State forensic unit moves to Monash

Plans are under way to merge Victoria Police's Office of Forensic Medicine with the Department of Forensic Medicine at Monash, the first such arrangement of its kind in Australia.

After the resignation of several medical staff from the police forensic office, a recent meeting between the office and Victoria Police recommended integration into the Monash department.

The acting director of the Department of Forensic Medicine at Monash, Associate Professor David Ranson, said the increasing workload of the police forensic medical staff, the demand placed on them by the courts and legal profession and the need for research and teaching prompted the merger and rationalisation of services.

"The building of the police forensic medicine unit into a university structure in a formal, organisational way will be a first in Australia," he said. "In a sense, the merger formalises an arrangement that already exists, because the department works very closely on a day-to-day basis with the police forensic medical office."

The dean of the Faculty of Medicine, Professor Robert Porter, endorsed the amalgamation plans, which extend earlier proposals for formal affiliations. He welcomed closer links between Monash and Victoria Police.

"In addition to providing the state with clinical forensic medical services, a police forensic medicine unit will provide for education of future medical practitioners, police and the community," he said.

"All resources and facilities of the faculty will be available to support training, research and professional development, not just for police doctors, but for the police force generally, emergency services and social workers."

Dr Ranson said the university and the state police were forming a working party that would carry out a review of costing and forensic medical service delivery. The necessary resources for the service would also be transferred to Monash.

"About 18 months ago, an independent report identified the police Office of Forensic Medicine as a world class institution with a high level of service," he said. "I am now attempting to implement the merger of this office and the Department of Forensic Medicine," Dr Ranson said. "We hope that the details of the merger will be completed by July."

Dr Ranson said the focus will be on the integration of specialist clinical forensic medical practitioners into an operational unit, which will also have teaching and research functions.

He said the merger will allow for greater research opportunities, increase undergraduate and postgraduate courses in forensic medicine, provide training programs and offer structured career paths for forensic experts.

Designs on the future

A Monash undergraduate has won one of the world's most prestigious graphic design competitions for students.

Ms Eun-Ah Maria Lee's design was selected ahead of 226 other entries from 62 international design schools.

Her winning entry featured on the front cover of Print magazine, a New York journal that is read by graphic artists around the world.

"The idea was to create an image that looked at what graphic design is and how I interpret it," Ms Lee said.

"I wanted my design to focus on objects related to graphic design and to reflect the importance of generating ideas. When I looked at the basic tool for graphic design - an ellipse template - it looked just like thought balloons in the comics."

"To see an oval template as a thought balloon is very witty," Mr Andrew Kner, said of Ms Lee's design: "I wanted my design to reflect the wide range of different reference systems and cultures to draw on really helps her come up with interesting concepts."

"Eventually, Ms Lee hopes to return to Korea to teach graphic design, but for now she has her sights set on completing honours in the Department of Graphic Design."

Another Monash student, Mr Chris Liem, placed third in the same competition.

Graphic designer Mr Russell Kennedy said the awards were "a major achievement for Australian designers while also adding support to Monash in its quest for recognition as one of the world's great design institutes".

Ms Eun-Ah Maria Lee's award-winning design will be seen by graphic artists around the world.
NOW & THEN

25 YEARS AGO
In a paper written by Professor G. M. Badger, Vice Chancellor of the University of Adelaide, 30 years ago the great majority of students were Australian born, or at least were British born, and a student from a foreign country was a rare exception.

Today very many students are from Britain or the Continent; and in addition, there are thousands of students from the countries of South-East Asia. The influence of these South-East Asian students on the university scene has been enormous. The Australian-born students have acquired a wider interest in the world, and the South-East Asian students have returned to their homelands with new knowledge and skills and, in most cases, with some affection for Australia.

15 YEARS AGO
In its approach to the role of universities, the Williams Committee drew upon four "precepts of long-standing", which, it said, had influenced the advice given to successive governments by the Australian Universities Commission and, later, by the Tertiary Education Commission.

These included:
1. That every young person of appropriate ability who desires a university education should have a fair chance of getting in.
2. That universities could not be efficient and economical with less than 4000 students in those providing courses in the humanities, sciences and social sciences, or less than 8000 when courses were also provided in medicine, dentistry, veterinary science, agriculture and engineering.

5 YEARS AGO
A worldwide audience will soon be able to view several historically important Indonesian films as a result of a subsidising project by two Monash academics, Dr David Hanan (Visual Arts) and Masoeki Koesasi (Indonesian and Chinese Studies).

The films represent the birth of the country's indigenous cinema and are regarded as among the most important surviving works produced in the early years of independence.

Study and health linked: Open Learning student

An elderly student recently argued that Monash University's Open Learning program could help reduce the nation's health care bills.

"I am an 85-year-old suffering from severe arthritis which prevents me from playing golf, my favourite pastime. I could either sit at the vine or do what most of my friends do and haunt the doctor and swallow tons of expensive pills. Instead I am learning a new subject, which proves very worthwhile. My wife, my favourite pastime."

Letter to the editor

I refer to the article on Dr Chris Sharpney's survey on Stress and Health at Monash published in Montage in March 1994.

I refer, in particular, to the comparative statistics which he suggests show that Gippsland staff "had slightly higher levels of anxiety, daily hassles and job stress than other campuses". There are two comments which I would wish to make.

First this is that the questionnaire was sent to members of staff during the first semester of 1993. This was a period of considerable change at this campus which had amalgamated with Monash to become Monash University College Gippsland on 1 July 1990 and which then became a campus of the university from 1 January 1993. New relationships were evolving at all levels of campus operations. The Pro Vice-Chancellor of the University College, and Director of the former Gippsland Institute of Advanced Education (Professor Tom Kennedy) had also retired at the end of 1992 and arrangements were in place seeking a new appointee to the position of Pro Vice-Chancellor (Gippsland).

The second point which should be considered is the degree to which the Gippsland staff had these "slightly higher levels of anxiety" etc. Dr Sharpney states on page 10 of his paper that "none of these differences were statistically significant."

I suggest that any slightly higher levels of anxiety, if they did indeed exist, reflected only a temporary situation now no longer evident.

Mr George Joyce, Director, Administration, Gippsland campus.
Sifting through our polluted waterways

If a team of dedicated Australian scientists have their way, no longer will some Australian rivers be described as proverbial running jokes.

The new Cooperative Research Centre (CRC) for Freshwater Ecology, a tributary of which will be based on Canfield campus, aims to help reduce water pollution and improve the management of our freshwater resources.

The deputy director of the CRC for Freshwater Ecology and head of the Water Studies Centre at Monash, Professor Barry Hart, believes the centre's research program will boost water management.

"This CRC brings together universities, CSIRO, government and industry in a partnership that will provide mutual benefit," Professor Hart said.

The CRC for Freshwater Ecology is a collaborative venture between Monash, CSIRO, Melbourne Water, the Murray-Darling Basin Commission, the Murray-Darling Freshwater Research Centre, NSW Fisheries, University of Canberra, ACT Electricity and Water, La Trobe University, the Inland Water Corporation, the ACT Government, the Albany Wodonga Development Corporation, and the Sydney Water Board.

"The past four or five years have seen major changes occurring in Australia's water industry," Professor Hart said. "Particularly relevant is the much greater emphasis on water quality and the focus on protecting the ecological health of water bodies."

The CRC for Freshwater Ecology will aim to improve the ecological information needed to better manage Australia's rivers and water resources. Its key current research programs cover flowing waters, eutrophication (increasing the level of nutrients in water), floodplain and wetland ecology, water quality and ecological assessment, fish ecology and urban water management.

Operating on an annual budget of $5.5 million, which also includes an annual $1 million grant from the Federal Government and in-kind contributions, the CRC will provide an ecological guide for sustainable management of surface water.

Professor Hart said the centre would achieve its objectives through research, education and technology transfer. "The challenge will be to achieve a mix of long and short-term research, which should include a range of low and high-risk research investigations," he said.

"The CRC brings together a unique mix of scientific expertise, and it will have laboratories and field facilities in Victoria, located at Monash's Clayton and Canfield campuses and at Melbourne Water; Canberra and NSW (Cromulla, Narranberra)."

A total of 51 CRCs have been established so far, with another 10 centres to be funded in the fourth round of grants later this year. Under the CRC structure, Federal Government funding is guaranteed for seven years. There are now seven 'environmental' CRCs.

Professor Hart believes the CRCs are a very pro-active way of bringing together industry, government and academics.

If you want to have served the water industry so well that it will not want to lose our services - therefore, success and continuity are vital..."
Managing with briefcase and child

In 1994 – the Year of the Family – the lines between family and work are blurring. More than half of all Australian families with dependent children have both parents in full-time employment. This report by Susanne Hatherley, marketing manager in the Office of University Development and Joshua's mum.

I have just returned to work with my briefcase under one arm and five-month-old baby under the other. I am a 'worker with family responsibilities'.

Forty per cent of the Australian workforce performs this precarious juggling act, and our ranks are growing. According to trend-readers and economists, the labour force of the 1990s will be dominated by employees who share at least some responsibility for the care of family dependents. Predictions are that there will be an increase in the number of dual-earner families, more single-parent families, a greater proportion of women working with children, more men with direct responsibility for family care, and growing numbers of workers caring for elderly parents.

In recognition of this significant social change, the Federal Government recently ratified the International Labour Organisation Convention 156 on Workers with Family Responsibilities. It is now national policy "to enable workers with family responsibilities who are employed or wish to be employed to do so without discrimination and, as far as possible, without conflict between their employment and family responsibilities".

The message is clear – employers need to be family friendly. As any working parent will know, the big issues are:

- Facilities for staff and students when it comes to school holidays;
- Taking care of sick children;
- Day care and care for their sick children.

Parents, whether they are working or studying, need support and sensible advice.

"Parents, whether they are working or studying, need support and sensible advice," Ms Garden, an experienced family therapist, said. "Our work goes beyond providing a directory of childcare services. Often we are called on to advise on issues ranging from how to share the housework to how to deal with divorce."

In addition, the crusade for improved facilities for working and studying parents and their children continues. Currently, Child and Family Services representatives are developing services agreements with the Monash-linked childcare centres, the Monash Student Co-operative Limited, the Monash Community Family Cooperative, the Chilhood Child Care Association and the Monash (Traralgon) Community Child Care Centre Inc. The services agreements will formalise relationships between the campuses and centres.

Most recently, Ms Boggan has established an occasional care centre on the Caulfield campus. It opened last month to the relief of many parents on campus. At the moment, there is limited funding for the centre and Ms Boggan has supplied all the equipment from her own pocket. However, she is encouraged by the response to a recent advertisement in the Morning Advertiser for a carer for children up to 12 years.

"This is the first step towards providing adequate childcare places for students and parents with children," Ms Boggan believes the university needs to do better. She has made a submission to the Department of Human Services and Health for a multipurpose facility on the Clayton campus. A similar submission has been made on behalf of the Caulfield campus.

"Such a facility would provide a new venue for the occasional care centre, day care, permanent part-time care and the school holiday program," she explained.

Equal opportunity manager, Dr Margaret James, describes the school holiday program as "one of the best things I have ever been involved with."

Initiated six years ago by Ms Brown, the 90-hour program now operates outside the school holidays, offering children aged from five to 14 a range of activities. The result is happy children – and happy parents.

"Parents, whether they are working or studying, need support and sensible advice," Ms Kaye Quintar, sub-editor in the Office of University Development and mother of Ben, 9, and Nicole, 7, says it is very comforting to know the children are not far away.

"They feel very special coming to mum's workplace during the holidays," she added. "It is a very professional and well-organised program offering a variety of activities. Most importantly, it means I can spend time with the kids at lunchtime."

Although Dr James believes Monash has "done fairly well on the whole" for employees with dependents, she points to a number of areas that still need to be resolved.

"What happens when a child is sick? This always creates an emotional strain," she said.

An Australian Institute of Family Studies survey of 2642 families illustrates this dilemma. As one parent said, speaking for many, "I just want to be able to say that my child is sick and that I need time to take care of her."

The survey found that more than half of the mothers and one-third of the fathers had taken time off work to care for sick children in the past year. They’d taken either sick leave or annual leave. Twenty-nine per cent never told their boss the real reason and 13 per cent sometimes told. In the present, Monash offers a special leave provision of three days in the event of a family member's serious illness.

Dr James points out that the issue is not unique and the problem will move with the dependent family of the member.

"If your baby has a cold and wants his bottle that isn't attended to except staying home. Childcare centres are not set up to cope with sick and infectious children."

The Equal Opportunity Unit is also looking into the issue of flexible hours. Part-time work, career breaks, parental leave, job-sharing and working from home are options under consideration.

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More controversial – although slowly gaining acceptance in the business sector – are schemes such as job-sharing and the 48/52 year.

As equal opportunity project officer Ms Renata Singer points out in her report to the Monash Equal Opportunity Committee Affirmative Action Working Party, job-sharing is currently mainly rhetoric rather than reality, although some companies, such as the Commonwealth Bank, the National Australia Bank, Westpac, IBM, Shell and Hewlett Packard, have introduced job-sharing arrangements.

Ms Singer believes job-sharing offers the possibility of getting dual expertise and attracting and retaining staff at all levels who have other interests or responsibilities.

One example of the theory being successfully put into practice is the job-sharing arrangement between Dr Miriam Tisher and Dr Livia Jackson, joint coordinators of Community Services at Caulfield.

Dr Tisher is convinced that the university gets more from job-sharing than it pays for in terms of hours put in, plus the blended expertise from different professional areas. "An ink job-share, people being different styles to the job as well as skills," she said. "For example, one person might be better at administrative details and budgeting and the other at staff support and supervision. We haven't found any disadvantages at all in job-sharing, only advantages."

Ms Singer has promoted a faculty-based project to monitor the results of job-sharing.

The 48/52 scheme, introduced to the Victorian Public Service in 1991, allows employees to take an extra four weeks annual leave. In return for this convenience, particularly useful for parents of school-aged children, employees are paid at a slightly reduced rate. The reduced rate is calculated by subtracting four weeks pay...
Nothing beats a healthy lifestyle

The majority of people supplementing their diet with vitamins may be risking their health rather than helping it, according to Monash nutrition expert Professor Mark Wahlqvist.

Professor Wahlqvist, head of the Department of Medicine at Monash Medical Centre, says about one-fifth of the Australian population use vitamins and that number increases to one-third if you include herbal preparations and dietary fibre supplements.

"The most prominent vitamin user is the person with health-seeking behaviour," Professor Wahlqvist explains.

"This type of person wants to improve their health and is interested in new ideas and possibilities. They are the people least at risk of vitamin deficiency in our society, but as it gives them extra time to develop their outside interests and possibilities, they are the people least at risk of vitamin deficiency in our society."

Professor Wahlqvist adds: "But even if vitamins such as Vitamin E help us in one area, what are the trade-offs?"

Professor Wahlqvist asked: "Too much vitamin E may suppress the body's essential oxidant capacity to unacceptably low levels. A normal function of white cells in the body is to produce oxidants to kill infectious agents. If you don't have that oxidant capacity, the body's defence system may not be functioning properly."

"We can make formula foods and feed people incorrectly for those who cannot eat any effect without this not the preferred version," he said.

"But we can get fairly close to replacing the nutrients in food, but this is only one aspect of food. Food contains proteins, essential fatty acids, carbohydrates, and many other biologically active substances that cannot be reproduced in a pill."

"People who may need some form of vitamin supplementation include the elderly, infants (especially premature infants), pregnant women, people on certain medications, food faddists, people in institutions, and those with low levels of physical activity. However, it is a combination of these things, not the presence of one, that is more likely to lead to vitamin deficiency."

Professor Wahlqvist added: "Incidentally, American studies have shown nutrient intake is not associated with increased life expectancy, although it may alter diverse patterns in some individuals."
A window of opportunity for real estate agents

A new easy-to-operate computer software package is set to revolutionise the way real estate properties are bought, rented and sold.

The package, called PropertyView, provides home-hunters with a timesaving method of finding the property that best suits their needs.

Developed partly by Monash University computer systems officer Mr Kuncoro Rusman, the package is expected to redefine the way the real estate industry operates by doing away with consumers' biggest bugbear.

Invariably, finding the right house or flat is a process of elimination. In other words, the final choice usually comes only after the tedious task of walking through properties that are definitely unsuitable. The trouble is that it's sometimes impossible to know whether a property falls into the 'definitely no', or the 'maybe' category without a time-consuming inspection.

The package enables real estate agents to put together computerised photos and key information points on every property on their books. Potential buyers or tenants can brief an agent on their main requirements and then view as many properties as they wish without leaving the real estate agent's office. For example, if a client wants a house with a tennis court and five bedrooms, all properties meeting this criteria can be displayed by computer.

The display includes a quality visual display comprising photos of the front of the property and any number of interior shots. A description that includes the price, size in square metres, the age of the property, the number of bedrooms and special comments accompanies the photos.

Mr Rusman says the package is not intended to replace the need for inspections. "PropertyView will provide a far more time-efficient way of conducting the first stage of selling or letting properties," he said.

"The system again becomes very helpful in the closing stages of the decision-making process. PropertyView can be used to refresh people's memory of each of their preferred properties. It will no doubt help real estate agents to close sales, and provide a distinct service to potential buyers or tenants."

Mr Rusman says he is considering further developments to the package that would enable a real estate agent with several offices to network all its listed properties. Therefore, if a client's brief is not specific to a suburb, more properties can be viewed without having to drive long distances.

Another future development to the software includes expanding the network facility to service interstate and overseas inquiries. Mr Rusman added that the system may eventually work via a modem link, enabling clients to inspect properties from their own homes.

He believes the package presents excellent export opportunities and plans to market the product to real estate agents in nearby Asian countries, New Zealand, the US and the UK.

Limit to enterprise agreements

Enterprise bargaining in the general workplace has been slow to take off since its introduction in October 1991, according to Professor Malcolm Rimmer, director of the National Key Centre in Industrial Relations.

The major reasons for this, says Professor Rimmer, are the recession and inadequate infrastructures to sustain enterprise bargaining in the workplace.

He said it was understandable that people would not be enticed in a recession because they were cautious about money.

"Employers are not wealthy enough to outlay extra money and employees are reluctant to enter agreements for fear of losing their jobs," Professor Rimmer said.

Since 1991, the National Key Centre in Industrial Relations at Monash has been collecting data on state and national enterprise agreements and analysing the information in terms of its effectiveness and success.

According to Professor Rimmer, most Australian workplaces are not equipped to undertake enterprise bargaining because employers are not properly represented and managers are not adequately trained.

On a federal level, only 1100 agreements have been reached, representing only 37 per cent of wage earners under federal awards. Developments have been even slower in the state industrial jurisdictions.

Despite the low numbers of enterprise agreements, the latest figures have indicated that the manufacturing industry is leading the way when it comes to formalising enterprise agreements.

A joint report compiled by the National Key Centre and the ACTU found that manufacturers had produced almost two-thirds of all enterprise agreements.

The quarterly report found that the public service had the next highest number of agreements with nearly 12 per cent of the total.

Professor Rimmer said most of the negotiations had been struck with men, simply for the reason that a high proportion of workers in manufacturing were men.

"Despite making up 40 per cent of the total workforce, women have found it hard to get into the enterprise bargaining process," he said.

Learning the hard way

Bizarre as it may seem, a lecturer in the Faculty of Economics recently organised six students who failed his subject last year to speak to his first-year students about study techniques.

Concerned about the faculty's failure rate Dr Graham Richards arranged the lunchtime lecture so that new students could learn from the pitfalls encountered by even the best students.

The lecture, held in the Alexander Theatre and attended by some 500 students, highlighted many of the transitional problems faced by teenagers coming from a 'spoon-fed' secondary school environment to the freedom of university.

Dr Richards, who was chief examiner of HSC Economics for 10 years, said that the lecture aimed to "change the expectations that some students came to university with".

Dr Richards and the six students who took to the podium on Monday 7 March had one basic message for the first-year students: "Don't think you can just cruise through university without doing any work, because you just won't pass."

Many of the student speakers said that the first year of economics at Monash was more difficult than VCE.

One of the speakers said many first-year students mistakenly believed that because they passed everything at school they would continue to do so at university.

The reality, however, is that they are studying with people who have proven themselves to have a certain level of intelligence and dedication - in the case of economics that equates to the top 10 per cent of students in the state.

"The standard in our faculty is very high," Dr Richards said.

A number of recommendations made by the student speakers apply to most other undergraduates at Monash.

The speakers recommended that students seek 'out-of-tutorial' assistance whenever a concept isn't clear, establish self-discipline (particularly for those people living in the Halls of Residence), allocate time to study at home, stay positive after mid-semester exams and attend university five days a week.

One speaker made the point that each time a student fails a subject "another door to their future is being closed". Each failed subject also requires an extra semester of study and another lot of HECS to be paid.

With one exception, each of the student speakers had sat in a similar lecture last year. One speaker spoke for the others when he said: "I never thought I'd be up here telling others the same thing that I was told last year. I am certainly not proud of my efforts."
Huge seas whipped up by cyclones are only one of the many obstacles facing offshore gas-drilling platforms on Australia's North West Shelf.

When Woodside Offshore Petroleum began driving two-metre diameter steel piles into the seabed to support its North Rankin A platform in the mid-80s, they unexpectedly speared through soft calcareous sediments below the sea floor for support its North Rankin A platform in the mid-80s, Engineering says the sediments, built up from shells and the remains of marine organisms, were very porous and offered very little mechanical strength to provide a stable footing for the enormous rig.

Because the rig stood in 125 metres of water, the piles had to be very long to reach the stronger calcareous rock (or calcarenite) below the soft sediments. The primary piles were considered to be inadequate to support the platform safely, and an extensive investigation was carried out to determine methods for strengthening the foundation. Several options were investigated, including extending the pile length by installing insert piles through the primary piles (diagram one) and belling out the bottom of the primary piles (diagram two).

Initially, the favoured option was to use drilled and grouted insert piles. This technique, which involved drilling a hole down beyond the end of the primary pile and pressure-grouting the insert pile into the hole, had been used successfully elsewhere. As the contact between the grout and the surrounding calcarenite's rough, the frictional resistance of the pile is increased. Nevertheless, there were grave concerns about the stability of the piles in the long term because little was known about how cyclic forces, caused by wind and wave action, would cause the legs to twist and flex, progressively destroying the pile's frictional resistance.

"There's no other area in the world with the same combination of geological and weather conditions," Dr Haberfield said. "Calcarenite is a pretty horrible material, and as the piles cycle under load, it tends to shear and break down. As a result, it no longer provides adequate support to the piles."

These concerns eventually caused Woodside to adopt another option for the North Rankin A platform at a cost in excess of $200 million. However, insert piles were subsequently adopted as the planned foundations for a sister platform, Goodwyn A, also located on the North West Shelf.

Given the importance of the North West Shelf gas fields to Australia's economy, Dr Haberfield and Monash's Professor Ian Johnston, (now dean of engineering at Victoria University of Technology) secured an Australian Research Council (ARC) grant to investigate the performance of the insert piles under cyclic loading. The grant enabled them to complete the construction of a very large special purpose test rig, the first of its kind in the world. The rig was used to simulate and test the interface between a grouted pile and calcarenite under virtually any combination of cyclic forces of the magnitude that would be experienced on the North West Shelf.

Dr Haberfield says the interface between the grout and the sediment is modelled mathematically in two dimensions. The predictions are then tested in a shear box incorporated within the test rig. Because of the prohibitive cost of shipping calcarenite core samples from the North West Shelf, the tests were performed using a soft calcareous rock from Mount Gambier, called Mount Gambier Limestone.

The Monash group, consisting of Dr Haberfield, Professor Robert Johnston and PhD student Mr Julian Seidel (now a lecturer), wanted to see how various profiles of grouting would perform to offer maximum grip and strength.

"As the pile moves, the pile's rough interface pushes against the surrounding rock, strengthening the pile resistance," said Dr Haberfield. "One of the main problems is working out how to characterise the roughness profile, as the shape of the roughness has a large influence on the pile capacity."

The group used fractal geometry- a part of chaos theory- to characterise surface roughness, and to model different degrees of roughness in their model tests. This novel technique for modelling rough surfaces was conceived by Mr Seidel. It allowed the research team to use a probabilistic approach for describing the interface between the grout and the rock.

"Others have tried the reverse approach of taking real interfaces and trying to extract the fractal dimension for use in a mathematical model," Dr Haberfield said. "Given that our real-world interface is 300 metres below the sea surface, we would have got nowhere."

THE END
Predicting where credit is due

An innovative concept for the world’s monetary system developed by a Monash computer scientist could change the way we think about money. His radical plan bases future monetary systems on bank credit.

The world’s monetary system was not designed—it evolved over the centuries. After abandoning the gold standard, it is now coming to grips with the electronic age. Professor Les Goldschlager of the Department of Computer Science would like to speed up the evolution towards a new monetary system based solely on credit. But, he says, economists are stuck with the assumed long-held notions about what money is.

Professor Goldschlager has developed his loan standard system (LS) in collaboration with Professor Ian Harper, a professor of economics in the Graduate School of Management at Melbourne University. “I came into this research field by asking a simple question: Where does the underlying value of money come from?” Professor Goldschlager said.

The computer model shows how LS would work—it can be played as a game, involving multiple players communicating via a computer network. Professor Goldschlager has taught its principles to high school students, who rapidly learn something that trained economists sometimes find elusive—that money need have no physical reality or ‘mass’, its underlying value rests on nothing more substantial than promises and trust.

He illustrates his idea by analogy with a babysitting club. Couple A performs babysitting for couple B and thereby acquires a ‘credit’ they can use in the future. No money changes hands, but something of value is created, and continues to exist until it is destroyed by the indebted couple ‘repaying’ their debt to couple A. The transaction involves a time credit, which has no physical reality except for an entry in a notebook—or a computer data bank. Tokens can be used, but their value is linked to feedback systems to ensure that the in situ conditions were reproduced correctly.

“The reason we have runs on banks under the existing system is that there is a present-imposed real ratio—the ratio between a bank’s reserve deposits and the volume of loans it can make. If a bank starts calling in loans to cover withdrawals during a run, it can thereby acquire a ‘credit’ they can use in the future. No money changes hands, but something of value is created, and continues to exist until it is destroyed by the indebted couple ‘repaying’ their debt to couple A. The transaction involves a time credit, which has no physical reality except for an entry in a notebook—or a computer data bank. Tokens can be used, but their value is linked to feedback systems to ensure that the in situ conditions were reproduced correctly.

In the new loan standard system, the standard which backs the money supply is the value of all outstanding bank loans. A bank’s loans portfolio replaces the gold standard in the old system,” he said. “An interesting property of the LS is that you can’t get a run on a bank, whereas in the existing system, if a lot of people withdraw their money, institutions can collapse. Our present system can be destabilised by rumours; with the LS, it could only be destabilised by massive default—which, incidentally, would also destabilise the existing system.

If you think about it, a run on a bank doesn’t make any sense, because deposits are liabilities on a bank’s balance sheet. There is nothing you can do with the money except to transfer it to somewhere else or use it to repay an outstanding loan.

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It’s an important problem which is going to come up again,” he said. “Woodside’s costly experience on the North West Shelf has scarred the offshore petroleum industry away from grouted piles. In Bass Strait, the industry is turning towards gravity platforms that sit on a big, flat footing on the sea floor. Others are using small, isolated structures in the sea floor.”

Mr Seidel’s PhD has yielded a computer-based pile design program model called ROCKET, which runs in the Windows environment. Civil engineers will be able to use ROCKET to design grouted pile structures for a wide range of geological conditions and loadings. Dr Haberfield said the model would be just as useful for designing both the concrete test piles that are used to support other heavy structures such as tall buildings sitting on low-strength rock, for example the mudstones that underlie much of Melbourne’s CBD.

Dr Haberfield said the annual cost of drilling grout or concrete piles in Australia runs at around $100 million. In the past, engineers have been forced to be very conservative in their designs, allowing large safety margins in the absence of good information about how the piles will perform. “This costs money,” he said, “and the aim of our research is to minimise cost while maximising performance.”

His research group has received another ARC grant to investigate a technique called expansive concretes to improve pile performance. This technique involves using a calcium sulpha-luminate additive, which causes sulpha attack in the concrete or grout after it hardens. Normally, engineers try to avoid sulpha attack because it causes the cement to weaken and break down, but under conditions of confinement, this expansion actually adds frictional resistance to the piles by locking them more tightly into the surrounding rock.

The expansive concrete technique may yield huge increases in pile performance, and has potential benefits for rock anchors used to stabilise the walls of open cut and underground mines, as well as road cuttings. The anchor technique could allow steeper slopes to be safely stabilised. “In an open cut mine, the sand wall and cause bankruptcies among companies that were trading well, and which could have remained solvent if they had been given time to pay.”

A key change under LS is that a bank’s deposits would not be part of its balance sheet, but would be recorded on a central or national bank’s ledger sheet. So deposits would not belong to any particular bank.

An interesting property of the LS is that you can’t get a run on a bank, whereas in the existing system, if a lot of people withdraw their money, institutions can collapse. Our present system can be destabilised by rumours; with the LS, it could only be destabilised by massive default—which, incidentally, would also destabilise the existing system.

“Imagine a system where the money is destroyed every time a book entry is made, or resolved two questions that have long troubled economists: how and when is money created, and how does it get into circulation? The money is created when the loan is granted, and enters circulation every time a book entry is made, or a token is created, representing the promise to repay.

“The walls may also be contained between the interest paid on deposits and the interest charged to borrowers. The overheads may also be contained within this differential, or can be covered by separate transaction fees.

From Research Monash 1

Model gains support

“One we had mathematical descriptions of our profiles, we cut them out of Mount Gambier Limestone, cast a matching block of cement grout against them, and tested them in the rig. We cycled them back and forth under different conditions to simulate the in situ load combinations.”

The forces and displacements had to be controlled very precisely by sensors, and led to feedback systems to ensure that the in situ conditions were reproduced correctly.

Professor Les Goldschlager says, is that current monetary systems are actually evolving in this direction, thanks largely to the increasing importance of computers in the banking system.

“People are beginning to better understand that money can be an abstract representation in their bank account, stored on a computer. It doesn’t have to be a physical thing,” said Professor Goldschlager. “Coming from a computer-science perspective, it’s easier to see than it might be for a person who has been educated in the paradigms of a different discipline.”
Uncorking the red genie

Folklore has long credited red wine with being an elixir of life. In the past it has proved difficult to identify any factor in red wine that might account for its health-giving properties. A new study by two Monash physicists may have isolated the vital ingredient.

Modern epidemiological studies suggest that moderate, regular consumption of wine — especially red wine — offers some protection against cardiovascular disease.

When Dr Gordon Troup and Dr Don Hutton, of the Department of Physics, read a report published in The Lancet last year which proposed that red wines contain a natural anti-oxidant, their interests were excited.

Certain types of anti-oxidants, including vitamins A, C and E, appear to protect the human body against free radicals that can damage the DNA of genes and impair vital enzymes.

Oxygen atoms normally travel in pairs; when separated, they form a highly reactive form of oxygen called an oxygen free radical, which is suspected of being involved in the oxidation of low-density lipoproteins (LDLs) — the so-called "bad cholesterol" in the bloodstream. The oxidised LDLs are stored in the walls of arteries, creating fatty deposits called atherosclerotic plaque that can build up and block arteries.

Several years ago Dr Troup and Dr Hutton designed and built their own compact version of an analytical device called an electron-spin resonance (ESR) spectrometer, which they have since used to identify different types of free radicals in various foodstuffs. Suspecting that the anti-oxidant in red wine may be a "friendly" free radical, they decided to use ESR to hunt for it. They published their results recently in the journal Free Radical Research Communications, and nominated a prime candidate — a phenolic free radical.

Phenolics are a family of molecules that are chiefly responsible for the distinctive colours and flavours of all red wines. Red and black grape varieties synthesize phenolics in the layer of pigmented cells just below the skin — seeds are also rich in phenolics, which account for the astringent taste when grape seeds are chewed. When the grapes are crushed, the red-wine maker leaves the skins in contact with the juice during fermentation. During the traditional aging of the wine in oak barrels, the phenolics are thought to react with compounds in the wood, promoting the development of flavour and colour.

In contrast, white-wine makers remove the grape skins and treat the juice with agents to remove the phenolics which can cause the wine to discolour or develop the flavours that some white-wine drinkers find unpleasant.

Phenolics are all variants on a basic biochemical theme: a hexagonal ring of carbon atoms with other simple chemical groups attached. Phenolic rings link together to create the anthocyanin pigments that make red wine red; they also form complexes that give red wines their characteristic flavours.

Dr Troup suspects the newly identified phenolic free radical may actually mediate these processes. A phenolic molecule can act as an anti-oxidant in two ways. If it does not carry a free radical (an unpaired electron), it can transfer the radical on the "bad" molecule to itself, and stabilise it, thus removing it from the game. Or, if the phenolic does carry a radical, it can pair it with the radical on the "bad" molecule, thus destroying both radicals. He wonders if the phenolic free radical may be assisting other compounds like vitamin C to detoxify dangerous oxygen free radicals before they can oxidise LDLs.

Dr Troup says other researchers now need to do experiments to determine whether the phenolic free radical is serving as a protective agent in red wines — such a finding would be the strongest evidence yet that folklore had it right.

Dr Troup and Dr Hutton, together with their colleagues Dr Charles Hunter of the Medicine faculty and Dr David Hewitt from the Chemistry department, have previously used ESR spectrometry to identify and measure free radicals in a range of foods. Roasted or grilled food, including toast and barbecued meat, and coffee and stout have been found to have more free radicals than uncooked foods. Toasting could also be a source of the free radicals in red wine — Dr Troup notes that red-wine makers traditionally "toast" their oak barrels at 200 degrees before storing the wine in them.

But Dr Troup says the signature of the phenolic free radical is detectable in grape juice immediately after it has been crushed; the signal is enhanced in red wines aged in oak. It is not normally present in juice or wine from white grapes — although they have found it in an oak-aged Australian semillon left for some time "on the skins". The Monash researchers were only able to detect the phenolic free radical's signal after concentrating the wines tenfold under a cold vacuum.

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Dr Troup says further research will be needed to establish whether the phenolic free radical is the mystery factor that helps red-wine drinkers age more gracefully. But if its role is confirmed, it may be possible to introduce it into white wines so that people who cannot tolerate red wines because of allergy problems may gain similar protection to red-wine drinkers. The alternative, he suggests, may be for white-wine drinkers to switch to oak-aged wines left...

Time is running out for the northern hairy-nosed wombat (Lasiorhinus krefftii) in its last refuge in central Queensland’s Epping State Forest. Australia’s largest mammal had dwindled to no more than 80 individuals by the end of last decade, and numbers may currently be as low as 60. Most alarmingly, there may be as few as 20 females of breeding age. Although some 3,500 hectares are protected, the animals range over little more than 10 per cent of this area. It would be relatively easy to tip the wombat into extinction.

Queensland’s National Parks Service has not been content merely to watch over the wombats; it wants to push into extinction.

Understandably, there is a reluctance to disturb the few remaining animals, so Dr Peter Temple-Smith of the Department of Anatomy and masters student Mr Vernon Steele are studying L. krefftii by proxy — by focusing on its more common cousin, South Australia’s southern hairy-nosed wombat, L. latifrons.

“If the northern species is going to be rescued, we don’t want to disturb them because it may cause them to abandon the area. Nor do we want to expose them to stress or the risk of infection,” Dr Temple-Smith said. “We have been given funding to begin looking at the reproductive processes of the southern hairy-nosed wombat and the project is going well now.”

When Mr Vernon Steele came to work with Dr Temple-Smith, he was looking for a research project. Through contacts he developed with the South Australian National Parks Service, he was able to gain access to a private property in the South Australian Riverland whose owner had a licence to cull some southern hairy-nosed wombats.

Dr Temple-Smith says genetic studies have confirmed that the northern hairy-nosed wombat is a distinct species, but closely related to the southern hairy-nosed wombat. Despite its small size, the Epping Forest population seems not to have suffered significant inbreeding, which augurs well for its survival if its numbers can be rebuilt.

L. krefftii was already rare by the end of last century; it was a victim of extensive clearance of its sandy woodland habitat; it faced competition from sheep and cattle for the Stipa native grasses upon which it fed; and it was hunted by pastoralists whose horses risked breaking legs by stumbling into its warrens. Given the probable fate of the only other population known to exist at the turn of the century — in mallee woodland near Deniliquin, but if other survivors exist, farmers are unlikely to reveal them out of concern that their properties may be declared conservation areas.

Mr Steele says the southern hairy-nosed wombat is common in areas of the South Australian Riverland near Blanchetown, and on the eastern margins of the Nullarbor Plain. Yet it too has suffered a sharp contraction in its range since European settlement, being pushed into limestone areas where grazing is a marginal enterprise.

“On the property in South Australia where we are studying them, we saw 208 animals in two hours of driving around the paddocks. Most were just sunning themselves around their warrens,” he said.

Little is known about the reproductive biology or behaviour of hairy-nosed wombats, but Dr Temple-Smith said a 1970s study by Adelaide university’s Dr Matthew Gaughwin indicated that droughts had a dramatic effect on the southern hairy-nosed wombat’s breeding. If the same is true of the northern hairy-nosed wombat, this is an ominous finding, given that much of Queensland is currently gripped by the worst drought this century.

Mr Steele has been attempting to establish how hormone levels vary in adult animals during the year, particularly during the breeding season. While the emphasis is on taking blood samples from wombats under field conditions, more detailed studies will be made of half a dozen animals from South Australia, which are soon to arrive at Monash for captive studies.

“We are looking to see if there is any great variation in breeding seasons, given that Matt’s thesis indicated that the animals only breed in good years,” Dr Temple-Smith said. "Covizitv should remove that factor."

He said that by learning about the breeding cycle, wombats should be able to manipulate the reproductive system of the species to produce terrilised eggs on demand. It may then be possible to exploit the close genetic relationship between the northern and southern hairy-nosed wombats, for example by using southern females as surrogate mothers. If all goes well, the northern females that have supplied the embryos will then enter another breeding cycle, allowing numbers to rebuild more rapidly.

Mr Steele has been attempting to determine if regular measurements of deep body temperature are a reliable cue to the time of ovulation — as is the case in human beings. He has taken vaginal smears for correlation with blood hormone levels, and has equipped four females with radio transmitters that relay their body temperature as they move freely in the field.

The male reproductive system will also come under scrutiny. The Monash researchers have developed an electroejaculation technique and a successful protocol for long-term cryopreservation of sperm. These developments should circumvent any problems associated with sperm production being inhibited in captive males and also to provide a bank of spermatozoa for further studies.

Early experiments indicate that it will be possible to freeze sperm without impairing its viability. “We’ve definitely been able to obtain good post-thaw motility, but we still need to optimise the chemicals that protect the sperm during freezing,” Dr Temple-Smith said. "When we've got it right, we hope as a first priority to take a series of sperm samples from males in the wild in Queensland. It will be a first step towards preserving the species through long-term storage of gametes [eggs and sperm]."

The Monash researchers have used a laparoscope to look at the structure of the Epping Forest population into the modern era was improbable.

It is unlikely, but possible, that other populations of the northern hairy-nosed wombat may have survived. There are occasional rumours of animals being sighted in the Mallee woodland near Deniliquin, but if other survivors exist, farmers are unlikely to reveal them out of concern that their properties may be declared conservation areas.

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Sharpening the focus on body image

Young women are not the only group who are struggling with their own body image. According to a Monash study, many older men have a distorted view of their bodies, leading to increased health risks for this age group.

Many older people (aged 51 to 65) believe that increased fatness with age is acceptable. But a failure by older people to understand body composition changes means that many may be even fatter than they think they are, because lean mass reduces with age.

Leader of the body image study, Professor Mark Wahlqvist of the Department of Medicine at Monash Medical Centre, believes that doctors need to be cautious about counseling elderly people to lose weight. "When elderly men lose weight, they tend to lose muscle rather than fat, but it is important to maintain muscle volume because the muscle is an important place where our protein and nutrients are stored," Professor Wahlqvist said.

"The medical profession and the media place far too much emphasis on the need for men to control their weight rather than abdominal fatness as they become older. The emphasis placed on control of heart disease, stroke, diabetes, and other weight-related medical problems has to do with fat around the midriff."

"Older people should take up light exercise to build up body muscle weight rather than diet. At the same time, the study has found that many underweight older men see themselves as more overweight than they really are."

Preliminary findings suggest that older men tend to be more underweight than their younger counterparts, but see themselves as more 'normal' than their younger counterparts, and do not want to change. Therefore older (or middle-aged) men are at risk of staying underweight.

Although obesity remains just as much a concern in older men as younger men, being underweight may affect their immune function and muscle strength, leading to a predisposition to fall and diseases such as osteoporosis.

While most research into body image has focused on the attitudes and behaviour of young women, the Monash study has been investigating body image across a range of age groups as well as different cultural perspectives.

Local diet raises migrant heart risk

One of Professor Wahlqvist's team, research fellow Dr Bridget Hsu-Hage, has looked specifically at how Australian diets affect Chinese migrants. Her study of 547 Chinese migrants in Melbourne showed that after 10 years of living in Australia and eating less traditional foods, their risk of heart disease increased.

The usual low heart disease risk factor in the Melbourne Chinese population became comparable to the Australian high risk level soon after migration.

Dr Hsu-Hage said Chinese people tend to believe that because they are slim they can eat anything.

"Melbourne Chinese, a presumed low-cardiovascular risk population, are in fact at comparable risk to other Australians," she said.

Overall, the prevalence of high blood cholesterol in Melbourne Chinese was comparable to the general Australian population.

Dr Yau-Hage warned that Melbourne Chinese should not become "complacent about their diets when they immigrate to Australia and need especially to watch their fat and salt intake, the main reason for the increased risk."

She also stressed the importance of exercise as a preventive measure and encouraged migrants to take up walking if they cannot find a team sport to become involved in. "We are hoping to develop an appropriate intervention program to educate migrants about the risk factors and about diet," she said.

The research is being expanded into Asia Pacific regions as a means of gaining information about the impact of economic transition on health.

Sunday breakfast: while the contents are "westernised" the use of Chinese additions such as soy sauce and chopsticks still continues.
Clowning around during O-week

Ten Monash students successfully competed in the Australian summer on Queensland’s Lake Cootharaba, winning both the women’s and men’s divisions. Monash was particularly successful in the Laser class, with 32 points at the end of the competition, and winning both the women’s and men’s divisions. With 32 points at the end of the competition, Monash placed second, just one point behind Sydney University. Pictured competing are Mr Rhys Tucker and Mr Ivan McBean.

D block puts on a fine display

Historic D block, the oldest building at Monash University, has recently re-opened with prospects for a fine future. Following a $150,000 revamp, the 1922 building is now home to the university’s highly regarded Department of Fine Art on Caulfield campus. According to senior lecturer in painting Mr Craig Gough, both staff and students in the department will benefit from the upgraded facilities. “The building used to be an embarrassment to the department,” he said. “The new environment is much more conducive to producing fine art.”

The building, which is listed in the university’s highly regarded Department of Fine Art on Caulfield campus, will feature regular exhibitions by staff and students.

A successful sail

Ten Monash students successfully competed in the Australian Universities Sailing Championships held over summer on Queensland’s Lake Cootharaba. Monash was particularly successful in the Laser class, winning both the women’s and men’s divisions. With 32 points at the end of the competition, Monash placed second, just one point behind Sydney University. Pictured competing are Mr Rhys Tucker and Mr Ivan McBean.

The arts gallery

The Monash Gallery

Through the Surface: Jonas Balsaitis, Paintings 1968–1992

The exhibition is a comprehensive survey of the paintings of Australian artist and filmmaker Jonas Balsaitis. It is presented in conjunction with guest curator Carolyn Barnes, who has spent several years researching the artist’s career and work. Paintings by Balsaitis are deceptively complex, concealing a multitude of technical and intellectual procedures. Although they include the traditional method of paint on canvas, the works refer to developments that occurred in the late 1960s and the 1970s and 1980s such as photomechanical reproduction and computer imaging.

A series of paintings from the late 1960s explores grid forms and patterns and the concept of computer processes as the future mode of aesthetics that was forecast to replace artisan creativity. The disjunctive forms of a subsequent series in which grids float in veils of paint are concerned with the duplicitous and anti-human nature of much of modern technology, particularly as it has been applied in Western warfare. Always addressing the question of “how” and “what” to paint, Balsaitis has worked through a diverse range of possibilities. Through both aerial and single images, Balsaitis has consistently negotiated the nature of the art object and the possibility of an artistic practice integrated with wider social forces.

The curator, Ms Carolyn Barnes, will give a talk about the exhibition on Wednesday 22 April. The exhibition runs from 13 April to 14 May.

Robert Blackwood Hall

Olivier Latry plays De Grigny

Olivier Latry, one of the most notable organists of this century, will perform the Organ Mass from the Livre d’Orgue on Thursday 7 April. The work by Nicolas De Grigny has been acclaimed as the highest achievement in the organ music of the French classical period, and will be performed on Australia’s finest organ in the baroque style. For bookings, telephone 328 2592.

Religious Centre

Concert De Clavecin

Sydney harpsichordist Pastor de Lasala will play a selection of French compositions, including works by Rameau, Couperin, Fourquet, Dapin and Duphly on 7 April. For bookings, telephone 328 2592.

Welcome to uni life Aussie-style

More than 1000 new international students took part in various workshops and information sessions organised by the student support section of the Monash International Office during Orientation Week. An Orientation Gala Dinner, held by the International Student Forum on 5 March, completed a vigorous program of events designed to help the new students settle into university life Australian-style.

Enrolments by Faculty 1993

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Figures supplied by Monash Statistical Services Section.
Suicide and unemployment linked

Youth suicide is linked to unemployment but not to age or sex, according to the coroner’s working party study on youth suicide.

The study looked at the number of recorded suicides between 1907 and 1990, taking into account factors such as age, sex and place of residence. The results were obtained from data supplied by the Australian Bureau of Statistics.

In regions experiencing high youth unemployment, the study found that high suicide rates are associated with unemployment, but age and sex are also influential factors.

Dr Jerzy Krupinski, a member of the working party and associate in the department of Psychological Medicine and Social and Preventive Medicine, said previous research related suicide directly and solely to the very high unemployment rate.

"This study has shown that unemployment itself does not explain everything," Dr Krupinski said. "Youth suicide in males went up at a time of full employment in the sixties when there was no problem with finding a job."

He also found that the suicide rate has been going up steadily in males aged 20 to 24 since the sixties but unemployment has only shown an increase in recent years.

While the male suicide rate has increased steadily, the female suicide rate has remained relatively low by comparison. The overall suicide rate for males aged 20 to 24 was consistently higher than all other groups studied.

There are several suggestions as to why the male rate is so much higher than the female rate. One is that males attempting suicide tend to use violent means such as shooting or hanging, whereas females opt for more passive methods of suicide such as using medication.

While the suicide rate for males is higher, females attempt suicide three times more often than males.

In non-metropolitan areas between 1980 and 1990, four times more males than females committed suicide. In metropolitan Melbourne, four times more males than females committed suicide.

Dr Krupinski suggests that the higher suicide rate in country areas may be due to frustration at having less opportunity for work, as well as having easier access to the more violent methods of suicide, such as guns.

The results could not determine whether the people who committed suicide were actually unemployed, only that in areas of high unemployment there was a higher suicide rate.

The inconclusive nature of this research has prompted the coroner’s working party to undertake a prospective study involving information from the families of people who have committed or attempted suicide.

"We believe that this study will provide us with much more insight as to why people commit or attempt to commit suicide," Dr Krupinski said. "It will also enable us to determine the potential risk among those who are more likely to try again."

He said a high proportion of people who commit suicide had made previous attempts. The new study will aim to determine those at the highest risk of suicide and then concentrate on prevention.

The youth suicide rate in Victoria is lower than in the rest of Australia but double the rate of England and Wales, indicating that there may be ways of reducing youth suicide in Victoria.

BY JULIET RYAN

**SOLution to travel to Malaysia**

Monash’s solar powered car SOLution has been invited to attend the 1994 Asia motor fair in Malaysia on 26 May.

SOLution will be the only solar powered car exhibited in the fair, whose theme is ‘Man, machine and the environment’.

The fair gives the SOLution team the opportunity to exhibit and promote their solar achievements in a market where exhaust emission and pollution are important government issues.

The team will also be able to see the latest developments in the quest for alternative motor vehicle fuels such as palm oil.

Technologically, SOLution has undergone many changes in the past year. To keep up with the most recent advances in solar power, the University of Melbourne’s Electrical Engineering Department has taken over the day-to-day tuning of SOLution’s electrical system.

University of Melbourne postgraduate student Mr Mark Burns said the engine’s size was doubled, making the car more energy efficient and more powerful.

SOLution’s Malaysian trip will not be the first the car has made overseas. In 1992 the car competed in the Grand Solar Challenge in Japan.

While the team was not successful in the race, they did gain important experience from the event.

The mechanical engineering laboratory manager at Monash, Mr Iovel Little, said most entrants in the Grand Solar Challenge were quite happy to talk about their cars, although wary around Japan’s Honda’s "was like Fort Knox".

"Apart from the language barrier, which we had a bit of trouble with, we found other competitors very helpful. They were more than happy to discuss their vehicles," Mr Little said.

The race in Japan was excellent experience for the team, which has been competing in the Darwin to Adelaide solar challenge since it began in 1987.

Unfortunately, SOLution’s racing days are over. For the 1996 World Cup, the team hope to enter a new solar powered car.

"We hope to pension off SOLution. Her solar cells are getting a bit tired, and technologically new things are happening all the time," Mr Little said.

**Functions controller, Ms Fiona Findlay.**

Ms Findlay said there have been changes in the type of functions being booked within the university, with fewer conferences and seminars but more demand for small, take-away events.

"We are averaging around 20 to 30 take-away orders per day to different parts of the campus," Ms Findlay said. "This year we will be concentrating on what we can offer people between 9 am to 5 pm. Monday to Friday."

"In the future, I had a pretty good idea of what to expect and because my role as functions coordinator more or less looks after itself, there is plenty of scope to become involved in different things."
New report dismisses cannabis theory

Drivers who use cannabis are no more likely to be killed or seriously injured in a road accident than drug-free drivers, according to a $100,000 Monash forensic study.

The study, conducted by the Victorian Institute of Forensic Pathology and the university's Department of Forensic Medicine, detected cannabis use among 11 per cent of the university's Department of Forensic Medicine, in the blood tests conducted on 112 driver fatalities throughout Victoria, New South Wales and Western Australia in the past three years.

But the study shows that cannabis, found in the blood tests conducted on 112 driver fatalities from January 1990 to 1993, did not appear to contribute to the level of culpability.

In fact results indicate that the culpability rate of cannabis users who have died at the wheel is lower than the rate for drug-free drivers killed in road accidents.

While extreme cases of drug abuse have been known to contribute to accidents, this is the first epidemiological study on the use of cannabis and its effect on road accident risks. The research includes tests similar to those in drink-driving studies.

The results dismiss the commonly held theory that cannabis use contributes to the serious risks of road accidents in the blood tests conducted on 112 driver fatalities during the period.

As well as toxicology tests, weather conditions, the culpability of other drivers, legal aspects such as speeding, road surface conditions and alcohol were also taken into account in the study.

A method [of testing the cause of an accident] involves establishing the responsibility or culpability of the driver using strict scoring guidelines in the absence of laboratory data on the presence or absence of drugs, the research report says.

Drivers who were involved in accidents in which significant mitigating factors were identified (other than a drug) were given a score which placed them into a 'contributory group'.

When a number of mitigating factors were identified, the drivers were placed into the 'not contributory'.

In all cases it was found that cannabis use before driving did not contribute to the level of culpability.

Even when amphetamines are found in the cabin of a truck following a serious accident, Victoria Police are not permitted to blood test the driver.

Although the study proves that cannabis use before driving is not a threat to the community like drink-driving, Dr Drummer acknowledges that his research should not be used as a green light to drive while under the influence of cannabis.

"A layperson using cannabis does not have an increased risk of having an accident, which is a surprising finding," he said.

"But it doesn't mean that cannabis is absolutely safe and should be legalised."

"There is no doubt that if you had a couple of joints now you should not get straight into your car and drive off."

"But the period of being affected is usually very short-lived, an hour or two, depending on how much you've smoked."

"Most people usually sit around and chat for a while after having a joint."

"Whereas if you take alcohol it doesn't disappear in an hour."

"If your BAC (blood alcohol concentration) is more than 0.1 per cent, you've got a few hours of impairment, at least."

Dr Drummer said the cannabis finding was reinforced by data from the same research, which established that drivers influenced by alcohol are no more at risk of having a serious accident than drivers combining cannabis and alcohol.

Of the 112 blood samples with traces of cannabis, 56 per cent also showed alcohol consumption.

The report said there was "no significant difference in BAC between those drivers with cannabis and alcohol and those with alcohol only".

While the research found that cannabis does not multiply accident risks it found that other illicit drugs do significantly increase the chance of motor accidents.

The report states that in 21 per cent of fatalities examined, some kind of drug other than alcohol had been found.

Almost half of all driver fatalities showed alcohol, which includes alcohol, prescription and over-the-counter drugs, in blood samples.

There were 128 cases, or 12 per cent of the total sample, containing traces of illicit or recreational drugs, including cannabis, amphetamines, heroin and cocaine.

A driver is quite within his or her rights to refuse to have a medical examination or blood test, and the driver's refusal to cooperate cannot be used as evidence in court.

Additionally, if a blood sample is taken to confirm an alcohol breath test and the sample also establishes illicit drug usage, police are not able to use the evidence relating to drug consumption in court.

The research was jointly funded by the NSW Roads and Traffic Authority, VicRoads, the Monash University Accident Research Centre and Austroads.

The report was started in 1992 with the support of the then police commissioner, Kell Glare, and VicRoads.

Associate Professor Drummer is honorary associate professor in forensic medicine at Monash University and assistant director (scientific services) at the Victorian Institute of Forensic Pathology.

By Peter Henshaw

Murray Homes — the voice of Gippsland

Murray Homes considers his 17 years at Gippsland as great and believes he is fortunate to have a hobby called work.

"Mr Homes, whose job as community relations manager at Gippsland ensures he is a well-known local identity, wears many hats including campus publicity, protocol and project management.

"I came from a strong lobbying background as a union official, which was supported by experience in community relations, so the campus director at the time believed I could offer something to the college," he said.

My path has been involved with the transformation of Gippsland from a regional college to an international university. He describes this development as one of the highlights of his time at Gippsland.

"The merger was a very important and strategic issue, and the local community was naturally wary of the takeover," Mr Homes said. "The ownership issue was critical, and the end it was a community decision to allow the merger to take place with Monash.

"The merger was a very important and strategic issue, and the local community was naturally wary of the takeover," Mr Homes said. "The ownership issue was critical, and the end it was a community decision to allow the merger to take place with Monash.

"The matter was handled sensitively and generated goodwill for both communities. Monash was helping to steer the university and the community through this merger which was fascinating.

"I believe strong regional links and community involvement has fostered a unique place for the campus in Churchill.

Gippsland has successfully positioned itself in the local community with strong regional links and community involvement and support," he said.

"My job is to win the heart and soul of Gippsland," said Mr Homes. "Part of my role is to sell tertiary education to Gippsland and I am in regular contact with the local media."

"I guess you need to strike a delightful balance with the media - you can't always be over-exposed," he said.

Mr Homes said the informal family and community networks throughout the Gippsland region were very important.

"We always considered that one of my responsibilities is to report back to the university about the community's perception of Monash," he said.

Mr Homes has also worked as a teacher, auditor and jackaroo. "I have worked with many people at different lev­­ers doing a lot of different things, so the community relations job was a natural extension of what I was already doing," he said.

The Gippsland campus, which now graduates about 1000 students each year (with about half of these from the local area), has been so successful in fostering close community links that it will be used as a model for the Peninsula campus.

"The Gippsland model shows that Monash is now a regional, state, national and international provider of education," Mr Homes said. "I don't believe there is a contradiction, just diversity."
Montage readership survey

In order to improve Montage we would like to hear your opinions. By completing this survey you will be helping to shape Montage for the future. Please send the completed survey to us by 10 May.

External readers should mail to:
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Public Affairs Office
Main Administration Building
Clayton Victoria 3168
(no postage stamp required)

Or fax to:
The editor, Montage
(03) 905 2097

Internal readers should mail to:
The Editor
Montage
Public Affairs Office
Main Administration Building
Clayton campus

1. Do you usually pass your copy of Montage on to others?
Yes
No (proceed to question 4)

2. If yes, how many people would normally read your copy of Montage?
(tick one)
One other person
Two or three other people
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3. Who do you pass your copy of Montage on to?
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4. How much time would you normally spend reading Montage?
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Other

5. Which of the following best describes the way you usually read Montage?
(tick one)
I skim through the page quickly
I read one or two articles and skim through the rest
I read most of it
I read through all of it

6. Do you keep copies of Montage for later reference?
Yes
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7. What do you think of our format?
(tick one)
The words "too large", "appropri- ate", or "too small"
The page size is
The text size is
The size of each edition is

8. Which of the following statements express your views about Montage?
(Use the scale 'strongly agree' [SA], 'agree' [A], 'neutral' [N], 'disagree' [D], or 'strongly disagree' [SD])
It is interesting to read
It is informative
It is the right length
There are sufficient graphics
There is a good range of articles
The layout is appealing

9. Which of the following do you read regularly (in every issue)?
Research Monash
Scvent
Now & Then (page 2)
The Spike (page 2)
Moonvox
Arts page
People page

10. How do you receive Montage?
Mail to home or business address
Internal mail
Pick up from points around campus
Passed on from colleagues
From a faculty office

11. Who are you?
Academic staff
General staff
Student
Media
Other

12. Where are you located?
Clayton campus
Caulfield campus
Peninsula campus
Parkville campus
Gippsland campus
Other

13. We are interested in your comments on the role of a university newspaper, and any other suggestions that might help us improve Montage.
Please return this survey by 10 May.
Thank you for your help.

Opportunities for the disabled increase

Employment opportunities at Monash for people with disabilities have been boosted thanks to the expansion late last year of the university's Disability Support Program.

Already, four disabled people have been employed on Clayton campus under the scheme, which has for some years provided support to students with disabilities.

The expanded program has also provided an advice service for existing and prospective staff with disabilities and has promoted the rights of people with disabilities within the university.

The program's consultant, Mr. Colli, said that since the scheme's expansion, placements had been made in Student Employment, Student Services, the Disability Liaison Office and in the university's Grounds section.

Mr. Colli said he expected employment opportunities for the disabled would increase at Monash and that supported employment places could rise to 10 by the middle of this year.

"The program has concentrated on supporting people with disabilities in the general workforce and competitors for jobs on the basis of their qualifications and abilities, we can all benefit from the examination and adjustment of jobs and work areas that come from these programs," he said.

"Having a disability does not mean that a person is not capable of working in their chosen profession."

He said that it was important for people with disabilities to be given access to meaningful careers.

"Another central aspect of the program has been to support managers, ensuring that they do not undervalue or discriminate against people with disabilities and that they have a greater understanding of legislation governing the employment rights of people with disabilities," Mr. Colli said.

"With the level of support and encouragement the program has received from Monash managers and staff, I anticipate a successful future for staff with disabilities at Monash," he said.

For further information about the program, contact extn 595991.

Most of us have heard about computer-based learning, but very few people actually know how to use it.

If Professor Brian Chapman has his way, however, this will change in the next 12 months.

Not only will students become adept at using a computer as a training aid both in and out of tutorials, but also academics will learn to be the electronic authors of their own tutorial and support materials.

Dr Chapman's vision for education in the future was recently formalised with the establishment of the Quality Education at a Distance (QED) Research Unit, based in the Education faculty.

Already he has helped devise interactive learning programs for the Physiological department that include scanned electron micrographs, animation and simulation.

One of the programs guides students through a practical experiment involving the identification and removal of a nerve in a frog's leg. The computer, which sits beside the students as they perform the task, displays images of the procedure step by step.

This method has distinct advantages, Dr Chapman says, because students don't have to try and remember the details of the procedure from an initial demonstration by the lecturer, and it also increases the quality of questions asked of the lecturer throughout the practical.

The frog-leg experiment computer program has been developed using a template that Dr Chapman says will be the basis for many other interactive learning modules.

The module template gives the basic structure for a tutorial and simply requires the lecturer to insert the necessary material.

Interactive computer programs have many applications and will no doubt revolutionise our teaching and learning in the next few years. Many tutorials, exams and practicals might eventually be taken via a computer. Also the modules provide students with a very good method of self-assessment.

"This is not to say that academic staff will become redundant," Dr Chapman is quick to point out. "The programs will simply aid the teaching process and will make practical tasks and self-assessment easier."

Dr Chapman says that initially the majority of modules will be developed in the biological sciences. In the future though, engineering and non-science subjects will benefit from the teaching method.

Currently only a few lecture theatres on Clayton campus are equipped with the facilities required to demonstrate interactive computer modules. Over time, however, more resources will become available, increasing the use of these teaching methods.

To overcome the fact that very few academics have electronic authoring skills for creating their own teaching materials, an Electronic Authors of Monash University (EAMU) group has been established.

EAMU will provide a forum for authors of electronic coursework to present their work and learn of the work of other authors," Dr Chapman said.

Eventually the QED Research Unit aims to translate its evaluated modules into Asian languages, for use overseas.

QED is funded by the vice-chancellor, the Monash Development Fund and a grant from the Committee for the Advancement of University Teaching (CAUT).

For further information, contact the QED Research Unit on extn 52872.
Beyond the boundaries of human research

The requirement for all research to be ethically reviewed is part of the general increase in awareness of ethical issues in all areas of life, from medicine to banking and from science to social science.

Ethical review of all research has become policy because of the excesses of some researchers, complaints from some research subjects, and because some have used ethical concern unethically to block research they did not like.

The ethical review of research in the social and behavioural sciences is relatively recent. At Monash, the systematic review of all research involving human beings, including research in the social sciences and business fields, began in earnest a little over five years ago. The reaction from many was the same as the initial reaction from those in medicine and science earlier — shock, annoyance, and disinclination. "Trust me, I'm a...", or, "Don't you know that our professional society has a code of ethics?" Rather more rude and angry responses were occasionally received.

Social and behavioural science research requires ethical review for two basic reasons. First, all human interaction raises ethical issues. Not all of these require a standing committee of the university to sort out, but a procedure is required to ensure that ethical examination of proposed research occurs and can be seen to occur. Second, much of social and behavioural science and business research involves gathering information about living people, much of which is sensitive or potentially damaging to them. There is less concern about those who have died, perhaps because it is harder for them to occur.

The major ethical issues in research fall into three broad areas: honesty and accuracy in the conduct and reporting of research; consideration for and protection of the subjects of research; and concern for the researcher. The ethical rules of professional societies tend to focus on the first, enjoining researchers not to cheat, fake data or overstate their case, and also to be fair to co-researchers. Put social and behavioural science research, the major ethical issues related to the protection of the subject involve gaining appropriate informed consent, respecting a person's privacy and the confidentiality of information gathered, and being aware of the power dimension in the relationship between the researcher and the subject(s) of the research.

Also, a researcher must ensure that the research procedures are adequate to answer the questions posed. The committee appreciates the wide range of research methodologies legitimately employed by various disciplines in the university, however within each methodology conducting ill-designed research is unethical.

All research funded by NHMRC and most other funding bodies must go to the Ethics Committee. Clearance is given by a properly constituted "institutional ethics' committee. Such a committee, such as Monash's, has legal and ecclesiastical representation, provides an independent forum in which to raise and air ethical issues related to research involving humans.

So what research must go to the ethics committee? All research involving the gathering of information about living people, the use of archival data that contains identifiable information about living people, and all research of a sensitive nature (you never know what someone will find sensitive), there are no blanket exclusions.

Subjects must be fully informed, able to consent and able to withdraw their consent at any time without penalty. To do this they must be told what will happen to them and the information gathered about them in a language that they will understand. In the ideal situation, consent is written, witnessed and kept. But there are exceptions to this that need to be carefully explained to an ethics committee.

There is a double-bind in safeguarding information about subjects. On the one hand a researcher must know (or at least be able to know) from whom each bit of data has been collected in order to defend themselves against any charge of faking the data. On the other hand, know­ ing this means a researcher cannot promise confidentiality, because the law does not provide it for researchers in the social sciences. Researchers can be subpoenaed and the Freedom of Information Act applies to their research files. Some techniques can maximise the protection of a researcher's subjects, but it is not possible to promise anonymity and confidentiality. Therefore, researchers must be explicit about what protection they are offering. How they are dealing with potentially identifying information, how they are storing the data, and how reporting is to occur.

While the power dimension in physical, biological and medical research has long been understood, the social scientist too can have a position of power over research subjects. The essential power differentials are between the more versus the less educated, the elderly versus the lower status, a male versus a female, a recent migrant versus a migrant of longer standing, or a teacher versus a student. This power dimension becomes even more important when the researcher has some control over the research subject. This is true of such relationships as teacher/student, social worker/client, nurse/patient, parole officer/client, supervisor/postgraduate student. Where there is a power differential of this sort in the relationship between the researcher and the research subjects, the committee is particularly concerned to protect the subjects from any coercion, manipulation or negative consequence of information that may be obtained through the research.

Monash staff wishing to apply for ethical approval can obtain applications from the Secretariat on ext 35025. A full outline of the procedures is featured below in 'Ethics approval: that time of year'.

Mr Gary Bouma is an associate professor in the Department of Anthropology and Sociology. He is deputy chair of the Monash University Standing Committee on Ethics in Research on Humans.