why does it take so long for your bottle of wine ordered at Wellington's to materialise?

Is it because:

(a) It's being allowed to age for an extra 15 minutes;

(b) Labor supporters have already drunk the cellar dry; or

(c) The management has to send out to its cellar somewhere in the bowels of the Union?

The answer is (c).

Seems Wellington's prefers wine that is well and truly travelled.

Outsiders still see unis as aloof: DVC

Universities have to overcome the misconception that they are aloof from the community's aspirations and problems, according to Monash's newly appointed deputy vice-chancellor.

Professor Ian Chubb, who took up his appointment last month, said higher education institutions have a responsibility to use their privileges in ways that benefited the entire community.

He said although institutions now are trying to play a much more positive role, they still need to do more to educate the community about the benefits to everyone of a vital higher education sector.

"We have to shape community opinion but at the end of the day we have to respond to it," Professor Chubb said. "The community invests a fair amount of its available money in higher education. I think it can reasonably expect that we listen in return, and respond.

"We have to remember that Australian universities get around $4 billion worth of taxpayers money just to run themselves every year. In return for that, we ought to at least be prepared to tell the community what we do."

He said the 'return' to the community came from the quality of teaching, the service provided for students and the education they received. Research was equally important, although the immediate benefits were not always obvious to outsiders.

Professor Ian Chubb.

In a wide-ranging interview, Professor Chubb, who will be responsible for the day-to-day operation of Monash, also said:

- universities could look forward to a period of consolidation, but that did not mean standing still;
- under the present government essential funding arrangements would probably continue;
- In a period of limited growth, Monash's flexibility to do new things would depend on alternative funding sources and internal re-arrangments;
- the university's number of postgraduate research students may not be adequate; and
- with changes in the structure of the higher education system, there had been a significant thinking through of what academic work means, resulting in a greater commitment to teaching.

Professor Chubb said that in an institution as complex as Monash it was vital to keep the lines of communication open.

Although Monash's size was a strength in terms of its influence and planning, it presented challenges for the university management.

He stressed the importance of management being accessible and approachable. "We must make sure that we do not become too remote from the people in the institution, the students and the staff," he said.

"If I am to understand the institution, I need to know what challenges the people out there on the campus face on a day-to-day basis. The policies we develop will be the better for that understanding."

Monash had to plan now for what sort of institution it wanted to be in the mid to longer term. "We should try to anticipate shifts and help shape them; not be caught unawares," he said.

Page 10 interview: *Professor Chubb's view of Monash, its challenges and its place in Australian society.*

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Editor: Greg Williams, Public Affairs Department, phone (03) 565 2085, fax (03) 565 2097.
So long and thanks for all the fish.
Staff writers: Vicky Anderson, Suzie Bourne, John Clark, Bridget Montgomery.
Contributing photographers: Richard Crompton, Brian Carr, Rhonda Joyce, Andrew Barcham, Steve Morton, Adrian Dwyer.
Graphic artists: Peter Bartelt, Phil Scamp.
Macintosh layout: Tim Mansour, phone (03) 565 6001.
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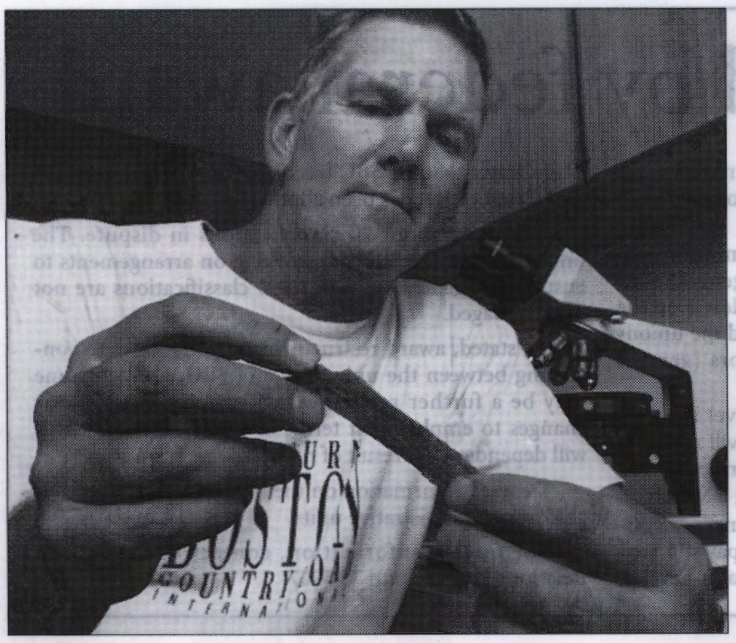


Dr Neil Hallam with a wood sample, supposedly fom the Mahogany ship.

Reward rekindles ship riddle

The mysterious Mahogany ship, which supposedly lies buried beneath the sands at Port Fairy, has captured the public imagination right from its first sighting in 1836.

Now, a $250,000 State Government reward has rekindled interest in the plight of the elusive ancient vessel. Diviners, research groups and locals have been hard at work digging and drilling, gathering clues to the whereabouts of the ship.

The cut-off date for claims for the reward has now expired, but the task of establishing the authenticity of what the treasure hunters have found is just beginning. Enter Associate Professor Neil Hallam of the Department of Ecology and Evolutionary Biology.

The Mahogany ship coodinating committee has entrused him with 26 samples to investigate. His task is to examine the wood structure of each piece and compare it with known timber samples of which the ship was supposedly made.

"Obviously if we find samples that are from cedar, pine or mahogany – that is, 'foreign' material rather than eucalypt – we can get clues to whether a ship is actually there," Dr Hallam said.

"There is no simple guarantee that this is the Mahogany ship though. There were many French and Australian whaling boats in the area at this time. Many were washed ashore during the nineteenth century from storms in the Bass Strait.

"On first glance many of the samples sent in look like sand, rotted compost, oiled sand and bits of steel," he said. "Ocassionally the samples are wood or charcoal.

"Interesting samples are retested by a colleague at the CSIRO. If they are unusual and exciting, and diagnostically correct, the sample can then be carbon-dated to determine its age.

"This kind of work is forensic botany. We are trying to identify a ship from pea-sized examples. It is like identifying a person from a fingernail."

One-shot livestock vaccine to cut costs

A new one-shot livestock vaccination system could save Australia's grazing industries millions of dollars a year.

The system – developed jointly by the Victorian College of Pharmacy (VCP) and the CSL (formerly Commonwealth Serum Laboratories) Veterinary Division – delivers both the primary and booster shots in one injection, but a delayed-release implant ensures that the booster's payload is not released until 30 days later.

The VCP's Dr Bill Thiel and CSL's Dr Ian Barr say the new technology will avoid the substantial costs involved in mustering animals a second time to complete a course of conventional liquid vaccines.

CSL comissioned the College of Pharmacy, Monash's Parkville campus, to develop the one-shot vaccination system to deliver a range of veterinary vaccines at minimal cost.

"It might not be important on a small dairy farm in Victoria, where the animals are being handled daily, but it could save thousands of dollars on a huge cattle station in the Northern Territory, where helicopters are needed to round up the animals," Dr Thiel said.

"Apart from reducing stress on the animals, the one-shot vaccination system will ensure that the booster dose is actually given. Sometimes farmers don't bother."

Dr Thiel says the economics of the grazing industry demand that vaccines be produced and delivered as cheaply as possible. In hard economic times, graziers may not even vaccinate animals.

The CSL specification called for a system that could accommodate both soluble and insoluble vaccines, using a conventional pistol-type veterinary implanter. The vaccine pellet is injected just beneath the loose skin of the neck in cattle or sheep.

The trick, says Dr Thiel, was to encase the small pellet of solid vaccine in a coating that would rupture on cue about 30 days after being injected. "The idea is to provide a strong pulse of the antigen (the substance that induces the immune response), just like a liquid antigen," he said.

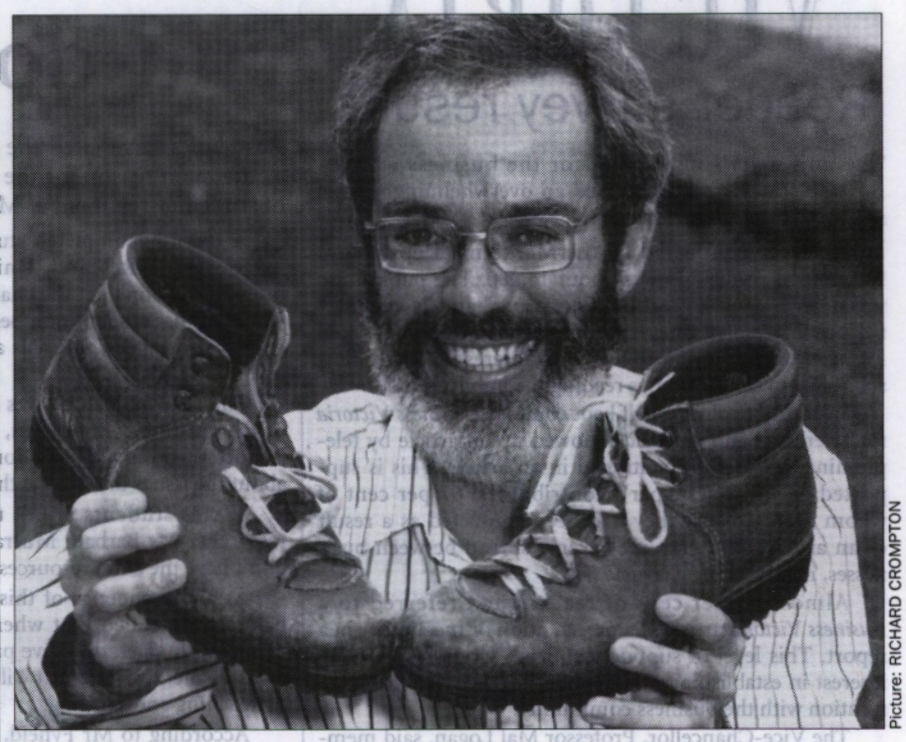
The antigen and its adjuvant (a chemical compound that enhances the immune response) needed to be compressed into a pellet small enough to be injected, while maintaining full biological activity.

Dr Thiel experimented with various polymer coatings that would break down or rupture to release the booster pellet on cue. After much experimentation, he settled on two different coatings.

The polymer coatings are sprayed as the pellets roll around in a small drum. Even at this laboratory scale, 20,000 pellets can be produced in a few days. Dr Thiel says the system will scale up easily for commercial production.

He and Dr Barr tested the antigen pellets in mice before moving to cattle and sheep. The system works well and is currently being optimised for registration trials. CSL has also been investigating the possibility of licensing the one-shot vaccine system to overseas vaccine manufacturers.

Developers of the one-shot vaccine, Dr Bill Thiel (left) and Dr Ian Barr.



Picture: RICHARD CROMPTON

Tom Griffiths and his 10-year-old boots, which he says are just broken in.

Talking to the tall trees

"Good environmental historians need strong boots," says Tom Griffiths.

While researching material for a new book on the environmental and human history of the world's tallest forests, Mr Griffiths spent hours squelching about in rain-drenched, fern-choked forest gullies, picking off opportunistic leeches.

Mr Griffiths, who teaches a Master of Arts in Public History, encourages his students to get out of the libraries and to discover other sources of the past. "There's history for the finding out in our landscapes, in people's memories, their artefacts, and even in the trees," he said.

What began four years ago as a routine survey-and-report exercise to record historic sites in the ash range for the Land Conservation Council became a fully fledged study of the interplay of human, forest and natural forces.

Secrets of the Forest is the result: a unique chronicle of human occupation and exploitation of the towering forests of mountain ash, *Eucalyptus regnans*, in Victoria's highlands.

"The Land Conservation Council has been commissioning expert reports on the environmental values of different regions in Victoria for the past 20 years, and only recently decided to assess their cultural and natural values," said Mr Griffiths.

"The Historic Places Branch of the Department of Conservation, Forests and Lands, where I was working at the time, was asked to write an environmental history and survey the historic sites in the area.

"I launched myself into the forest, doing lots of field work, and learned an important lesson: if you're going to write an environmental history, you must get inside the environment itself and get to know the people who live and work there.

"We located individual sites – old sawmills and gold mines – but to make sense of them we needed a broader analysis of the area's environmental history.

"I began writing historical geography or settlement history: what humans had done to the forest. This is the way historians tend to work – very human-centred – an account of what humans did to the forest; their impact and their conquest.

"But as I talked more to people living and working in the forest, and consulted ecologists like David Ashton of the Melbourne School of Botany, who has been studying the ash forest for more than 40 years, my perspective changed.

"As much as anything else, this is a story about a community of trees, and about its interaction with human beings. There is a dialogue going on; one in which nature has its own dynamic, independent of any human influence, with its own resilient patterns and influences.

"The trees had a story to tell, and my task was to try to understand it and integrate it into my history. What I was really looking at was human interactions with – not merely impact upon – the ash forest."

Secrets of the Forest: Discovering History in Melbourne's Ash Range is published by Allen & Unwin and costs $24,95. It can be ordered at any bookshop and is also available from the Department of Conservation and Natural Resources.

***Centre pages:** Telling tall tree tales.*

General staff now covered by federal award

A new federal interim award for Victorian Higher Education general staff was approved by the Australian Relations Commission on 4 March.

All university general staff, including those at Gippsland and the Pharmacy College, previously covered by state awards or agreements, are now covered by a federal award. Full details including information on terms and conditions of employment and a new salary scale have been sent to heads of administrative units.

In effect, this new award rolls over all existing state award and agreement terms and conditions (leave, hours of work, etc.). Until otherwise advised, all university general staff will continue under existing employment terms and conditions.

The new award has been termed 'interim' because it is necessary for the university and the Single Bargaining Unit (SBU) to continue award restructuring negotiations and agree on enterprise agreements for Monash University.

The award contains a new 10-level minimum rate incremental salary structure. University general staff classifications have been allotted to the new levels on the basis of agreement between management and the unions using nationally agreed position descriptors (general clerk salary classification moves to Level 2).

About 300 staff whose current salary level is below the minimum rate in their designated level will receive a salary increase to the minimum rate in their designated level, effective from the pay period beginning 6 March.

Staff will be advised of their level in the new classification structure through a notation on their pay slip next to their position title (for example, L2 indicates Level 2, L* indicates that the SBU has disputed the level to which that classification has been allotted).

There are about 20 classifications in dispute. The university and the SBU are working on arrangements to ensure that general staff in these classifications are not disadvantaged.

As stated, award restructuring negotiations are continuing between the university and SBU. One outcome may be a further revised salary structure and minor changes to employment terms and conditions. But this will depend on the result of negotiations.

Detailed information on the new salary scale is available from administrative units.

For further information, contact the Industrial Relations Branch, extn 75 5907.

BUSINESS VICTORIA

Reader survey results

The university's newspaper for the business world – *Business Victoria* – has received an overwhelming vote of support from its readers.

A survey conducted by the Marketing Department found total readership was about 15,000. The publication was described as "a great business paper" and "a very useful publication". Ninety-nine per cent of readers rated *Business Victoria* as informative and interesting, with most spending up to 40 minutes reading the publication.

In addition, almost half kept copies of *Business Victoria* for reference, and half had followed up an article by telephoning the person mentioned in an article. This is supported by the newspaper's contributors, 67 per cent of whom reported that they had been contacted as a result of an article, with enquiries evenly spread between businesses, media and colleagues.

Almost 60 per cent of readers had referred to a *Business Victoria* article at a presentation or meeting or in a report. This level of support confirms Monash's growing interest in establishing and maintaining two-way communication with the business community.

The Vice-Chancellor, Professor Mal Logan, said members of the university were encouraged to be innovative – even entrepreneurial. "We are continually responding to technological development, labour market demands and structural change, while maintaining our fundamental commitment to the highest standards," he said.

"Our diversity allows us to contribute significantly to national development. The application of the university's great resources extends from the delivery of cultural programs to the local community to high-profile basic and applied research activities.

"Monash also leads in responding to one of the great challenges of the 1990s: the marriage of higher education and the private sector. As has been so clearly demonstrated in the past, we all need to work together for the nation to become more competitive."

Assessment suffers from run-down resources: study

Academics have cited the deterioration of resources as the main reason for the declining level and quality of student assessment at Monash.

A recently completed study by the Higher Education Advisory and Research Unit (HEARU) found that very often tutors don't get the chance to second mark students' work because student numbers in tutorials have increased. In many instances, tutorials are now only run fortnightly, and not weekly.

The year-long study was headed by a former subdean of the Faculty of Education, Mr John Fyfield. "The most important thing we have done is to spread an awareness about the issues involved with assessment," he said.

"Extra students aren't the only problem," project researcher Ms Barbara Murray said. "It's the fact that we don't have the extra resources to match the larger intake."

As a consequence of this finding, the research group has recommended that when faculties and departments plan their budget, they give priority to the requirements of an assessment regime that will effectively ensure high quality teaching and learning.

According to Mr Fyfield, good assessment is a central part of teaching because, to a large extent, it controls the kind of learning students undergo. Without regular small-group tutorials, and without detailed assessment of written submissions, students lack the guidance they need for improving their work.

"Assessment isn't a guessing game where lecturers know what is required and the students have to find out," he said. To be effective, assessment should be set at the beginning of semester with the aims of the course in mind. The lecturer can then teach according to the aims and assessment requirements of the subject during semester.

The study also found that while students and lecturers generally agree on the importance of assessment, they do not necessarily agree that assessment is a factor students consider when choosing their subjects.

The majority of lecturers believe students take a course of study for reasons other than assessment methods. Students, on the other hand, consistently said that assessment is a determining factor in their decision to study a particular subject.

The research also addressed the issue of assessment equity. As there is currently no uniform method of assessment specification, students can sometimes be left wondering what the requirements for a subject are.

For instance, if a student is given a handout at the beginning of semester that says "students will lose 10 per cent for every day their assessment is overdue", does this mean 10 per cent of the mark they received, or does this mean 10 per cent of the total mark available? A uniform method of assessment specifications is therefore a recommendation made by the research group.

Similarly, how does a lecturer decide how much special consideration to give an overseas student with a low level of English comprehension, when English isn't fundamental to the aims of the subject?

One method that most lecturers seem to agree on is for every student to be given more than the standard time to complete an exam. "That way, students who struggle with English comprehension have the time to gain a full understanding of the questions before answering them," Mr Fyfield said.

"The aim of this research was to gather information and try to influence the university according to the findings. I feel we have been modestly successful."

Mr Fyfield and members of the project team thanked university staff and students for their cooperation. They made special mention of staff who contributed to the November conference on assessment.

A copy of the project report has been sent to each dean and head of department, accompanied by a copy of a resource booklet, 'Assessment of Students', prepared by members of the project team. Additional copies of this booklet are available from HEARU on extn 75 3270.

Unemployed trained by Frankston centre

The job prospects of a group of long-term unemployed have been improved by a training course run by the Centre for Continuing Education.

It is the first time that the Frankston-based centre, part of the Faculty of Education, has designed a Job Skills course for the Department of Employment Education and Training (DEET) and the centre hopes it won't be the last, according to director Mr Dale Ingamells.

Programs, involving 750 unemployed people, were held at 20 locations in the metropolitan area and in country centres including Ballarat, Bendigo, Geelong and Rosebud. During January and February, the long-term unemployed took part in training to equip them for work in primary and secondary schools in work associated with teachers' aide, library assistant or school office positions.

The idea for the course came from the Directorate of School Education in Victoria in response to a need for staff who could fit quickly into a school working environment. The centre submitted the successful tender to the Department of School Education, the broker for the program.

The program was coordinated by Mr Ingamells and the centre's project director, Mr Ian Ward. Program manager Mrs Joan Szalman and Mr Ian Renwick, a consultant for the Ministry of Education, arranged and supervised the training.

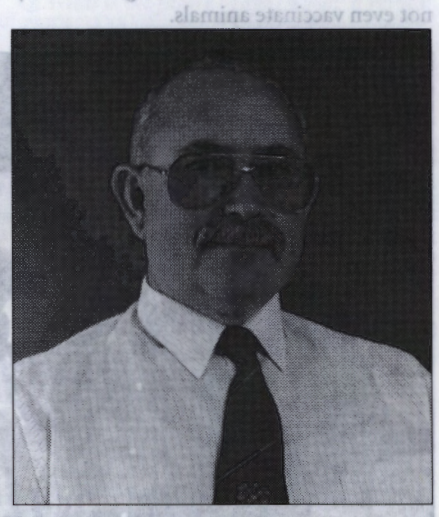
The resulting course provided 26 days of training, including two weeks' computer studies. Participants were taught word processing and desktop publishing skills, and how to use the Ministry's accounting system. They were also schooled in first aid and occupational health and safety techniques. Other subjects included literacy, numeracy, protective behaviours and an understanding of curriculum subjects.

Mr Ingamells said the course aimed to improve students' level of competence and technical ability, as well as their confidence and self-esteem. The course had been evaluated by the students, with the majority expressing positive views.

"Most said they had got a lot out of the course," he said. "They felt more confident about applying for jobs and felt better about themselves. They knew a lot more about what went on in schools and about teaching methods."

The Centre for Continuing Education, which teaches a wide range of programs and short courses, had not previously run a course of this size. "We learnt a lot from running the course about how to organise large training programs," Mr Ingamells said. "Generally, our courses are smaller, and focused on specific groups."

He said the centre would be looking for opportunities to organise larger programs in the future. A current project under development concerns educational and research tours aimed at students, professionals and retired people. Another is its forthcoming Hong Kong arts tour which includes visits to exhibitions and lectures.



Mr Dale Ingamells.

A brochure explaining the role of the Centre for Continuing Education and its activities may be obtained by phoning extn 74 4240.

Picture: RICHARD CROMPTON

A seven-year-old force drives doctor's teaching

Every time Dr Jane Tracy gives a lecture on developmental disabilities in children, she is slowly breaking down the barriers.

But her mission goes beyond imparting medical knowledge to eager students. Her seven-year-old son Nicholas has cerebral palsy, and is a driving force behind Dr Tracy's teaching.

A lecturer in the Department of Paediatrics at the Monash Medical Centre, she helps coordinate the Developmental Disabilities program taught to fifth-year medical students. Dr Tracy graduated with honours from Monash in 1981 and believes her personal experience gives her added credibility to teach the developmental disabilities program.

"I am both a doctor and a patient and my experience provides a valuable insight into the sensitivities of children with developmental disabilities, as well as their families," Dr Tracy said.

"A greater understanding and awareness of the problems of children with developmental disabilities helps to break down the 'them and us' attitude which prevails so much today.

"The students have responded very well. I think they are interested in my personal story and it helps to maintain the focus on the people, rather than seeing the disability first."

Through her work with Dr Philip Graves, a senior lecturer in the Department of Paediatrics, Dr Tracy began working in an honourary capacity in the developmental disabilities clinic. Her current teaching position stemmed from this work.

"I am grateful for the opportunity to contribute to the disabilities program and it's pleasing that the department saw the value of using my experience to help improve students' sensitivity to families of children with disabilities," she said.

Dr Tracy contributes to the teaching program with an early intervention workshop run several times during the year, an assignment on integration in education, as well as teaching students in the developmental disabilities and spina bifida clinics

"I think it's a learning experience for both students and myself and I find it very fulfilling to share my experiences with others," she said.

"Nicholas's disabilities prompted my interest and desire to work in the developmental disabilities area, and it's now the world I live in."

Dr Tracy's world also includes working for several support groups, including the Noah's Ark Toy Library and Family Resource Centre, the Yooralla Society, as well as being convener of a support group for parents of children with disabilities.

Dr Jane Tracy: her son's cerebral palsy led to her work in developmental disabilities.

Switching on to Open Learning

Australians are embracing the country's new Open Learning university system with enthusiasm, judging by the latest audience and enrolment figures.

OPEN LEARNING

Television research figures indicate that tens of thousands of Australians – who are not even officially enrolled in the degree programs – have become 'hooked' on the telecasts.

So far, more than 4600 registrations have been received for Open Learning's study periods I and II – 53 per cent up on the projections for study period I.

Audience research figures from the ABC show that so far this year more than 10 per cent of Australian households have been switched on to Open Learning programs. The figure is even higher in Sydney, where up to 16 per cent of housholds have tuned in.

Saturday morning broadcasts are the most popular, regularly attracting up to 150,000 viewers.

The Executive Director of the Open Learning Agency of Australia, Mr Tony Pritchard, describes the figures as "very exciting".

"It's obvious that Australians are not only eager to utilise the new teaching methods offered by Open Learning, but also are highly receptive to the professionally produced higher education programs," he said.

Judging by enrolments in the first study period, the courses most in demand are in psychology – clearly the most popular – followed by accounting, marketing and statistics.

Apart from Monash University – the consortium leader – other institutions offering units through Open Learning include Deakin University, Griffith University, the University of South Australia and the University of New England.

Open Learning units are taught through print material, TV and radio, computer-assisted learning packages, or a combination of all three.

The second study period begins in June, by which time Mr Pritchard expects extra units to be available, new university providers to be appointed, and thousands of new students to be enrolled.

More than 45,000 Australians have so far inquired about the Open Learning courses.

Catholic solves annulment maze

A deep concern for Catholics unable to obtain detailed information on marriage annulment has led to a Monash master's degree for an 81-year-old retired barrister.

The annulment procedure is not widely understood by Catholics, who are divorcing at almost the same rate as the rest of the community, says Mrs Eileen Stuart. Without an annulment, divorced Catholics are unable to remarry in the Church.

It is a tremendously complex question, says Mrs Stuart. "While appreciating the problems the Catholic Church has in providing information without appearing to promote annulments, the failure of canonists and theologians to provide an overview of the complex system of law and practice is notable," she said.

Mrs Stuart began examining the procedure after discovering the difficulties experienced by Jewish women denied their faith's equivalent – the *get*. Certain parallels spurred her on to further investigation. Now, four years later, she has just graduated LLM.

At present, most Catholics seeking an annulment turn to their parish priest, who then usually directs them to the Melbourne Marriage Tribunal. The tribunal, which operates by affidavit under ecclesiastical law, consists of a judge, an advocate and a defender of the bond of marriage. It annuls about 500 marriages in Victoria and Tasmania each year.

"When people arrive at the tribunal, they are interviewed and asked to write a submission – what amounts to a life history – as a statement of claim that there were, under church law, sufficient grounds for invalidity," Mrs Stuart said.

This is when problems arise, says Mrs Stuart, a committed Catholic. "Having little understanding of the grounds of nullity, they find themselves writing in something of a void and may not mention relevant matters," she said. "Then they often have no recourse if they are advised that there is no case, leaving committed Catholics without any hope of remarriage in the Church."

Unlike Italy, Australia does not have any canon lawyers in private practice who can help steer Catholics through the tribunal's legal maze. Only a handful of universities in the English-speaking world offer degrees in canon law, including the Catholic University of America, in Washington, and St Paul University, Ottawa.

In the absence of such lawyers, Mrs Stuart feels that family law lawyers of all religious denominations should have easy access to information that would enable them to give preliminary advice to clients about to approach the Church tribunal.

Paradoxically, as a result of the changes in the theology of marriage following Vatican II, annulments are now being granted on a scale never seen before. The grounds of invalidity now include psychological incapacities, such as immaturity, inability to assume the obligations of marriage on physical or mental grounds, and, in some cases, the failure to form a partnership of love with a spouse.

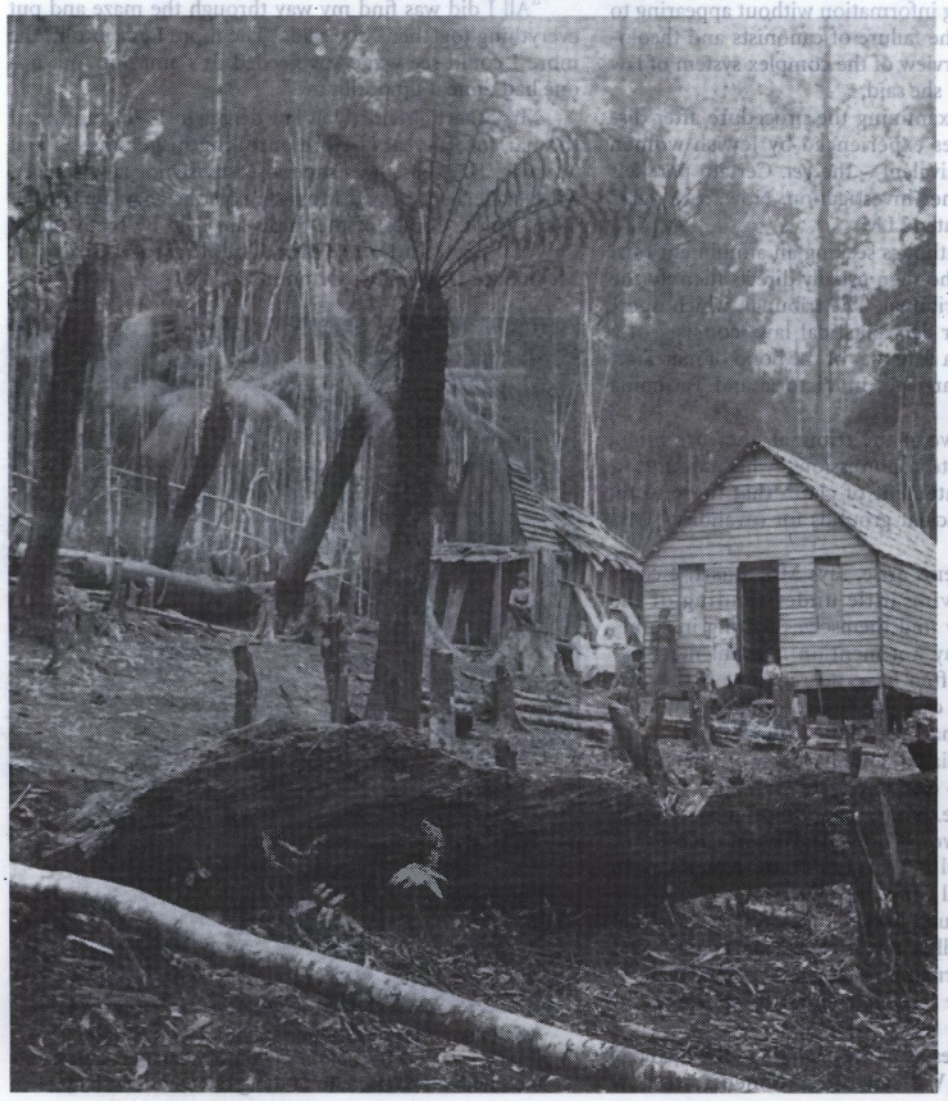
Having now written what could be virtually described as a manual for Catholics seeking an annulment, Mrs Stuart does not intend to pursue further study. Instead she hopes that her thesis will be published, so that it may reach an audience desperate for information and guidance.

"All I did was find my way through the maze and put everything together," she said. "The more I got into it, the more I could see what was needed. It's amazing that no-one had done it up until now."

Mrs Stuart obtained her law degree in 1976, and was at the bar for 10 years before enrolling in her master's at Monash. Her thesis was supervised by senior law lecturer, Mr Neville Turner, and Monash Catholic chaplain, Father Tony Vidot. Copies of the thesis are held by the Monash Law Library and the Joint Theological Library at Melbourne University's Ormond College.

Mrs Eileen Stuart: "The formation of a valid Catholic marriage has now become a matter of chance because of the number and breadth of the grounds of invalidity."

'Civilisation in the bush', a photograph of an unidentified settler taken by J. Duncan Peirce, probably in the 1890s.
Photograph courtesy La Trobe Collection, State Library of Victoria.



A village settlement block in the Dandenongs, pictured about 1895.
Photograph courtesy La Trobe Collection, State Library of Victoria.

A splitter's hut ('Howard's Hut') on Morley's Track near Fernshaw. Note the long cross-cut saw
Photograph courtesy La Trobe Co

Telling tall tree

While surveying historic sites in forests, historian Tom Griffiths l the trees' point of view. The mysterious interplay between h

From the time that European settlers first encountered it, the Victorian ash forest has exerted a fascination that flows from the majestic presence of its enormous trees.

"Today, most people know the ash forest as the place where one finds the world's tallest flowering plant," says Mr Tom Griffiths of the History department. "This fascination was evident from the mid to late nineteenth century, when colonists tried to locate and measure the tallest trees." But the search for the big trees came 20 years too late. "By the 1880s, the really big trees had been cut down by the paling splitters, who went for the biggest, tallest and straightest trees they could find.

"Stories abound in the bush of 400 footers logged years ago. People rapidly began talking about the big trees with nostalgia – with a sense of loss and regret. They spoke of them as if they were a passing race of giants. The photographer Nicholas Caire called them 'the oldest inhabitants in the land', and he gave the remaining trees names like Uncle Sam, King Edward VII and Big Ben.

"Today one of the most accessible tall trees remaining is the Ada Tree in the forest near Powelltown. It's not really tall by historic standards – about 76 m – but it has terrific girth. It's a very impressive specimen." Mr Griffiths says the claims made for the tallest trees last century were probably unreliable. The great Victorian government botanist, Baron Ferdinand von Mueller, claimed there were trees 450–500 feet (137–152 metres) tall hidden away in the ranges.

"But the tallest Australian tree ever measured by a qualified surveyor was one known as the Thorpdale Tree in South Gippsland," he said. "It was measured by George Cornthwaite in 1881, and promptly chopped down. A tall concrete pole labelled 'World's Tallest Tree' now stands in its place! It was measured at 375 feet (114 metres), higher than recorded Californian redwoods.

"Europeans probably never saw the tallest trees. They remain one of the secrets of the forest. The fascinating thing is that the mountain ash grows so rapidly that the forest that grew after the 1926 and 1939 bushfires will soon furnish a new race of giants." Mr Griffiths said his study of the ash forest took a new direction when he began to write about the firestorms of Friday 13 January 1939 – Black Friday.

"When I was growing up in Melbourne in the 1960s, I remember my parents taking me for a drive in the country and talking a lot about Black Friday," he said. "We could see the effects of Black Friday all around us. We still can today. I knew 1939 as the year of the great fire well before I knew it as the beginning of the second World War.

"Black Friday was a massive fire. It makes Ash Wednesday – horrific as that was – look small by comparison. It was so devastating because it occurred in a period when many more people were living and working in the ash forest.

"There were many bush sawmills in the heart of the forest, and the only protection was a dugout covered with corrugated iron and earth. In a eucalypt forest on a hot summer day with the bush tinder dry, a vicious northerly whipping the tree tops, and the smell of flames in the air, there was only one way for bush workers to go – and that was down.

"My first draft of the history of these forests concentrated on fire as a human drama. I wrote a history of settlement, of what humans did to the forest. I told of how people had perceived, lived in and used the forests. I described Black Friday as a European creation, an awful consequence of a century of white settlement and environmental practice.

"That was the finding of the Royal Commission into the 1939 fires – that these fires were 'lit by the hand of man'. It was society and not nature that was under trial at the Royal Commission, and so too in my history.

"The forest remained the backdrop to my story, a picturesque setting, a valued resource, something that was exploited, used, protected and acted upon, but which was rarely allowed a

At the turn of the century, Nicholas Caire named giant trees. This one is King Edward VII, with
Photograph courtesy Nat

RESEARCH
MONASH

Battling the elements in the name of science

Managing stress by calming the heart

Feeling without touching

What does a platypus feel when the electric sensors in its bill are stimulated by prey swimming past? Since the discovery that this unique mammal has an electric sixth sense, researchers at Monash have been exploring this question

New studies of the platypus suggest that the animal's unique 'sixth sense' – its ability to sense weak electric pulses from the muscle activity of its prey – serves as an accessory to the animal's sense of touch.

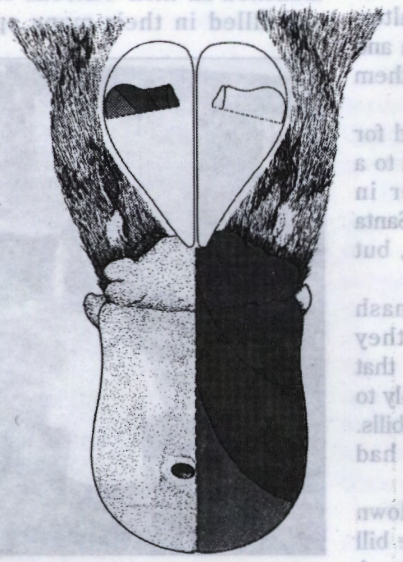
Dr Uwe Proske, of the Department of Physiology, believes electroreception may function as a type of proximity detector that alerts the animal to the presence of potential prey.

He bases his conclusions on his studies of the way the electrosensors in the platypus's bill are connected to the animal's brain. Neurons leading from the electrosensors send their signals to the same area of the brain as neurons from touch receptors in the animal's soft, rubbery bill.

Dr Proske says the wiring scheme also suggests that, like the sense of touch, the electrosense does not yield 'depth' information in the way that humans have depth vision. Rather, it may provide a sense of imminence – a 'prey is near' sensation – that gives over to the sense of touch when the bill actually makes contact with the prey.

The way to imagine this is to compare it with the sensation we experience when we blow air gently onto the back of our hand.

Dr Proske and his colleagues made recordings of nerve activity in brains of anaesthetised platypuses. "We decided to record from the brain to get some idea of what this sensory information means to the animal because the brain processes and modulates incoming nerve impulses in a way that is appropriate to the particular sense," he said.



Regions on the platypus's bill correspond to particular areas in the brain.

"We found that we could evoke and record electrical activity from the brain surface in response to very weak voltage pulses applied to the surface of the bill. By stimulating particular areas of the bill, and observing which points on the brain surface responded, we were able to derive a map of the surface of the brain showing which area is devoted to the electrical sense.

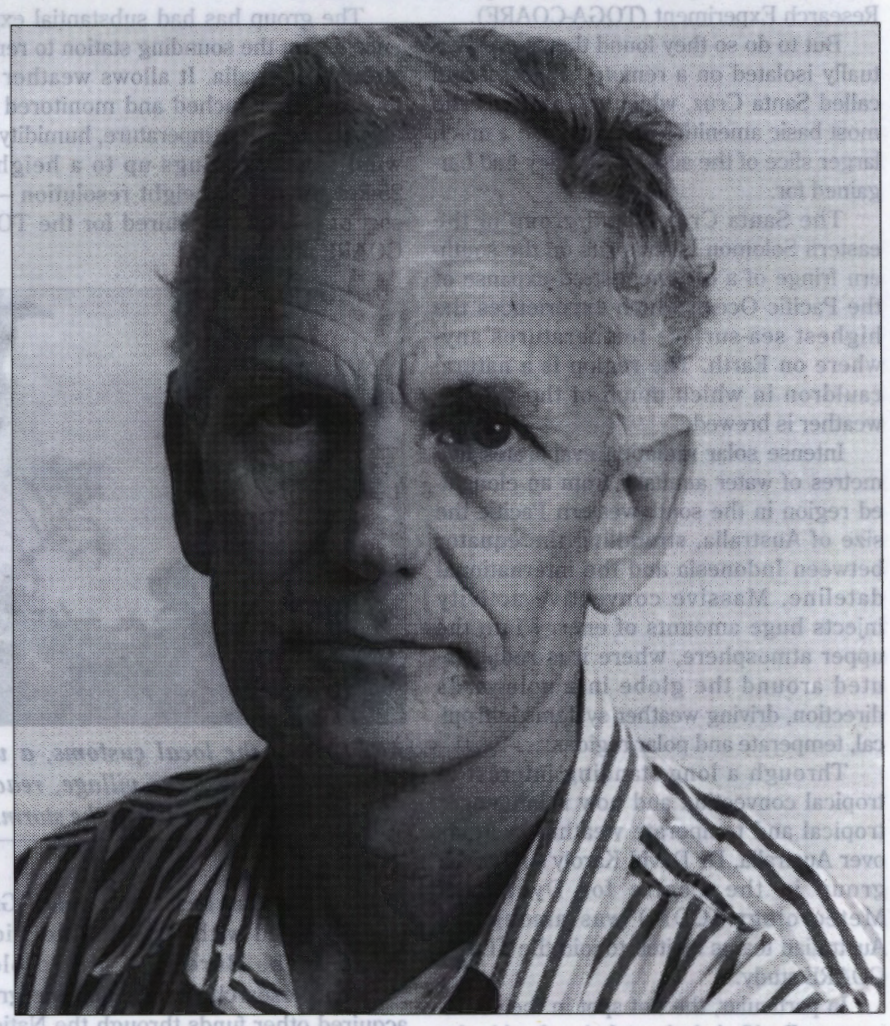
Dr Proske says that all conscious sensations are generated within the cerebral cortex of the brain from patterns in incoming signals from the peripheral nervous system. "How the brain does this is a Nobel prize question, but if a particular sensor on the body's periphery is going to evoke a conscious sensation the first requirement is for its signals to get to the brain," he said.

In the platypus, the sensory area for touch and electroreception is located in the uppermost layer of the cerebral cortex; deeper layers of neurons are excited when the bill is stimulated, and relay the signal to the surface layer. Dr Proske says an interesting and surprising result is that stimulation of the left side of the bill exclusively excites neurons in the right hemisphere of the platypus brain, and vice-versa.

In other words, each half of the brain deals with half the bill. The brain 'map' is distorted: there is no one-for-one representation of the shape of the bill on the surface of the cerebral cortex. Rather, the front and sides of the bill are over-represented by comparison with the upper surface, reflecting the greater importance of the electrosensors on the edges of the bill, which are most likely to make contact with prey.

Dr Proske says that in mammals, two of the primary senses – vision and hearing – provide dimensional information. Taste and smell do not. The sense of touch, on the other hand, can. To determine the shape of an object, one must move one's fingertips across it, like a blind person reading Braille text. This is called active touch.

The ability of mammals to judge distance visually, or to locate the source of a sound, depends on the fact that the nerve pathways carrying signals from each eye and each ear project to both sides the brain. By combining the signals from both hemispheres, the brain creates the perception of depth.



Dr Uwe Proske: when the platypus moves its head from side to side during foraging, it may be scanning for sources of electrical signals in the water.

"We naively thought that the platypus's electrosense was another form of depth 'vision'," Dr Proske said. "Then we discovered that, as with the sense of touch, the cortical neurons were interested in only one half of the bill.

"This does not rule out the possibility that the animal has a limited electrical depth 'vision'. If you observe a platypus foraging, it moves its head rapidly from side to side, at a rate of about two swings per second.

"It is possible that it is scanning for sources of electrical signals in the water, and the differential excitation of electroreceptors on one side of the bill or the other provides some information about the shape or size of the electrical source and whether it is moving towards or away from the bill – the electrical equivalent of active touch.

"I suspect that the electroreceptors are not behaving like classic teloreceptors (distance receptors). It may be that the signals are perceived as a sort of electrical Braille: if the prey is not moving, the platypus may only be able to obtain limited information about its electrical 'shape'.

"This topic needs further research. It would be interesting to look at the animal's behaviour in response to electrical sources moving at different speeds and directions, and to determine what patterns of nerve activity are generated in the cerebral cortex in these circumstances."

Dr Proske says the possibility that the platypus is obtaining limited depth or textural information by 'scanning' with its bill is suggested by the fact that it feeds at night, often in murky water, yet is able to catch half its body weight in live prey every night.

"I can't believe that the animal is depending solely on its fast reflexes after the touch receptors tell the brain the bill has made contact with the prey," he said. "It is more likely that the electrosense is telling the brain that prey is near, so that the animal can lunge at the prey from a short distance."

This scheme, in which the electrosense works hand-in-glove with the sense of touch as a form of proximity detector, is suggested by the fact that the cortical neurons dedicated to the electrosense and the sense of touch form a mosaic within the same area of the brain – their cortical maps are almost perfectly congruent.

Continued on Research Monash 4

Science is not normally associated with adventure on the high seas. But a team of Monash n
After overcoming formidable logistical hurdles to reach a remote tropical

Confounding Murphy's Law and

The intensive observation phase of a multinational research effort to map the engine of global weather patterns involved the largest logistical exercise in the south-west Pacific since World War II.

And like that conflict, today's scientific strategists had to overcome vast stretches of water, unpredictable transportation and – of course – the weather.

Researchers from Monash's Centre for Dynamical Meteorology took part in the recently completed Tropical Oceans Global Atmosphere-Coupled Ocean Atmosphere Research Experiment (TOGA-COARE).

But to do so they found themselves virtually isolated on a remote tropical island called Santa Cruz, which offered only the most basic amenities and provided a much larger slice of the action than they had bargained for.

The Santa Cruz island group in the eastern Solomon Islands sits on the southern fringe of a continent-sized expanse of the Pacific Ocean which experiences the highest sea-surface temperatures anywhere on Earth. The region is a natural cauldron in which much of the world's weather is brewed.

Intense solar radiation evaporates five metres of water annually from an elongated region in the south-western Pacific the size of Australia, straddling the equator between Indonesia and the international dateline. Massive convective activity injects huge amounts of energy into the upper atmosphere, where it is redistributed around the globe in a polewards direction, driving weather systems in tropical, temperate and polar regions.

Through a long-standing interest in tropical convection and how it influences tropical and temperate weather systems over Australia, Dr David Karoly's research group in the Centre for Dynamical Meteorology (CDM) was among the Australian teams invited to join the TOGA-COARE study.

In particular, the hot spot in the south-western Pacific is intimately involved in the genesis of the so-called El Nino – Southern Oscillation (ENSO) phenomenon, which at irregular intervals produces short-term climatic swings that bring drought and massive bushfires to eastern Australia.

Dr Karoly's group also possesses a mobile, upper-air sounding station made by Finland's Vaisala company. The Vaisala sounding station is ideal for studies of weather in remote regions – it is rugged, reliable and can be run off lead–acid batteries where mains power is unavailable or unreliable.

The group has had substantial experience taking the sounding station to remote sites in Australia. It allows weather balloons to be launched and monitored reliably and to take temperature, humidity and wind speed readings up to a height of 25 km with 50 m height resolution – the sort of precision required for the TOGA-COARE project.

A keeper of the local customs, a wise man of a Santa Cruz village, reaches out towards the onset of the storm.

An Australian Research Council Grant was obtained with Dr John McBride's group at the Bureau of Meteorology National Research Centre, and the group acquired other funds through the National Greenhouse Advisory Committee's Dedicated Greenhouse Research Grant scheme.

The observing program on Santa Cruz was to run throughout TOGA-COARE's intensive observation period, from the beginning of November to late February. Four two-person teams were to go to Santa Cruz in shifts, with a four-day overlap during changeovers. The Monash teams consisted of staff and graduate students from the Centre for Dynamical Meteorology and the Department of Geography and Environmental Science (GES).

Each team had to fly into the Solomon Islands capital, Honiara, and then pick up one of the two weekly flights from Honiara to Lata, on Santa Cruz. The aircraft used in these inter-island flights were not big enough to ferry in equipment and supplies, so the team decided to charter one of the trading vessels that ply the Solomon islands, carrying passengers and cargo – including vital supplies of beer.

Technical assistant Mr Don Paice (CDM) went with Ms Noreen Krusel (GES) to Santa Cruz so set up the mobile sounding station before arrival in early November of Ms Allyson Williams (GES) and Ms Morwenna Griffiths (CDM) to carry out the first balloon launches. The next team, comprising Dr Ron Cresswell and Mr Greg Tyrrell (CDM), were to follow in late December, relieved by Mr Greg Roff and Ms Judie Hind-Roff (CDM) early in February.

Almost immediately the team ran into the sort of logistical problems that bedevil developing nations. After setting up the equipment quickly and efficiently, 10 days of thumb-twiddling followed while the helium gas needed to fill the balloons – so efficiently delivered to Honiara six weeks earlier – made the tortuous journey from dockside to ship.

The project organisers noted that three trading vessels were scheduled to make the Honiara – Santa Cruz run. The first two went elsewhere and, with only three days before the first launch was scheduled, the captain of the third vessel announced he had suffered an engine breakdown. Just three hours later the same vessel was observed leaving port carrying passengers on a coastal excursion.

When the captain returned he began drinking heavily; two days later, he was persuaded to make the trip to Santa Cruz with the helium. Meanwhile, Don and Noreen were preoccupied with finding office space in Lata. There were no public buildings for rent but they finally obtained a small room in an office building occupied by the Department of Agriculture.

Nor was there any private accommodation; fortunately, an Australian aid worker was going on holiday and invited Allyson and Morwenna to use her spartan rented quarters. The launches proceeded without incident. Allyson and Morwenna alternated, launching balloons at 10.15 am and 10.15 pm each day and monitoring them for two hours.

The data was automatically coded for transmission by modem directly back to a Bureau of Meteorology computer in Melbourne, via satellite. Telecom on Santa Cruz had a satellite ground station, but with provision for only five numbers.

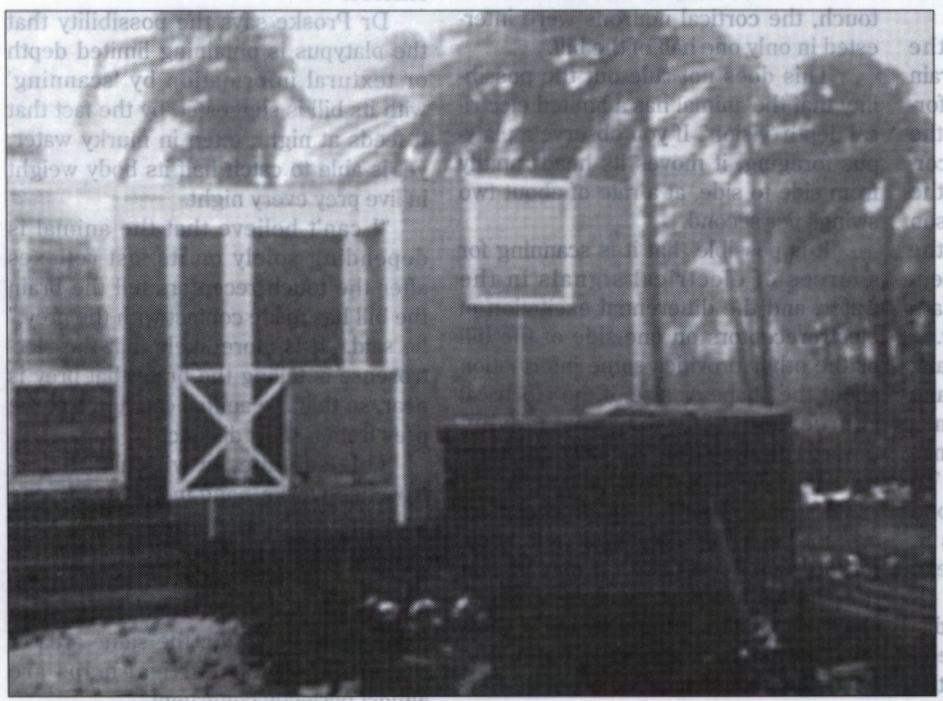
The number rented by the Monash team went down a few days after they began using it; Morwenna discovered that all numbers were disconnected monthly to ensure users came in and paid their bills. She informed the operator the bill had been prepaid.

Service was restored, but went down two days later. The operator said the bill had not been paid, but restored service. A few days later it was disconnected again, and this time it took 11 days to restore service. Morwenna determined that the $1000 advance payment to cover the telephone bill had been credited to the TOGA-COARE office in Honiara, not to her team on Santa Cruz.

The team from Monash who kept the bal elements for the TOGA-C

Apart from the erratic telephone, the Monash team had to cope with an intermittent water supply; water was pumped from a natural spring for one to three hours a day from 5.30 am, so the day's supply had to be stored in buckets.

The supply of cooking gas ran out after one week; it was reordered, but not delivered until four days before Morwenna and Allyson left. Despite these privations, they launched all their balloons on schedule, and filled in their many spare hours



The roofless team office at the height of the cyclone. The balloon launcher and gas cylinders are visible in the foreground.

After failing to launch a weather balloon, Mr Cresswell practises juggling.

neteorologists recently found themselves in some sticky situations while watching the weather. island, they were caught in a cyclone. Graeme O'Neill takes up the story.

d battling the tropical elements

loons going up against the odds and the 'OARE research project.

snorkelling around the coral reefs a nearby lagoon. Both lost weight on the island's staple diet of kumara (sweet potato) and tropical fruit.

A week before Christmas, Morwenna rang Greg Roff asking him to send up a Christmas present of chocolates by express courier; they arrived on Santa Cruz on New Year's Day, three days after Ron and Greg Tyrrell arrived to take over. Morwenna and Allyson missed out on their chocolates by a few hours. They also missed, by one day, an episode of high drama.

Santa Cruz island, the Monash team's appointed observation site, lies 10.5° south of the equator, just south of the Pacific hot spot. Despite the enormous energy flux within the hot spot itself, it remains free of cyclones because the Coriolis force – the twisting energy that spins up cyclones – declines to zero at the equator.

But massive thunderstorms just to the north, within the hot spot, can entrain air masses that spin up cyclones on the boundary. On New Year's Day, Cyclone Nina was spawned by a storm in the Gulf of Carpenteria. She intensified after crossing Cape York Peninsula, causing widespread devastation on Rennel and Bellona Islands on her way to Santa Cruz.

"By the second of January, it was becoming pretty stormy around lunchtime," Dr Cresswell said. "We heard rumours that there was a cyclone somewhere in the vicinity and we could see the sea from the back of the house being whipped up quite dramatically."

Accompanied by an American volunteer aid worker called Jake, whom they had met that day, they walked down to the beach to watch. By 2.45 pm the rising wind persuaded them they ought to return to shelter, or risk being hit by coconuts falling from the flailing palms.

Back at the house the rain – or salt spray from the sea – was being blown horizontally through the windows. Around 4 pm, when the winds were peaking at around 75 knots, Dr Cresswell thought it might be a good idea to run to the office, about five minutes away, and phone the TOGA-COARE office in Honiara to ask if they wanted a balloon sent up in the middle of the cyclone.

"Jake came along but Greg thought we were idiots," he said. "By the time we reached the top of the path it was already obvious there had been major destruction. The office had lost its roof, the back wall was peeling off, and the aerial had blown over. We gave up the idea of sending up a balloon and headed back home to shelter."

Arriving back at their quarters, they found Greg Tyrrell staring transfixed at one corner of the main room, where a large gap had appeared between the wall and the roof. The roof was moving up and down, hanging on the end of few nails.

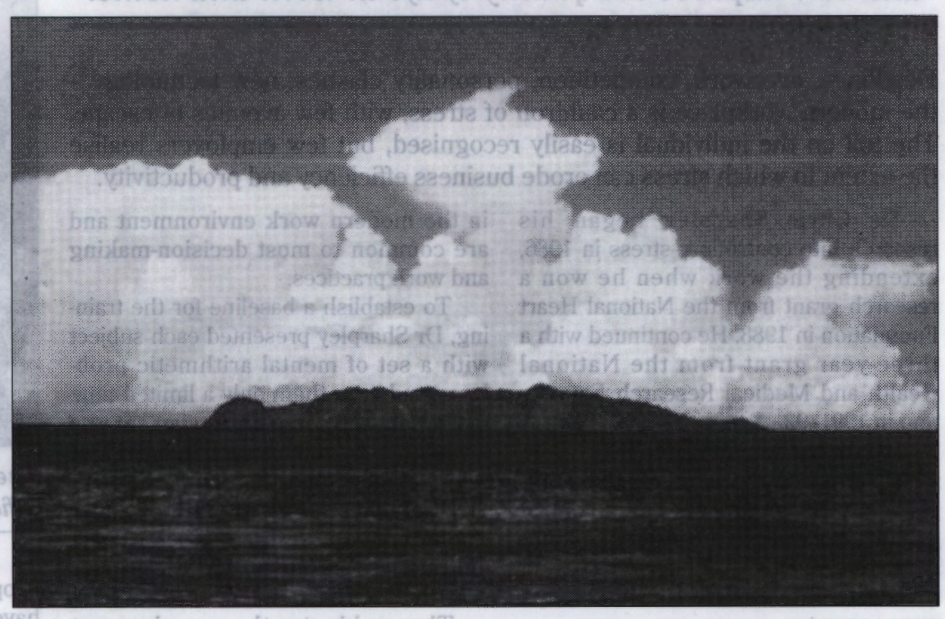
Somehow, the roof held during the next few hours. The cyclone was now at its peak, and Dr Creswell's meteorological training asserted itself – he went outside again to determine that the wind was coming from due west. "If we had been inside the core of the cyclone, we would have experienced a calm period and a return of very strong winds in the opposite direction," he said

"A cyclone rotates clockwise, so on its northerly edge, the winds blow due west. We were getting westerly winds, so the cyclone's core had to be to the south."

By 6.30 pm the wind had changed to the south-west, indicating the cyclone had passed the island, but the wind was still strong and following bands of storm cloud maintained heavy rain until midnight. The next morning they found the unroofed office saturated. Most of the electronics were intact and still operational, but Murphy's Law ensured that the allegedly waterproof multimeter they needed to trace electrical faults was not functioning.

There was no electrical power but the equipment could be powered up by the stand-by truck batteries. An experimental balloon launch confirmed the worst: reception was so weak that there was no way they could track it for two hours. With no means of diagnosing the fault, the equipment would have to be sent to Honiara.

The aftermath: the storm cut a swathe through palm trees on the island.



The view from Honiara beach, showing clouds formed by the intense tropical convection, characteristic of the Pacific hot spot.

Flight schedules were disrupted; eventually they traced the booking agent for the inter-island air service and determined there was a flight two days later. In halting pidgin English, they told him they needed to fly to Honiara with their equipment.

To pass the time, they visited the lagoon to find that the beautiful dendritic corals had been shattered by the huge waves. Snorkelling was out. On Friday, the appointed day of the flight to Honiara, they arrived at the airport with 110 kg of equipment. The booking officer, with a dismayed look on his face, announced: "Him no fit on plane."

The aircraft was already late. The exasperated pilot, an expatriate Australian, waited while the agent added up the total weight of the luggage. All up, with the weight of the passengers, it came to 1268 kg. The agent informed Dr Cresswell that the aircraft had a 1000 kg limit. Would they consider sending their equipment by boat? "No way", said the Monash men, who knew about boats. The agent went to the pilot, only to be told the weight limit was 1500 kg, not 1000 kg.

"The pilot went bananas," Dr Cresswell said. "We loaded all the stuff up, with the other cargo – watermelons – on top, and flew to Honiara. When a TOGA-COARE technician checked it out, it turned out the problem was just a dirty connector. A quick swab with a couple of cotton buds, and we had perfect reception."

The team was stuck in Honiara for a week before it could catch a flight back to Santa Cruz. Two weeks after the cyclone, they were back in action. The rest of the assignment, including the stint by Greg Roff and Judie Hind-Roff, proceeded without incident, apart from a week-long power blackout and Judie's dose of malaria.

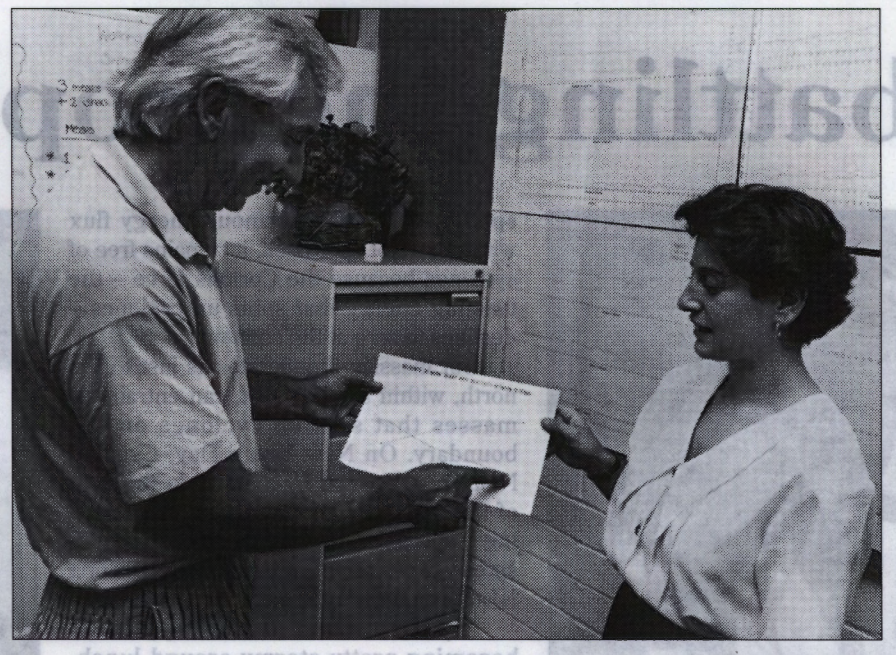
Dr Cresswell says the Monash researchers coped in difficult circumstances by maintaining a sense of the ridiculous. "Looking back at it now, it seemed a lot more amusing at the time," he said.

The data from the TOGA-COARE project is now being collated at the University Centre for Atmospheric Research in Boulder, Colorado. The complete data set will be ready in a few months time, when scientists will begin to probe the information for clues to help explain the El Nino – Southern Oscillation and other questions about the south-western Pacific hot spot.

Team member Allyson Williams takes a break from sending up weather balloons at a beach about 15 minutes walk from the team's base.

Learning how to beat stress

By teaching people how to control their heart rate, Dr Chris Sharpley has achieved remarkable success in reducing their stress levels. The benefits are long-lasting and can improve the quality of life at work and home.



The test subjects learned to decrease their heart rates while performing efficiently under stress. Weeks later, they were still able to reproduce the effect.

Deadlines, overwork, competition, personality clashes, new technology – the modern workplace is a cauldron of stress, with few avenues of escape. The toll on the individual is easily recognised, but few employers realise the extent to which stress can erode business efficiency and productivity.

Dr Chris Sharpley began his research into controlling stress in 1986, extending the work when he won a research grant from the National Heart Foundation in 1988. He continued with a three-year grant from the National Health and Medical Research Foundation in 1991–92.

In his early experiments in 1989, which provided the basis for the workplace studies, volunteers and a control group were matched for age, sex and heart rate reactivity. They were tested three times to ensure the match-ups were accurate.

Statistically, there was no significant difference between the two groups; Dr Sharpley says that if anything, members of the test group showed a slightly higher level of heart rate reactivity than the control group.

In six weeks of training, subjects in the test group halved their heart rate reactivity in stressful situations, and the improvement was maintained when they were retested seven and 18 weeks later. "This phenomenon, called maintenance of effect, is important in behavioural research," Dr Sharpley said. "Our result was a world first."

The laboratory tests sought to simulate three sources of stress in the work environment: time pressure, competition and cognitive effort. Dr Sharpley says the scientific literature agrees that these are the most important stressors in the modern work environment and are common to most decision-making and work practices.

To establish a baseline for the training, Dr Sharpley presented each subject with a set of mental arithmetic problems, and gave them only a limited time to answer. The competition element was introduced by telling each subject that their results would be compared with those of other subjects, and the winner would receive $20 reward. Each subject did this test six times, and the winner was rewarded each time.

The subjects then underwent imagery, breathing and biofeedback training. After being informed about the relationship between heart rate reactivity and stress, they were hooked up to monitors so that they could observe their heart rate as a trace on a computer screen. They were then invited to try to control their heart rate.

Most were able to increase their heart rate on demand, building confidence in their ability to control their hearts. They were given homework: writing down images that aroused or relaxed them, and recording the images several times during the week when they felt aroused or relaxed.

"This allows us to tie in our biofeedback training with the subject's own lifestyle, which is terribly important," Dr Sharpley said. "Too many programs work on a blanket principle, in which all people are treated the same. For years, I have been emphasising the need to individualise training."

The next step was to ask subjects to attempt the harder task of decreasing their heart rates, using special mental imagery and breathing techniques. "Then we went into a generalisation phase, where subjects were asked to decrease their heart rates while thinking of something else; for example, by recalling a sequence of between three and seven numbers and repeating them in reverse order.

"First we rewarded them with 50 cents for every number they got right; then we rewarded them only if they could decrease their heart rates while getting the numbers right. If their heart rate increased they got no reward." Quite rapidly, the test subjects learned the difficult task of decreasing their heart rates while performing efficiently under stress. Weeks later, they were still able to reproduce the effect.

Since it opened for business last year, the Stress Management and Counselling Clinic at Monash has seen 700 clients, including people from the business and sporting worlds. It has also set up a physical fitness assessment laboratory.

Personal fitness is an important determinant of a person's capacity to cope with stress, and a personal fitness program can be integrated, along with other aspects of lifestyle planning, into stress management.

Despite its scientific credibility and demonstrable success, the clinic has had only limited success penetrating the corporate market. Personnel managers are enthusiastic about teaching executives and staff to cope better with workplace stress, but executives themselves resist the idea.

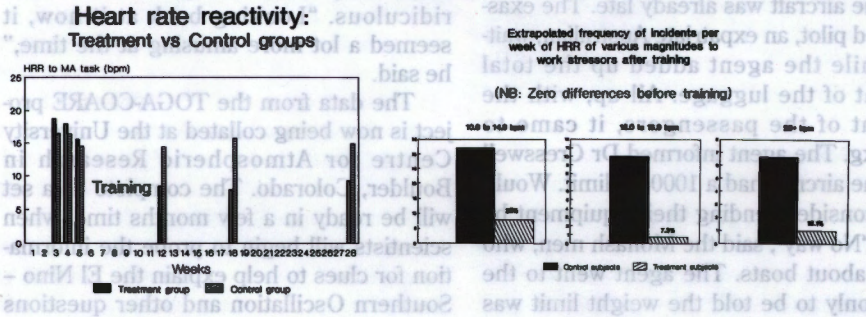
It seems the macho Australian executive prefers to suffer in silence rather than seek professional advice. So Dr Sharpley puts a case in economic as well as psychological terms: stress is a major factor reducing productivity.

Reduced productivity equates to reduced profitability. The economic returns of employing somebody are cut if stress reduces their efficiency. These costs are hidden, but are still reflected on the annual balance sheet.

Dr Sharpley's group is now developing stress management programs specifically for upper- and middle-level managers, with a view to reducing their stress reactivity while increasing their productivity.

The Monash clinic has been established with funding from a number of philanthropic trusts – the Trust Company of Australia, the Brockhoff Foundation, the T. J. Summer Estate, the Collier Charitable Foundation, Perpetual Trustees, the William Angliss (Victoria) Charitable Fund, Myer Foundation and Helen M. Schutt Trust.

For further information or to make an appointment at the clinic, phone extn 75 5469.



These graphs show the difference between the heart rates of treatment and control groups, and how the effect of training was maintained over 29 weeks.

Insight into the human brain

From Research Monash 1

One way to confirm this would be to use an electrode to stimulate the bill with a weak electric current, and then to touch the bill at the same site, while observing whether the two signals appeared in the same neuron of the cerebral cortex.

Dr Proske says another interesting observation from his study is that the time that elapses between stimulation of the electroreceptor and the signal arriving on the surface of the cerebral cortex is quite brief. This suggests that the neural pathway is short, giving relatively little time for complex processing of the signals en route. But some type of filtering seems to occur.

"If we 'listen' to receptors at the level of the bill, when we stimulate them with a long-lasting signal, the receptor produces a long-lasting discharge," he said. "Yet when it arrives in the brain, this long-duration signal produces only a brief burst of activity.

"It can only be speculation, but perhaps the uppermost neurons of the cortex are concerned mainly with timing, while information about the intensity and duration of the signal is being analysed elsewhere. This is what is exciting and fascinating about the platypus: by looking at problems of brain processing for this unique sense, we might be able to gain insights into how our own, more complex brains distribute and analyse sensory information."

An intriguing question, says Dr Proske, is whether the electrosense is a relatively recent evolutionary innovation in monotremes or whether it is of ancient origin.

He says most monotreme experts believe the platypus is more closely related than its cousin, the echidna, to the ancestral form of monotremes. It is reasonable to assume that a platypus-like monotreme called *Steropodon*, which lived over 100 million years ago, possessed an electrosense.

"The fact that the echidna (*Tachyglossus*) has electroreceptors in its beak is entirely consistent with this hypothesis," Dr Proske said. "It would be fascinating to know if the giant New Guinea echidna (*Zaglossus*) also has electroreceptors.

"It's interesting that the electrosense in monotremes has evolved completely independently from the electrosense used by fish; the arrangement of electrosensors and their neuronal connections with the brain are totally different in fish.

"It's another example of how nature can evolve an entire sensory system in two completely different ways, yet arrive at essentially the same solution. It also emphasises that the platypus and echidna should not be considered 'primitive'. Indeed, they have left the mainstream of mammalian evolution long enough ago to have evolved their own unique sensory system."

The researchers who worked with Dr Proske on the electrosense project were Dr Ainsley Iggo, the recently retired dean of Edinburgh University's Veterinary School, and Dr Ed Gregory, a senior research fellow.

and axes leaning against the walls. The photograph was taken by Nicholas Caire about 1897.
llection, State Library of Victoria.

tales, but true

Victoria's highland mountain ash earnt how to look at history from resulting book highlights the uman, forest and natural forces.

dynamic of its own. But then I began to look at the forest itself more closely. I began to realise that it was a community of trees.

"The trees had names and life histories, too. And fire in this forest was different to fire in other forests. Why? Was Black Friday entirely a European creation, or was it part of an ancient cycle essential to the maintenance of this natural community? I began reading about fire ecology and I started talking to foresters and ecologists."

Mr Griffiths says that one ecologist in particular was helpful to him. This was David Ashton, a botanist who has spent his life, as he puts it, 'prying into the personal life of *Eucalyptus regnans*'. Ashton's research revealed that mountain ash forests perversely need a catastrophe to survive.

"They need Black Fridays," explains Mr Griffiths. "Ash-type species are different from most other eucalypts in their means of regeneration. They do not develop ligno-tubers under the ground from which they can renew themselves, and mountain ash and alpine ash do not coppice (grow new shoots) from the trunk.

"For their survival they are unusually dependent on their seed supply. Mountain ash dies out unless fire periodically sweeps the forest, for it is fire alone that releases the seed from the tree's hard capsules. However, if fire is too frequent – before regrowth develops its own viable seed – then again the ash forest will die out. The mountain ash forests need Black Fridays, but at the right intervals – one every few hundred years.

"Investigating the nature of ash enabled me to go beyond a simple appreciation of them as tall trees to a realisation that their ecology was the key to many of the region's cultural patterns: its dramatic fire history, the chronology of forest utilisation, the placement of bush sawmills, the professional anxieties of foresters, the imperatives of water supply managers. I had to integrate nature into my narrative."

Mr Griffiths says that what began as a traditional historian's interest led him on a fascinating voyage of discovery. "The challenge for me in writing a forest history has been to describe an area that is neither natural wilderness nor human artefact," he said. "It is much richer and more exciting. It is something in between."

Environmental debates are often intense. "I've tried to create some middle ground with this book," Mr Griffiths said. "The Land Conservation Council is releasing its recommendations for this area this month, and I believe it's important to have history contributing to the debate. Sensible land management needs an historical perspective.

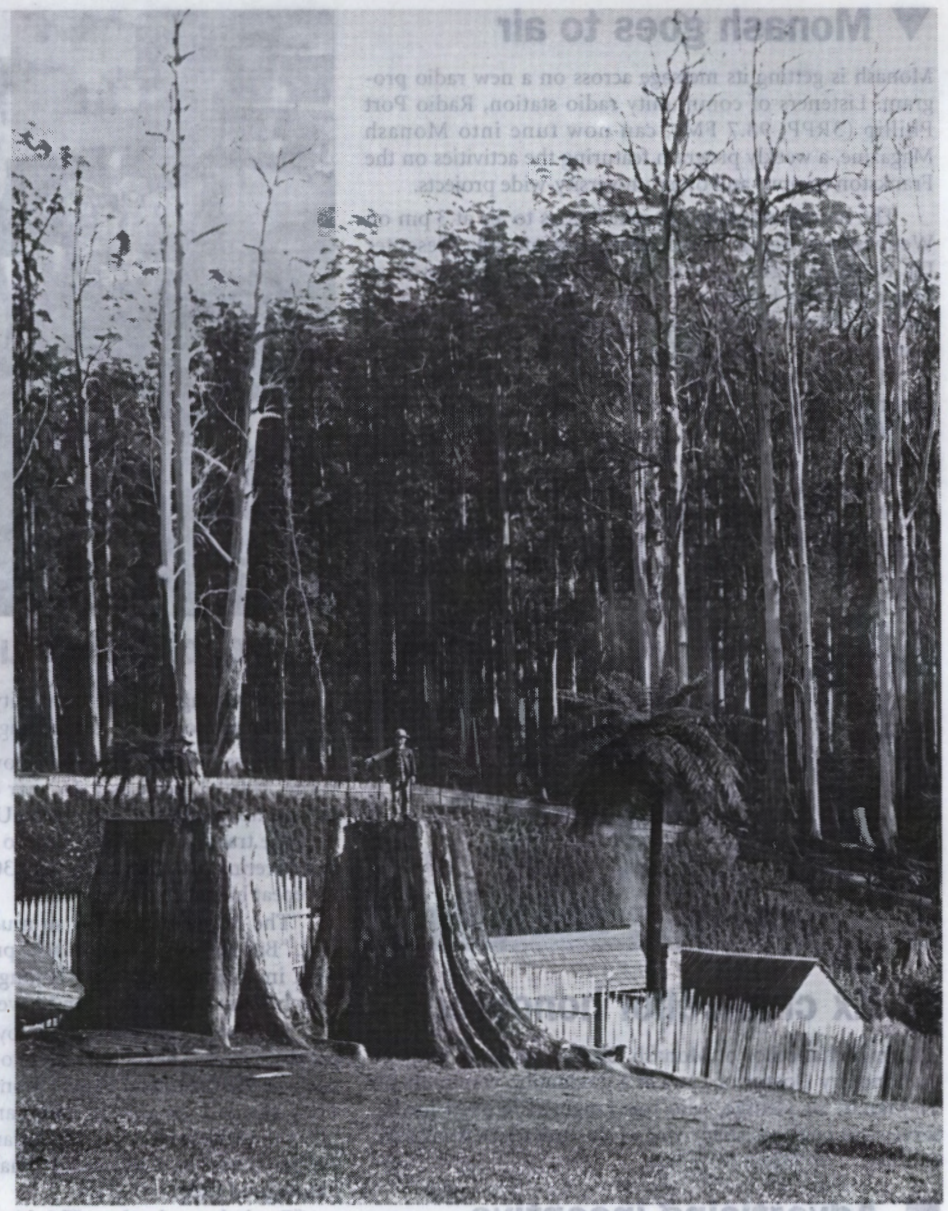
"Even those settlers who carved their homes out of the forest, establishing their farms on its fringe, were interested in history. They felt they were engaged in a sort of archaeology when they found Aboriginal artefacts or relics left by early surveying parties. These finds told them that others had been there before, and added to the mysteries of the forest."

Mr Griffiths says his book, *Secrets of the Forest: Discovering History in Melbourne's Ash Range*, unveils some of these surviving secrets of the forest – old mine shafts, tramway tracks, circular saw blades and dugouts. The second half of the book deals with 25 individual historic sites or relics and their interpretation by different authors. These contributions are mainly from students or teachers in Monash's Graduate Program in Public History.

"Australia needs more regional environmental histories," Mr Griffiths said. "That means encouraging people to work across disciplines. Historians are often wary of science, but they have to reach across the great divide and incorporate scientific explanations and metaphors into their narratives."

Secrets of the Forest, by Tom Griffiths with assistance from the Historic Places Section, Department of Conservation and Environment, and the Monash Public History Group, is published by Allen & Unwin and costs $24.95. It can be ordered at any bookshop and is also available from the Department of Conservation and Natural Resources.

and photographed many of Victoria's remaining
a girth of 70 feet (21.3 m), pictured in 1904.
ional Library of Australia.



Exclamation marks of occupation, these giant stumps acted as gate posts to Thomas Davies' property at Childers in South Gippsland. His two sons can be seen standing on the stumps; raspberries grow in the clearing behind. The photograph was taken by Nicholas Caire about 1887.
Reprinted courtesy Kodak (Australasia) Pty Ltd.

A mountain ash 303 feet 6 inches (92.6 m) high, about to be felled by a splitter in the Narbethong district in 1888. The platform lifted the axeman above the thick buttresses at the base of the tree.
Photograph by J. Duncan Peirce in The Giant Trees of Victoria, *Melbourne 1890.*

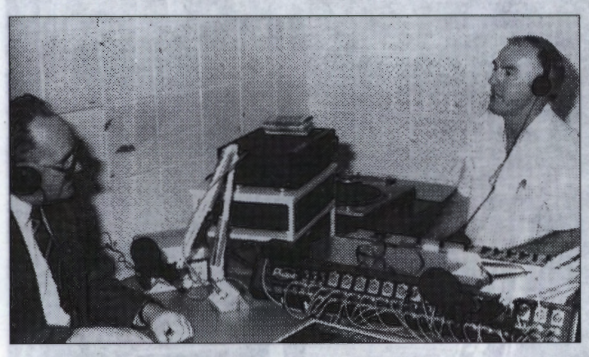
▼ Monash goes to air

Monash is getting its message across on a new radio program. Listeners of community radio station, Radio Port Phillip (3RPP, 98.7 FM), can now tune into Monash Magazine, a weekly program featuring the activities on the Frankston campus and other university-wide projects.

The hour-long program, which goes to air at 3 pm on Wednesdays, began broadcasting last month. Presenter Dr Peter Wright, the mathematics coordinator at Frankston, has been a volunteer at the station for many years, hosting a weekly jazz program. Below, he interviews manager of the Alexander Theatre Mr Phil A'Vard.

"I think there is a great opportunity to tell listeners about the activities and projects taking place at Monash," Dr Wright said. "Many of the university's activities are of interest to the general community."

Each week a special guest from Monash will join Dr Wright to discuss their work and topics of interest. As well, guests will be invited to play their favourite music. Anyone interested in taking part in the Monash Magazine may contact Dr Wright on extn 74 4323.



■ Ex chancellor honoured

A former chancellor of Monash, Sir George Lush, received an honorary Doctor of Laws at a graduation ceremony on 31 March. Sir George, who was knighted in 1979 for his services to law, was chancellor of the university from 1983 to 1991.

■ Advertising incentive

Marketing graduate Mr Simon White has been awarded the inaugural $50,000 Bill Sidwell Scholarship.

Mr White, 22, will work in the Thomson White – CB advertising agency in Manila for 12 months. The scholarship is funded by the nation's 20 leading agencies.

Selection is made from nominated short list of second- and final-year marketing students who intend pursuing a career in advertising.

Mr White was chosen by a selection committee, which consisted of the Dean of Business, Professor Peter Chandler, the Head of the School of Marketing, Professor Garry Harris and members of the advertising industry. The committee based their decision on his academic results as well as written and oral submissions for a special project.

▲ Hospitable club manager

The new manager of the university club on Clayton campus is doing more than just feeding the masses.

Mr Joseph Borg (pictured below), a veteran of the club scene, started work as a 16 year old at the RACV Club before moving to the Melbourne University Club. Over 11 years he transformed the club into a popular, well-patronised meeting place for more than 3000 members. He hopes to repeat his success at Monash.

"The Monash club has so much potential," Mr Borg said. "But at the moment it lacks pride. I want members to walk in and feel as if they belong. If you can't keep the membership happy, you don't have a club.

"Members will be able to enjoy excellent food at competitive prices. They will be able to invite guests to dinner, take away a meal, and benefit from specialist wine advice. They also will be able to take part in jazz evenings and 'meet the wine maker' nights. I want members to feel they are being offered a service and that their money has been put to good use.

"But it does take time. This kind of club is not going to materialise over the next few weeks. With a new face-lift for the club, top-of-the-range wines at good prices, good food, and a relaxing atmosphere, we will offer a hospitable service to members."

The Monash club boasts 980 members, a number Mr Borg wants to increase. "I want the club to be the place on campus that everyone wants to visit, whether they are staff, students or academics," he said.

Ordinary membership costs $110, postgraduates $60, alumni $60, and continuing $39. Joining fees are fixed at $15. The club opens for coffee and snacks at 8 am and closes at 8.30 pm Mondays to Thursdays, and 10 pm Fridays.

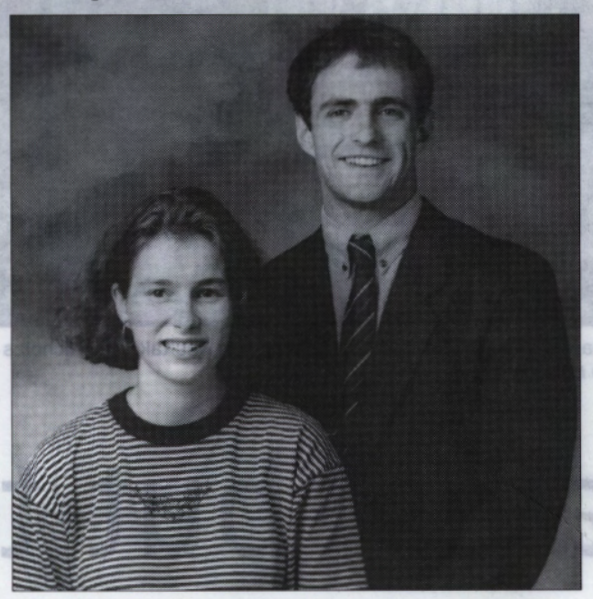
For further information about facilities, membership and functions, contact the club on extn 75 3591.

▼ Overseas law contest

Two Monash law students will represent Australia for the first time at the International Client Interviewing Competition to be held in Calgary, Canada in April.

Mrs Trudy Edmondson and Mr Richard Kervin (above) were chosen following their win at the inaugural National Client Interviewing Competition, held at the University of Wollongong last month. Eight other universities from around Australia competed in the event, which was judged by a panel of academics, social workers and practitioners.

Mr Kervin and Mrs Edmondson both begin their articles this year. A Monash faculty representative will travel with the pair to the competition, which will include teams from England, Scotland, Wales, the US and Canada.



■ A policing first

Three Monash graduates made police history last year when they became the first undergraduates to join the Australian Federal Police.

Mr Hamish Smith, Mr Paul Buric and Mr Damien Jarman graduated BA from Monash with majors in police studies. After finishing their studies, the trio joined the AFP as Level One temporaries while formal inductions were arranged.

■ Steel design award

Third-year engineering student Mr Trevor Sharrock is the winner of the Clayton campus 1992 Australian Institute of Steel Construction (AISC) Steel Design Award.

The award acknowledges excellence in steel-related subjects of the engineering course. A certificate and $200 cheque was presented by the AISC Victorian State Manager, Mr Paul Allilomou, last week.

▲ Asian setting for summer school

Fourteen undergraduate accounting students spent some of their summer break in Asia as part of the 1993 Overseas Study Program.

The students, who visited many of the most progressive firms in Singapore, Hong Kong and Japan over 16 days, made the trip with support from the Monash Syme Faculty Foundation or full sponsorship from their employers.

Tour leader and Director of International Programs for the School of Accounting, Mr Laurie Webb, believes the trip was a great learning opportunity.

"It gave students the chance to learn and experience first hand the accounting practices of overseas firms," Mr Webb said. "I think a trip like this has ramifications far beyond the accounting knowledge acquired."

The tour was part of the summer semester program which began in December. Lectures were held on tour, with the final exam held in February. Subjects included financial management and multinational management, with projects on international accounting standards and practices forming part of the assessment.

The group visited firms including Keppel Shipyards, Singapore Monetary Exchange, South China Morning Post, Price Waterhouse, Deloittes Touche, Fuji Xerox, Asahi Brewing, Mobil and Honda.

Mr Ken Russell, Deputy Chair of the Syme School of Accounting's Strategy Advisory Board, accompanied the group. "The tour reinforced my view of the natural advantages Australia possessed in terms of environment, space, food and personal freedom. Australia is so far ahead of Japan in the quality of corporate reporting and has the ability to be more flexible and innovative than its competitors," he said.

The 1994 summer school tour will visit Hong Kong, Japan and California.

More than 60 students have taken part in this year's overseas study tours organised by the Schools of Accounting, Banking and Finance, Management, and Marketing in the David Syme Faculty of Business. Students visited companies in the US, UK, Europe and Asia to learn about how they do business and observe overseas 'best practice'. At one point the Banking and Finance and Marketing groups crossed paths coincidently, resulting a photograph (above) outside the British Museum in London.

Books: from cover to cover

The history of the book – from its beginnings to modern times – is covered completely in a new library exhibition.

Exhibits on display from the Rare Book Collection in the Main Library, Clayton campus, range from a manual for the clergy printed in 1476 in Venice to the Penguin paperbacks of the 20th century.

"The exhibition is intended to give some idea of the characteristics of typical books from the beginning of printing to the present," Rare Books Librarian Mr Richard Overell said. "The examples are usually taken from the lower end of the market. There are no illuminated manuscripts, no Gutenberg bibles or Shakespeare first folios.

"Nevertheless, we have examples of books from all these periods; ordinary books which are perhaps more typical of those being produced at the time."

Special items of interest include the manuscripts from the Batak people of the highlands of Sumatra, and palm leaf books from Bali, thought to be about 100 years old, recording the religious text of the Ramayana.

Other texts include the 16th century continental and English books, through to the illustrated, rococo-style engraved books of the 18th century.

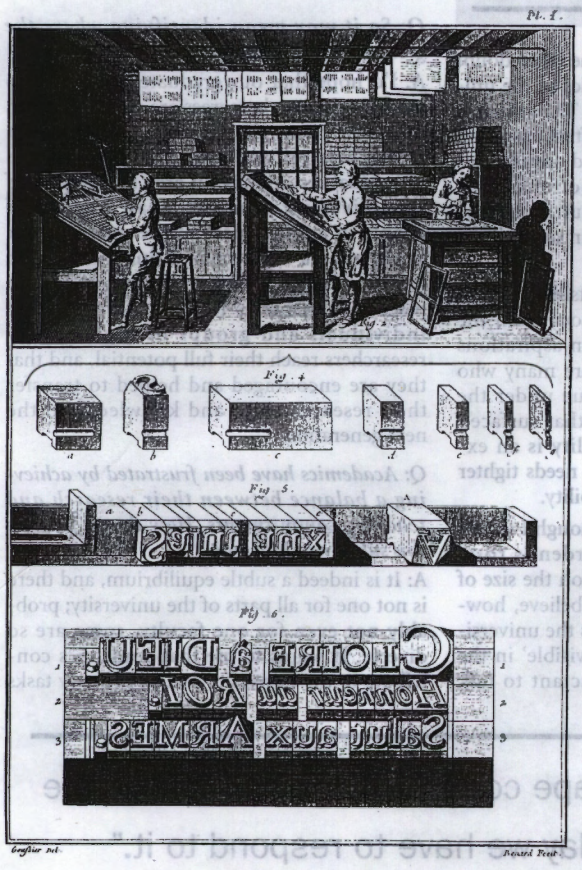
Nineteenth and 20th century examples on display show the great advances in printing, beginning with the replacement of the wooden flat-bed printing press with the first iron press in 1800, and then Koenig's steam-driven cylinder press. *The Times* was printed on a Koenig press from 29 November 1814.

The exhibition displays the art form of dust wrappers, early science fiction magazines, crime fiction of the 1920s and 1930s, and the first six penny orange-covered Penguins – "something that could be bought as easily and casually as a packet of cigarettes".

Mr Overell said that research into the history of the book is conducted at Monash in the Graduate School of Librarianship, the Centre for Bibliographical and Textual Studies, and in the English department. The Rare Book Collection played an important role in such research.

He said an attempt had been made to avoid using books seen in recent displays. Books that will be shown in forthcoming exhibitions of English literature and of Australiana have also been excluded.

The History of the Book is open until 28 May. It is located on the first floor of the Main Library, Clayton campus, during library hours. A catalogue, written by Mr Overell, is available for reference.



Compositors are shown setting type in an 18th-century printing establishment in a plate illustration for the *Encyclopedie*. Below them is an assembled block of type.

Performance focus for new drama director

Despite the commonly held view of Monash as a scientific, research-oriented institution, a lively group of staff and students has for many years been producing high standard theatre productions.

These endeavours were recognised at the beginning of last year with the formation of the Centre for Drama and Theatre Studies.

According to the director, Associate Professor Peter Fitzpatrick, the centre was created to develop the performance side of some of the subjects offered by departments in the Faculty of Arts. The expansion of the centre and the popularity of its performance-based courses is an endorsement of an idea proposed by Dr Fitzpatrick in 1991.

Students can now take a major in drama at undergraduate level. At postgraduate level, a PhD course is available, and a fourth-year research-based program has been proposed for next year.

"I'd like the centre to become identified as a distinctive research base," Dr Fitzpatrick said. "In particular, I believe there is a real need for archival work relating to Melbourne theatre."

Dr Fitzpatrick said performing arts is an area of rapid growth in education. About 6000 students are enrolled this year in Theatre Studies or Drama at the VCE level, and demand for the centre's courses is expected to become even greater.

The centre's performance programs are currently funded on a pilot basis. If funding is extended next year, programs may be introduced on Frankston campus.

"Despite the fact that we haven't had a distinct drama department, Monash has always, I think, been the liveliest of the Melbourne universities in terms of its drama activity," Dr Fitzpatrick said. "Each year, at least eight productions are put on through the Manton Rooms, there has always been a lot of performance work in the Department of English, and our student theatre is particularly active.

"Monash students were at least as responsible as the people from Melbourne University for the development of the Australian Performing Group in Carlton in the 1970s, which a lot of people regarded as the new wave of Australian theatre."

Director in Residence Ms Beth Child.

The appointment for the 1993 second semester of Director in Residence Ms Beth Child illustrates the high performance standards that drama and theatre studies staff and students strive for.

Ms Child is a professional actor and director who has worked mostly in Queensland. She has moved to Melbourne to take up the position at Monash in July, and is to appear in two Melbourne Theatre Company productions, *The Dutch Courtesan* and *Wednesday to Come*. "I'm totally thrilled to be taking on this position. I love teaching and directing," she said.

Another major expansion involving the centre will be the opening of a new performing arts building on Clayton campus at the beginning of second semester next year. Included in the building will be two performance spaces for music and drama, each seating about 250 people.

Monash's performing arts students will appear in a selection of productions this year, including Alfred Jarry's *Ubu Rex* in April.

Arts & Minds

MUSIC

■ Robert Blackwood Hall

The Melbourne German Male Voice Choir will perform with the Firebrigade Brass Orchestra in a concert entitled *Liedertafel Arion* on Saturday 3 April at 2 pm. The choir will present songs and music from Germany and around the world. Admission: adults $12, concession $10. For further information and tickets, contact German Tivoli Club on 529 5211 (BH) or 801 4148 (AH). Tickets also will be available at the door. The New Monash Orchestra and Monash University Concert Band conducted by Andre de Quadras with the Monash University Big Band will present a lunchtime concert on Monday 5 April at 1.15 pm. Mikhail Solevei will present a piano recital at a free lunchtime concert on Monday 19 April at 1.15 pm. Musicians Club of Victoria Big Band will present a free lunchtime concert on Monday 26 April at 1.15 pm.

THEATRE

■ The Alexander Theatre

The 1993 Heart Health Monash Theatre Season features more productions at Clayton and Frankston.

The sixth annual season of nine productions was launched last month by the Vice-Chancellor, Professor Mal Logan. "The increase is in response to the positive reaction from the university, theatre-goers and the community," Professor Logan said.

"Part of the mission of the university is to interact and provide services for staff, students and the local community. We are proud of the theatre that we have made available, both here at Clayton and at the George Jenkins Theatre in Frankston.

"This recession has been bad for arts organisations everywhere. But the way to overcome it is to take a bold step forward, as the Alexander Theatre is doing for 1993."

The manager of the Alexander Theatre, Mr Phil A'Vard, said the theatre had picked out the cream of the Melbourne theatre scene for the new season. Five of the shows will also be performed at the George Jenkins Theatre. The theatre now brings more than 25,000 people to the university each year for plays, musicals, and children's theatre.

The first show was Reg Livermore in *Wish You Were Here*; the second production was Ariel Dorfman's sell-out show *Death and the Maiden*. Forthcoming attractions include *The Garden of Granddaughters* by Stephen Sewell; Harry M Miller's production of *M. Butterfly*; Patrick White's *Big Toys*, starring Playbox artistic director Carrillo Gantner; David Williamson's new comedy *Brilliant Lies*; Australia's first Aboriginal musical *Bran Nue Dae*; *The Temple* by Louis Nowra; and the sequel to the smash hit off-Broadway musical *Nunsense II: The Second Coming*.

This year, the theatre has introduced an innovative way of paying for a subscription – pay on the day. If bookings are made by credit card, patrons now have the option of being billed for the performances as they see them. For bookings, contact the Alexander Theatre on extn 75 3992.

EXHIBITION

■ Monash University Gallery

Where Angels Fear To Tread is an exhibition of drawings by Dale Frank from 1980 to 1992.

This is the first survey of drawings by this artist, who is better known as a painter. He has produced a large body of work on paper, most of which have only previously been shown in Amsterdam, Rome, Montreal, Milan, Brussels and the US.

His work has been described as anarchic and iconoclastic. In these large works, the artist reveals his emotional, intellectual and sexual self through personal motifs, enigmatic titles and sometimes chaotic – yet structured – working of the paper.

The wit, eroticism and tension between the energised line and considered form of these drawings question the process of art in history and possibilities of artistic self-exploration.

An illustrated catalogue of the exhibition, which opened on 6 April, is on sale at the gallery. The guest curator is Ashley Crawford. The gallery is open from 10 am to 5 pm, Tuesdays to Fridays, and from 1 pm to 5 pm on Saturdays. For more information, phone extn 75 4217.

INTERVIEW

Professor Ian Chubb was deputy vice-chancellor of the University of Wollongong from 1986 until 1990, when he took up government posts in Canberra. Now, as Monash's new deputy vice-chancellor, he continues to serve as part-time Chair of the Higher Education Council of the National Board of Employment Education and Training and as part-time Deputy Chair of the board. In this inverview, he outlines his plans for Monash.

Q: How do you see your role here, and what have you been doing to get to know Monash?

A: I've been going around to as much of the university as possible. I've visited all the faculties, most of the campuses and met with staff and students. I thought that I needed to get as much information about the place as I could, as quickly as I could. Monash is big and complicated and the sooner I get to understand it the better. My role has been made clear by the Vice-Chancellor on a number of occasions. It is best summarised as a role that will have a major part in everyday operations.

Q: It's a difficult institution to get a handle on in that sense because there are so many areas and so many different sorts of endeavour going on here. Is Monash's size, then, a strength or a drawback?

A: I think Monash's size is a strength. It enables us to plan, to deploy resources and develop our strengths in ways that we want – to develop our own vision of our future. It also protects us a bit; it is a buffer that should enable us to withstand what we would see as unwarranted pressures for change from outside. It also affords influence – a single institution with about six per cent of all students can be a significant shaper of, say, government policy if it seeks to play that role.

I think, though, the size presents people with jobs like mine with a real challenge – we must make sure that, even in an institution this size, we keep lines of communication open and that we do not become too remote from the people in the institution, the students and the staff. It is easy to do, and it happens by stealth – your time is just slowly eaten away. In a smaller institution, such as Woollongong where I spent five years as DVC, I knew the bulk of the academic staff and a good number of the general staff. They probably all knew me. If I walked around the campus I could stop and chat to people, and I didn't have to introduce myself each time.

It will be different here; there are many more people for a start, and multiple campuses. But it doesn't mean I should not try to be accessible and approachable. If I am to understand the institution, I need to know what challenges the people out there on the campus, the staff and the students, face on a day-to-day basis. The policies we develop will be the better for that understanding.

Q: Where will you fit into the reorganised management structure of the university?

A: The Vice-Chancellor's executive is now pretty well settled. The DVC appointments have been made, as well as the Pro Vice-Chancellor with particular responsibilities in the international area.

My responsibilities include a fair range: from all staff matters, student matters, academic matters, faculty liaison and administrative matters to deputising for the Vice-Chancellor – a lot of the day-to-day issues that go to helping the university function.

> "We can expect that the major share of any extra funds will not flow to higher education."

While all this will be fairly time consuming in its detail, the policies that are the basis for our work in each of these areas will also need to be scrutinised. Not that I think there is anything wrong necessarily, it is just that I believe the effectiveness of all policy should be kept under constant, or at least regular, review. Monash has changed and will continue to, no doubt. Do our policies on, say, student and staffing matters keep pace?

Q: It's a very challenging time for higher education institutions. With all the changes of the past five years, Monash has positioned itself well to take advantage of the new market. What do you now see as the main areas and major challenges of your work?

A: I think all the universities in Australia will look forward to a period which gives them some time to consolidate. But 'consolidate' doesn't mean standing still, it means settling down some of the main organisational and structural issues and using that settled base as the platform to think through some of the future directions.

In a broad sense, we need to ensure that we continue to think about the sort of academic institution we want to be in the mid to longer term. This means we need to think about our courses, our fields of study, and the disposition of our student load between fields by level of course ... and on a regular basis making adjustments as our base changes. Of course, I accept that plans can't be rigid and are often only guidelines, and that we do, and should, respond to external pressures. But if we don't continue with broad plans for the academic development of Monash, we can't make plans for the capital development of Monash in any useful way. And without broad plans, we run the risk of what would amount to ad hoc decisions made in response to a particular need, but which could have serious if unintended consequences on other parts of the university.

We are also likely to be entering a period where there is limited growth, and this means limits on the extra government funds that become available. It is fairly clear that the government is concerned about the TAFE – higher education balance, with ample evidence that they are advised it is 'TAFE's turn'. While I think such comparisons are of dubious value, we can expect that the major share of any extra funds will not flow to higher education. Therefore, we need to recognise that our flexibility to do new things will depend even more on alternative (to government) funding sources and internal rearrangements. Neither is easy but the alternative – stagnation – is worse.

As you suggest, Monash has positioned itself well and needs to continue to be well positioned. Our job is to be sure that it is.

Q: Universities are now more responsible for their own destinies in terms of where their funding comes from and what sort of programs they are running. How does the election result affect Monash?

A: About all we know at this stage is that a funding arrangement like the present one will continue, at least in its essential characteristics. There will undoubtedly be changes in some parts of the policies that affect higher education. Things don't just stand still – and they don't go back; it would be naive in the extreme if we were to believe that we would see the clock turned back to some preferred, if ill-defined, golden age. This means, of course, we should try to anticipate shifts and help shape them – not be caught unawares and contribute to developments.

The return of the present government will see some change but it is likely to be change where the essentials of present policy remain. Having said this, we should ensure that we – and it is part of our job as an executive – are constantly scanning the horizon so the university is well positioned whatever changes are mooted.

Q: Do you envisage that particular areas will be targeted for new courses or different approaches to programs? Will this be a way of refining what Monash offers towards the needs of the education market?

A: I think we do have to respond to what our community needs. We have to shape community opinion but at the end of the day we have to respond to it. The community invests a fair amount of its available money in higher education, and I think it can reasonably expect that we listen in return and respond. Whether this means targeted areas or not, I don't know. We have had priority areas since the CTEC days – so why should it change?

Q: How do you think universities are seen by the general community. Are they seen as useful and deserving of the funds provided to them?

A: My immediate past job left me in no doubt that there are a good many critics of the universities out in the community. The criticism is not always well founded, often based on some personal experience and sometimes without any real understanding of what actually goes on in universities. But as always, there is doubtless some validity in some of the criticism and we should hear it.

In my judgement, many outsiders believe that the universities are too aloof from the community; aloof from its own aspirations and from its problems. There are many who believe that the 'put the cheque under the door and go away' syndrome that surfaced early in the debate about quality is an example of why higher education needs tighter strings in the name of accountability.

My own view is different, though I would never argue that all in the garden is rosy, problems exist in any organisation the size of our higher education system. I believe, however, that over the past few years the universities have become much more 'visible' in the community; staff are less reluctant to talk about their field of expertise to the public; they have responded to the pressure to widen the student base, the pressure to open up to mature students and to provide some courses which are seen to be 'relevant' to needs.

> "We have to shape community opinion but at the end of the day we have to respond to it."

So I think universities now are trying to play a much more positive role – and I think they should. Our universities are concentrations of many of the best minds in the country. I think they should be putting that concentration of energy – and the privileged position that flows from it – to the benefit of the community.

This 'return' comes in a number of ways. It comes from the quality of the teaching, the quality of the service we provide to our students, the quality of education students receive. The quality of research is also important – though the timescale over which the benefit flows is variable, and the immediate benefit is not always obvious.

Universities are an investment in the future of communities, however, and they contribute in part by advancing knowledge and laying down a secure base for the development of one society. They do it also by their community service role: the role they play when they take their knowledge and skills out into the community and participate in community activities.

I believe Monash is well regarded in a whole variety of ways and for a variety of reasons. It is seen as an active and lively institution that responds to the community and wants to do things. It contributes in very positive ways and has done so for many years.

Q: How has Monash fared in its research and attracting funding for that research?

A: Undoubtedly, Monash has some of Australia's best researchers and scholars among its staff and students. It has been able, therefore, to attract research funds in significant quantity. I think we need to look closely at whether we do enough of that and whether we are supportive enough of the research environment within the institution.

I don't know the answers to these questions yet, but they are ones that need to be asked. We also need to look at our postgraduate numbers especially, but not only, in research; we have to ask whether the numbers are adequate. It comes back to what I said earlier about planning.

Q: Do you think the numbers may not be adequate?

A: I think they may not be. That might be the inevitable consequence of responding to the pressure for undergraduate qualifications, but we need to know whether that is what we want for the future – broad plans again.

Q: The big pressure of the past few years has been: "how many people can get into universities?"

A: That's right. What it means for us is knowing what proportion of our load we want to be at undergraduate level, what proportion at postgraduate, and where they should be in the university.

Q: So it may mean identifying where the greatest need lies for postgraduate research?

A: I'd hope that our graduate students who are doing research degrees are associated with our best areas of research and the best researchers on our staff. That might be an individual researching an area in one part of the university, it might mean a group of people in another part of the university, it might mean a department. I think we need to look at whether we have effective policies in place that enable us to be sure we let those individuals and groups of high quality researchers reach their full potential, and that they are encouraged and helped to transfer their research skills and knowledge to the next generation.

Q: Academics have been frustrated by achieving a balance between their research and teaching commitments. How do we provide this subtle equilibrium?

A: It is indeed a subtle equilibrium, and there is not one for all parts of the university; probably not even for one faculty, some are so diverse. It seems to me that academics contribute to the university and its primary tasks of teaching–learning, research and community service in a number of ways. And when that contribution is of high quality – 'professional' in the best sense of the word – then it warrants esteem and indeed reward, where possible. The quality of performance should be the determining factor, so long as the activity is one that the university agrees to be in its interest.

Such an approach offers staff the opportunity to balance their careers by choosing where their real strengths lie and working to them. For some that might not be in leading-edge research of genuinely international standing, but it could be in teaching, scholarly pursuits, consulting and community activities associated with the university and its interests. Provided the objectives of the department, the faculty and the university are met by different people contributing differently to the agreed goal, and their contributions are valued, the equilibrium begins to be less difficult to establish.

Q: What is the future of devolution of responsibility to the faculties? Is it now entrenched?

A: If it's not entrenched by now, I believe it should be. In an institution this size, some of our faculties are as big as some small institutions. There are things done centrally – or at least the balance is more central than devolved – that relate to matters like budgeting and balancing student load across the campuses, staffing matters, overall student affairs, provision of student services, and so on. It's all about balance: there are some things where the balance is tilted centrally and there are others where it is quite properly tilted to the devolved structures.

This is quite appropriate and it means that deans have a particularly significant role to play in the university: they can be responsible for what sorts of programs they deliver, the quality of the programs, how well they use assessment as an aid to learning, and all those sorts of things that are essentially faculty issues, although within overall university policy.

So the balance is helped by getting the university policies right and enabling faculties to implement those policies in a way that's suitable for them. The problem is not with devolution – in a big institution you have to have it – the problem is balance.

Why were all the election pundits wrong?

By Nick Economou

On March 13 the Keating Labor government was returned by what, at the time of writing, appears to be an increased lower house majority of 14 seats. The ALP recorded a national two-party preferred swing of 1.9 per cent.

Regional variations played a major role in this election. Labor lost support and seats in Western Australia, South Australia and Queensland, although by nowhere near the rate of voter realignment that some of the opinion polls and party strategists were predicting. On the other hand, the swings to Labor in NSW, Victoria and Tasmania were above the national average. Labor victory was assured during the election count when it became clear that the swing to Labor in the eastern states was greater than – and was capable of offsetting – losses in the west.

One of the remarkable features of this election was that the result appeared to come as a great surprise to many. Certainly the community's expectation of a Coalition victory had been raised by the predictions of journalists and some party strategists.

These 'experts' persisted in the view that there was to be a change of government, even though the opinion polls being published by the nation's newspapers and magazines indicated that if Labor was not at least ahead on two-party preferred terms, it was certainly within striking distance of victory. The pundits seemed to forget that in 1990, for instance, Labor won a majority of lower house seats even though it won a minority – 49.9 per cent – of the two-party preferred vote.

Many commentators based their predictions of a Coalition victory on prejudice; not prejudice in a party-polemical sense, but rather a prejudiced view of how the electorate should (as distinct from could) behave when passing judgement on a government that had effectively been in power for 10 years.

The way in which the unemployment issue figured so prominently in the assessments of many commentators was an example of this. Many pundits reasoned that a government presiding over an unemployment rate of 11 per cent could not possibly survive an election. This reasoning ignores case history: in 1937, at a time when unemployment was much higher than today, the anti-Labor Coalition government made up of the United Australia and Country parties actually increased their primary vote.

What has to be remembered is that while unemployment is undoubtedly a major social problem, in numerical terms it is an urgent problem only to those who are unemployed. There are other policy issues that affect everyone in the community, regardless of their employment status, and these issues tend to dominate the perspective of elected policy-makers for obvious reasons. In the recent past, inflation was one such issue. In 1993 the Hewson-led Coalition opposition found another issue that affected everyone, regardless of their employment status. The broad-based goods and services consumption tax (GST) would have had an impact throughout society.

Regardless of what the victorious ALP has been saying in a bid to reinterpret the result of the election, the fact is that it was heavily influenced by the GST, by the Coalition's failure to assuage community concern about the proposal, and by Labor's effective campaigning based upon these uncertainties. In the wash-up of the election, we can only conclude that taxation was a bigger issue than unemployment, and the Coalition suffered accordingly.

Another theme common to expert predictions of a Coalition victory was the argument that Labor had been in power for 10 years and it had become tired and bereft of policy ideas. Pundits reasoned that the Liberal party slogan, 'Labor's got to go', would come to pass. The problem with this reasoning was that it glossed over the Coalition's real problem with the policy agenda. Despite having its Fightback policy manual to work with, the longer the campaign went on the more glaring the deficiencies in the Liberal party's policies became.

It became clear during the campaign that the Coalition had failed to fully resolve problems in its approach to industrial relations policy (a situation exacerbated by the bitter community reaction to the newly-elected Victorian Liberal government's policy in this arena). The Coalition also failed to clarify its position on health policy, particularly the fate of Medicare.

Real tensions between the Nationals and Liberals over tariff policy simmered away during the campaign. And finally, the Coalition's commitment to reducing the public sector clearly alarmed voters employed in government services including health, education and social welfare. This alone accounts for much of the voter realignment in seats like McMillan, Bass and Franklin, in which public sector employees make up a major component of the electorate.

Failure to understand the importance of regional variations in voting behaviour represented a third area of deficiency in the pre-poll punditry.

While commentators were able to extract from opinion polling the message that the ALP was in greater trouble in the western states than in the east, this information was rarely applied to a regional analysis of the particular seats that would determine the outcome of the election. Thus, few commentators realised that hitherto Liberal seats like McEwen, McMillan, Lyons and Franklin were extremely winnable for Labor.

There is no doubt that predicting election outcomes in an electoral system that utilises single-member electoral district representation and an ordinal voting system is extremely difficult. This is because seat majorities tend to rise exponentially to increases in the votes won by parties. Still, having said this, the propensity for so many experts outside of political science to get the result so wrong when publicly available opinion poll data was giving so many indicators to the contrary, was certainly a noteworthy feature of the election.

The essential prejudicial view among commentators that made them unable to distinguish between what the electors *could* and *should* do went to the heart of the election. Considering that the person who came closest to predicting the result was the political scientist Malcolm Mackerras, perhaps the time has now come to suggest to journalists that they stick to the task of reporting and allow scope for political scientists to do the electoral analysis.

Nick Economou is a senior tutor in the Department of Politics.

Q: Do you think that academics and the way they look at their work has changed with the changes in the higher education system?

A: I think it has but I don't know whether the change reflects an acceptance of the cultures in what were formerly two parts of a system with different philosophies coming together.

University academics these days have a much greater sense of the need for commitment to teaching, which I suspect has come partly out of change, and partly from expectations from students. Once students start to pay 20 per cent of notional average course costs, they have certain expectations in return for this personal investment they're making. That has put pressure on staff and on universities. So that's one example of where we've had to adapt to expectations coming from students.

It means that you have to look at your course structures and how you tell your students what's expected of them. And that requires the academics to think about what they do and how they balance what they do and when they do it – between their research and scholarly activity and their commitment to teaching undergraduate students through the various levels of the course.

The abolition of the binary divide between colleges and universities encouraged that to happen because there were people whose careers up to that point had been devoted largely to providing high quality teaching and education, mixed with academics who were trying to strike a teaching and research balance. So when you put all this together there certainly has been a thinking through of what academic work now means. Most institutions nowadays, for example, would have promotions policies that are only two or three years old and which allow staff to present themselves on the basis of quality of performance across a range of professional activity; in the old days it used to be primarily based on research in the universities.

Q: This is a big change in thinking for university academics. Have they adapted?

A: It's fair to say most academics now see the benefit of telling the community about what they are doing. We have to remember that the Australian universities get around $4 billion worth of taxpayers' money just to run themselves every year. In return for that we ought at least be prepared to tell the community what we do.

> "University academics these days have a much greater commitment to teaching."

One of the pleasing things about this place is that it's quite common to hear Monash staff being invited to comment on matters of public interest. Over time, this is a significant role for academics to play because it brings the university to the attention of the community and they're making a very real contribution to how the community is thinking about the issues that confront it. It's more an accepted part of the role and responsibility of an academic than it used to be. Yes, many have adapted; more will follow.

Q: Will Monash continue to expand its education role within the Asia–Pacific region?

A: Those moves are very good and very positive; they're the sorts of things that Australian universities ought to be doing. The present Government has announced its intention that we as a nation should be more focused on Asia than we were before. You'll find there are a large number of Monash graduates already in Asia and I think that's good for Australia and good for Monash. How this develops and the countries where it might expand are issues we have to think through.

Q: Will our courses change to meet the needs of the region?

A: Student demand from the region will change over time and will change according to a whole host of things: their perception of Monash and the quality of education we deliver; the nature of the courses we have in terms of the fields that we cover and the emphasis that we have; and important things like whether some effort is made to use examples in courses that relate to their environment and experience and not just to Australian society. Things like this will go a long way towards making our courses attractive overseas and in Australia. Such issues are important, and we will change; it is inevitable.

Q: The issues of the past few years probably will not be the issues of the future. How will the university adapt?

A: What we'd hate to have is a university that would stick rigidly to a plan, whatever happened. We have a responsibility to be out scanning the horizon; to get as much information as we can to make as good judgements as we are able about the sorts of pressures that are likely to come up and to bring them back into the university, discuss them with our colleagues and build up a plan that best serves the university. We need the capacity, still, to respond to short-term things. Unmet demand was the key issue a couple of years ago and that undoubtedly had an effect on our balance of undergraduate, postgraduate and mature-age students. We had to respond to that and there will be something else in three years time. But broadly speaking we ought to be saying in a plan that we ought to have this array of courses with this sort of student population in each course, this sort of structure, on this sort of time scale.

Q: Do you see your role as harnessing the energy and vitality of the university?

A: Yes; and hearing it and feeling it. I've never met anybody who has all available wisdom in the palm of their hand. Most people have to get inputs from a whole series of areas and people. A lot of my job is about me understanding that energy, and about them understanding mine. Out of that we'll get something that's not exactly like either but is an appropriate direction for the institution to go. That's the way it ought to be.

Q: What attracted you to Monash?

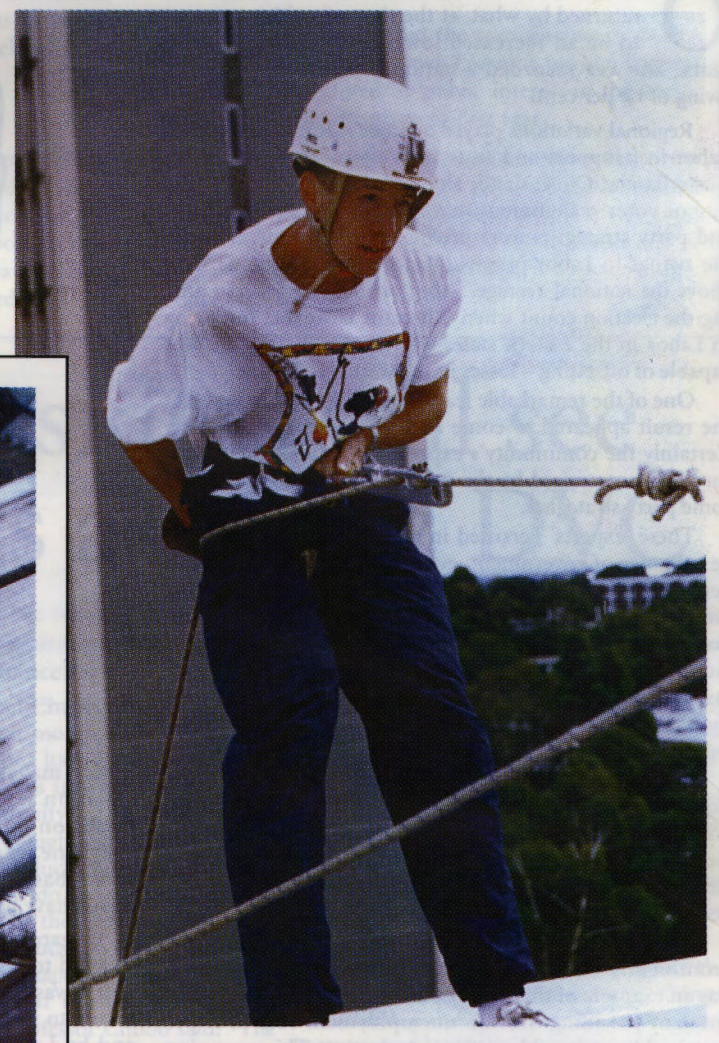
A: Only positive things. It is a vital place, keen to do things, to respond to needs while striving to retain high quality performance. It has a huge potential – and is undoubtedly the best in a number of areas.

Like all the Australian universities, Monash has to set its sights high; as a nation we will only be able to develop the sort of society we want if our central institutions are the equal of the best in the world. I wanted to be part of that phase of development, and my experience in my last job led me to believe Monash would be, and should be, in the forefront. But we need to be sure we are able to get to the heights we set ourselves, and I look forward to being involved in the policies and the processes that will get us there. I could go on, and on. But I'll stop there.

Getting a wider angle on orientation

Concentration … Disorientation … Determination …

These were the stages (clockwise from right) of this first brave lesson in the art of abseiling. During Orientation Week, the Monash Bushwalking Club was giving all comers the chance to go right over the top. Perched atop the Main Library on Clayton campus, the club's members oversaw a steady stream of potential cliff-hoppers – some more able than others.



Pictures: RHONDA JOYCE