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 heart rates, 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: the ability to lower 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.

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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 invents 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.

In a wide-ranging interview, Professor Chubb, who will be responsible for the day-to-day operations of the uni, 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-arrangements;
- the university's number of postgraduate research students may not be adequate;
- 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 13 Interview: Professor Chubb's view of Monash, its challenges and its place in Australian society.

MONTAGE NEWS FROM THE CAMPUSES OF MONASH UNIVERSITY

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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 in such a way that the booster 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 muscling animals a second time to complete a course of conventional liquid vaccines.

CSL commissioned 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 pellets in a gel 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 adhesive (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, 30,000 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.

"Obviously if we find samples that are from celest, palm or mahogany — that is, 'foreign' material rather than eucalypt — we can get closer 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 seventeenth century from storms in the Bass Strait.

"On first glance many of the samples scree in look like sand, cotted compost, milled sand and bits of steel," he said. "Occasionally the samples are wood or charcoal.

"Interesting samples are retrieved by a colleague at the cass. If they are unusual and unassuming, and are not broken, 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 pre-sized examples. It is like identifying a person from a fingerprint.

The mysterious Mahogany ship, which supposedly lies buried beneath 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, researchers and locals have been hard at work digging and delving, 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. Enters Associate Professor Neil Hallam of the Department of Ecology and Evolutionary Biology.

The Mahogany ship coordinating committee has engaged 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.

"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 squishing about in rain-drenched, fern-choked forest gullies, picking off opportunistic leeches.

"On an environmental history, you must get into the environment itself and get to know the people who live and work there," says Mr Griffiths.

"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 I talked 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, in which nature has its own dynamic, independent of 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 & Urwin 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: Talking tall tree tales.
**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 University.

A recently completed study by the Higher Education Advisory and Research Centre (HERC) found that very often tutors don't get the chance to second mark students' work because student numbers in tutorials have increased.

According to Mr Myfield, good assessment is a central part of teaching. He maintained that it is crucial to ensure high quality teaching and learning.

"Extra students aren't the only problem," project researcher Ms Barbara Mistry 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 pay attention to the requirements of an assessment regime that will effectively ensure high quality teaching and learning.

Mr Myfield said good assessment is central to ensuring quality teaching and learning. He maintained that it is crucial to ensure high quality teaching and learning.

A copy of the report project has been sent to each dean and head of department, accompanied by a copy of a draft report to all members of the project team. Additional copies of this report are available from:

**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 at Monash University, has run a job skills course for the Department of Employment Education and Training (DEET) and the Centre for Continuing Education.

Mr Dale Ingamells, director of the centre, said that the course had been well received by participants.

Programs, involving 750 unemployed participants from various metropolitan areas, have been run. Mr Ingamells said that the course was designed to help unemployed people find work.

The Centre for Continuing Education, which teaches a wide range of programs and short courses, had previously run a one-week program.

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

Every time Dr Jane Tracy gives a lecture on developmental disabilities in children, she tells her audience that she is a seven-year-old force behind Dr Tracy's teaching.

But her mission goes beyond imparting medical knowledge to expert 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 bring 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."

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

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 of a 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 claims 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 wasting time and effort in pursuing an annulment that is not viable."

Unlike holly, Australia does not have any canon lawyers in private practice who can help steer Catholics through the tribunal's legal maze. 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.

"Now, having written what could be very briefly 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 lawyer Mr Neville Turner, and Monash Catholic chaplain, Father Tony Vidot. Copies of the thesis are held by the Monash Law Library and the Inliah Theological Library at Melbourne University's Ormond College.

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.

Television research figures indicate that tens of thousands of Australians - who are not even officially enrolled - are embracing the Open Learning university system.

The figure is even higher in Sydney, where up to 16 per cent of households have tuned in.

"It's very exciting," says Mr Neville Turner, and Monash Catholic chaplain, Father Tony Vidot. "We hope it becomes a very popular university."
From the time that European settlers first encountered it, the Victorian ash forest has exerted a fascination that flows from its mysterious 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. 

In 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-foot logged trees, logged years ago. People often 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 claim 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 meters) tall hidden away in the ranges.

"But the tallest Australian tree ever measured by a qualified surveyor was one known as the Thorndale 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 376 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 forest fires 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. 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 forest. I described Black Friday as a European creation, an awful consequence of a century of white settlement and environmental practice.

"There 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 axed upon, but which was rarely allowed a

At the turn of the century, Nicholas Caire named one of the tallest trees. The one is King Edward VII, with a girth of about 2.44 m.
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 electrosception may function as a type of proximity detector that alerts the animal to the presence of potential prey.

He bases his conclusions on studies of the way the electric sensors in the platypus's bill are connected to the animal's brain. Neurons leading from the electrosensors and 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 inimicance - a 'prey is near' sensation - that gives an animal 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 sensory impulses in a way that is appropriate to the particular sense," he said.

"We found that we could evoke record electrical activity from the 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,' he said. 'Then we discovered that, as with the sense of touch, the cortical neurons were interrelated in only one half of the bill.'

"This does not rule out the possibility that the animal has a limited electrical '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,' he said."

"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 interrelated in only one half of the bill.'

"This scheme, in which the electrosense works hand-in-glove with the sense of touch, 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.'"

"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 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 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 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
The intensive observation phase of a multinational research effort to map the engine of global weather patterns involved the largest logistical exercise in the southwest 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 Ocean Global Atmosphere-Coupled Oceanic Atmosphere Research Experiment (TOGA-COARE).

But unlike those soldiers, 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.

Researchers from Monash's Centre for Dynamical Meteorology (CDM) were among 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. This 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 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 intensely involved in the genesis of the so-called El Nino - Southern Oscillation (ENSO) phenomenon, which at irregular intervals injects short-term climatic swings that bring drought and massive floods 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 the sort of precision required for the TOGA-COARE project.

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 observational 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 vacation between 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 fly 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 Price (CDM) went with Ms Noreen Kruse (GES) to Santa Cruz so set up the mobile sounding station before arrival in early November. Ms Alyson Williams (GES) and Ms Morwenna Griffiths (CDM) to ferry out the first balloon launch. The next team, comprising Dr Ron Creswell and Mr Greg Tyrrell (CDM); were to follow in December, followed 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 bad weather followed while the helium gas needed to fill the balloons was 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.

In the meantime the captain returned he began drinking heavily; two days later, he was persuaded to make the trip to Santa Cruz and leave the helium. Meanwhile, Don and Noreen were preoccupied with finding an alternative power source for the radiosonde. An Australian aid worker determined that the $1000 advance payment to cover the telephone call. No one could be found with an 11-digit telephone number. The operator assured them that the second balloon launch was scheduled for two days later, so they returned to the Vaisala University of the Northern Territory. The next team went with Ms Noreen Kruse (GES) to Santa Cruz so set up the mobile sounding station before arrival in early November. Ms Alyson Williams (GES) and Ms Morwenna Griffiths (CDM) to ferry out the first balloon launch. The next team, comprising Dr Ron Creswell and Mr Greg Tyrrell (CDM); were to follow in December, followed 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 bad weather followed while the helium gas needed to fill the balloons was 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.

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Apart from the electricity, 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 until 5.30 am, so the day's supply had to be stored in buckets.

The supply of cooking gas ran out after two hours. Fortunately, an Australian aid worker was on holiday and invited Allyson and Morwenna to use her spartan rental quarters. The launching proceeded without incident. Allyson and Morwenna alternated, launching balloons at 10.15 am and 1.15 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.

Science is not normally associated with adventure on the high seas. But a team of Monash researchers led by Professor John McBride and Dr David Karoly was keen to launch a massive weather-balloon mission on a tropical island. 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 fly 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 Price (CDM) went with Ms Noreen Kruse (GES) to Santa Cruz so set up the mobile sounding station before arrival in early November. Ms Alyson Williams (GES) and Ms Morwenna Griffiths (CDM) to ferry out the first balloon launch. The next team, comprising Dr Ron Creswell and Mr Greg Tyrrell (CDM); were to follow in December, followed by Mr Greg Roff and Ms Judie Hind-Roff (CDM) early in February.

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

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 Carpentaria. 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 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 falling trees.

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 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 idiosyncratic," 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 blacked out. We gave up the idea of sending up a balloon and headed back home to shelter."

Arriving back at their quarters, Jake could see the 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 116 kg of equipment. The booking officer, with a dismaying look on his face, announced: 'Him no fit on plane."

The aircraft was already late. The invitation 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 116 kg of equipment. The booking officer, with a dismaying look on his face, announced: 'Him no fit on plane."

The aircraft was already late. The appointed 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 1318 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.
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.

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.

Initially, there was no significant difference between the groups. 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 restested 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 the most important stressors in the modern work environment 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 person who 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 variability 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 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 randomly presented 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 rarely, the test subjects learned the difficult task of decreasing their heart rates while performing efficiently under stress. Weeks later, they were still able to do so.

Since it opened for business last year, the Stress Management and Counselling Clinic at Monash has seen more than 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 an appointment at the clinic, phone or stress management program.

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

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.

An intriguing question, says Dr Proske, is whether the electroreceptors in monotremes are the same as those in fish or whether they have evolved separately. "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 developed their own unique sensory system.

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

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

The highland mountain ash was once considered a majestic tree, but its natural history is complex and little understood. This book aims to change that.

The highland mountain ash is a unique species, with a short, thick trunk and a wide, spreading crown. It is found in highland regions, typically on volcanic soils.

The highland mountain ash has a long life cycle, with trees living for over 300 years. It is a fast-growing species, reaching heights of up to 30 metres.

The highland mountain ash is a keystone species, providing habitat and food for a wide range of animals. It is also a valuable timber tree, with high-quality wood.

The highland mountain ash has a long history of human interaction, with evidence of early European settlers and Indigenous Australians using its timber and firewood.

The highland mountain ash is a symbol of the Melbourne bushland and is often used in local government parks and reserves.

This book offers a celebration of the highland mountain ash, exploring its natural history, cultural significance and future conservation efforts.

tale: the story of a highland mountain ash

The highland mountain ash is a remarkable tree, with a long and complex history. This book explores the story of one particular highland mountain ash, from its ancient origins to modern times.

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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 Geoirt 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 secondand 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 Gary Harris and members of the advertising industry. The committee based their decision on academic results as well as written and oral submissions for a special project.

Hospitalable 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 EACV 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 940 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 held 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.

A policing first

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

Mr Hamish Smith, Mr Paul Beirc 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 temporary 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 Allston, 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 begins 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.
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 Overall 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 those periodic ordinary books which are perhaps more typical of those being produced at the time."

Special items of interest include the manuscripts from the Italian 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 engravings 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 Prenny orange-covered Penguins - "something that could be bought as easily and casually as a packet of cigarettes."

Mr Overall 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 plays an important role in each 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 Australians 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 Overall, is available for reference.

Composers are shown setting type in an 18th-century printing establishment in a plate illustration for the Kykopsiopetra. 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. Their 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 four-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 undergraduate level, and demand for the centre's courses is expected to increase 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 all the Monash 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 are 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..."

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.

Robert Blackwood Hall

The Melbourne German Male Voice Choir will perform with the Firebridge Brass Orchestra in a concert entitled Liederabend Ariow on Saturday 4 April at 2 pm. The choir will present songs and music from Germany and around the world. Admission: adults $12, concessions $10. For further information and tickets, contact German Tivoli Club on 529 5211 (Tues) or 801 4148 (Sat). Tickets also will be available at the door.

The New Monash Orchestra and Monash University Concert Band conducted by Andre de Quadros with the Melbourne Municipal Orchestra will present a lunchtime concert on Monday 5 April at 1.15 pm. Mikhail Sosvare 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.

The Alexander Theatre

The 1993 Heart Health Monash Theatre Season features many important works shown in Australia for the first time.

The sixth annual season of nine productions was launched last month by the Vice-Chancellor, Professor Mal Logan. "The increase is responsive 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 23,000 people to the university each year for plays, musicals, and children's theatre.

The first show was Bag Licence to Wish You Were Here, the second production was Ariid Dorfman's self-out show Death and the Maiden. Forthcoming attractions include The Garden of Delectable Gardens by Stephen Sewell; Harry M Miller's production of M Butterfly, Patrick White's Big Toys starring Playboy artistic director Carrillo Gattini; David Williamson's new comedy Brilliant Liar; Australia's first Aboriginal musical Bran Nue Dan; The Tempest, with 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 missed 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 ext 73 1992.

E X H I B I T I O N

Monash University Gallery

When 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-scale, the artist reveals his emotional, intellectual and sexual self through personal motifs, enigmatic titles and sometimes disjointed — yet structured — working of the paper.

The wit, erudition and tension between the emergent line and considered form of Dale Frank's drawings process the art of history and possibilities of visual 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 exhibition is open 10 am to 5 pm, Tuesdays to Fridays, and from 1 pm to 5 pm on Saturdays. For more information, phone ext 73 4272.
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 Education, Training and Employment and as part-time Deputy Chair of the board.

In this interview, 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 as much of the university as I can, visiting all the faculties, most of the campuses and met with staff and students. I've tried 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 VC. He's given me a number of criteria. It is best summarised as a role that will have a major impact on how Monash is run.

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

A: I think the size presents people with a number of challenges - you must make sure that, even in this institution, that we keep lines of communication open, that we listen to the people from the people in the institution, the students, the staff. You must always be on your toes and, as happens by stealth - your time is just slowly eaten away. In a smaller institution, such as Wollongong, when I was chancellor, DVC, I knew the bulk of the academic staff and a good number of the general staff. They probably all know me. If I walked around the campus I could stop and that sort of thing.

It will be different here; there are many more people I am going to meet on campuses. But it doesn't mean I should not try to be as approachable as possible. If I am to understand the institution, I need to know what challenges the people out there on the campuses face and it's easier to do that on a day-to-day basis. The policies we develop will be the better for that understanding.

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

A: I think the structure has been very pretty well settled. The DVC appointments have been made, as well as for Pro Vice-Chancellor with particular responsibilities in the areas of community and continuing education. The Chancellor is now fully at work and it's probably a day-to-day issue that goes to helping the university function.

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

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

A: I think they may not be. That might be the case - it depends on whether there are enough people to respond to the pressure for undergraduate qualifications, but we have to be careful. We have to have a clear idea of what we want - the future - and we need to plan for that. We don't want to be in a situation where we are looking for the future - the broader plans.

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 have at undergraduate level, what proportion at postgraduate, and where they should be in the university.

Q: In my judgment, many outsiders believe 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 mat and go away" syndrome that has surfaced recently in the debate about quality in education. Is that a real concern?

A: My immediate past job left me in no doubt that there are very 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 university. But as a result, there is doubtless some validity in some of the criticism. I think universities now are toying with the idea of playing a more positive role - and I think they should. Our universities are concentrated on many of the best minds in the country. I think they should be subjecting that concentration of energy - and the privilege that position from that to the benefit of the community.

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

A: About all we know at this stage is that a funding arrangement like the present one will continue, at least to its essential characteristics. There will undoubtedly be changes in the way that funds are allocated. Some of the policies that affect 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 are going to see the climax turned back to some preferred, ill-defined, golden age. This means, of course, that we should try to anticipate shifts and help shape them - not be caught unawares or contribute to developments.

The return of the present government will see some change but it is likely to be a change where the essentials of the policy remain: Having said that, we should ensure that we - and it is part of our job as an executive - are constantly scanning and being aware of the university is well positioned whatever changes are coming.

Q: Do you envisage that particular areas will be targeted for new courses or different approaches to programmes? Will there be anything to re-finishing what Monash offers towards the needs of the education market?

A: We need to respond to what our community needs. We have to shape community opinion for it. Government assessment is only one part of the equation and the university is well positioned whatever changes are coming.

Q: What do you now see as the main areas and major challenges of your work?

A: The challenge of the whole point of the university will look forward to a period which gives them a chance to develop our strengths in ways that we want - and we should respond, to external pressures. But if we don't, we concentrate on 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 unintended 'catastrophic' consequences on other parts of the university.

We are also likely to be entering a period of far more controlled growth, so the 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 being given to those who wish to make that argument here. While I think some 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 consider how we are going to make our plans so that we can be flexible to do new things will depend even more on an alternative (to government) funding source, or indeed an alternative to government and the necessary, and that is the alternative to government. I think it should be seen that continuation of that position from this to the benefit of the community.

The "future" comes in a number of ways. It comes from the quality of the teaching, the quality of the service we provide to attract students, the quality of education students receive. The quality of research is also important. The notion that science is independent of everything except for the kind of things it does. The benefit flows is variable, and the immediate benefit is not always obvious.

Universities are an investment in the future of communities, and they contribute in part by advancing knowledge and laying down a secure base for the development of the next generation. They do it also by attracting funding for that research.

Q: How has Monash fared in its research and development? A: Unquestionably, Monash has a strong background in research, particularly in the faculties associated with the university and its interests. Provided the objectives of the department, the faculty are well aware of the benefits that follow from helping the university, it might mean a group of high quality individuals and groups of high quality researchers reach their full potential, and that they are encouraged to apply for research projects and be funded.

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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 what they do and what they do and when they do it – between their research and scholarly activity and their commitment to teaching – has been a major structural change.
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 normal average course costs, they have certain expectations in return.

The abolition of the binary divide between colleges and universities intended to happen because there were people whose careers were to that point exhausted and devoted largely to providing high quality teaching. The people who were at university were trying to strike a teaching and research balance. So when you put all this together, this concept of moving towards a teaching and research balance – through what academic work now means.

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’s thinking – broad-based and collaborative – about issues that are important to them. I think it has been an accepted part of the role and responsibility of an academic in the community, regardless of their employment status, and these issues tend to dominate the perspective of elected 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 univer­ sity academics now; have you adapted?
A: It’s fair to say most academics now see the benefit of telling the community about what they’re doing. We have to remember that we have to be much more transparent about our work.

A: Yes; and hearing it and feeling it. I’ve never felt we had the kind of financial resources that we might need to do it. But I think we’re doing it.

Q: Do you see your role as harnessing the energy and vitality of the university?
A: Yes, because it’s a key issue a couple of years ago and that undoubtedly had an effect on our balance of undergraduate and postgraduate and mature-age students. We had to respond to that and there’s nothing else in three years time. But broadly speaking we ought to be saying in a plan that we ought to be saying in a plan that the energy, and about them under­ standing that energy, and about them under­ standing mine.

Q: What attracted you to Monash?
A: Only positive things. It’s a vital place, keen to do things, to respond to needs while strive­ ning to retain high quality performance. It has a huge potential – and it’s undoubtedly the best in a number of areas.

Like all the Australian universities, Monash has to set its sights on what we can be and what we will only be able to develop the sort of society we want if our commitment to 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 that Monash could be, and should be, in the front­ line in providing high quality .

Q: Why were all the election pundits wrong?
A: Because during the campaign that the Coalition had failed to fudy resolve problems in its approach to industrial relations policy (a situation exacerbated by the bitter controversy relating to the proposed Medicare government’s policy in this arena). The Coalition also failed to clarify in position on health policy, particu­ larly 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 sector clearly alarmed voters employed in government ser­ vices including health, educators and so on. This alone accounts for much of the voter realignment in seats like McMillen, Bas 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 represents a third area of defi­ cit in the pre-poll punditry.

While commentators were able to extract from opin­ ion 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, new commentaries realized that the ALP’s seats like McEwen, McMillan, Lyons and Franklin were extremely vulnerable 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 complex. This is because of the need 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 wrong when publicly available opinion poll data was giving so many indicators to the contrary, was certainly a noteworthy fea­ ture of the election.

The essential prejudicial view among commentators that made them unable to distinguish between what the voters could and should do to the heart of the election. Considering that the person who came closest to pre­ dicting the result was the political scientist Gough­ 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 lecturer in the Department of Political Science.
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