MONTAGE

NEWS FROM THE CAMPUSES OF MONASH UNIVERSITY

Volume 2 Issue 8 September 1991

RESEARCH MONASH

LIFTOUT INSIDE

INSIDE RESEARCH

National study credit scheme back on track

A national credit transfer agency is back on the higher education agenda, following a Monash initiative. The Australian Vice-Chancellors' Committee (AVCC) last month voted to go ahead with a credit transfer pilot project.

Earlier this year, the AVCC effectively put the issue of credit transfer on hold by referring to a working party a proposal – initiated by Monash and the University of New England – to mount a pilot project.

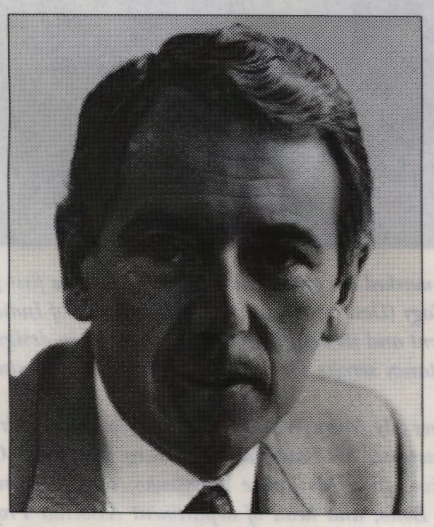
However, faced with an independent pilot study, organised by Monash and backed by the Department of Employment, Education and Training (DEET), the AVCC has reconsidered.

The independent project would have involved a consortium of sponsoring universities on the east coast of Australia.

On 20 August the AVCC board of directors approved a series of recommendations, taking up plans for a national pilot study. The AVCC now will provide up to $50,000 for the rest of 1991 to set up the study and undertake background research, matching an initial grant from DEET.

Monash Registrar, Mr Tony Pritchard, has been instrumental in the push for a national credit transfer authority. He led the project teams which formulated the initial plans for the AVCC, and then continued discussions with other higher education institutions about the independent study.

A committee to oversee the program has been appointed. Monash Senior Assistant Registrar, Mr Michael Watson, is to be seconded to the AVCC as the program's manager.



Monash Registrar, Mr Tony Pritchard.

"I am pleased that the AVCC has shown itself willing to take the issue of credit transfer seriously," Mr Watson said. "It is an issue whose time has come. The decision acknowledges that the higher education sector as a whole is ready to do something."

The main objective of the project, he said, was to formulate recommendations aimed at granting appropriate credit to applicants for places in Australian higher education courses, taking into account their qualifications and other prior learning.

He said the actual pilot study probably would not get under way until next year. "The program of activities approved by the AVCC involves a detailed information-gathering phase first," he said. "This means a slower approach, but a more comprehensive one."

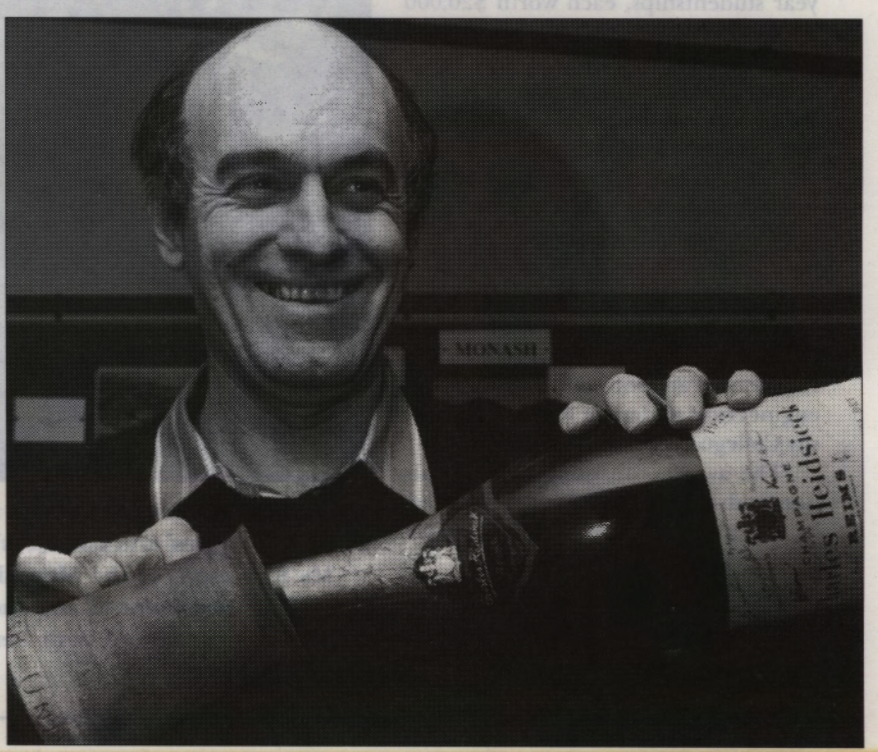
The working party will investigate demand for credit transfer in Australian higher education, and survey the type and extent of current activity. It also will look at industry-based training as it relates to postsecondary education and examine the incidence and extent of disrupted and incomplete postsecondary education.

Based on local and overseas experience, it will evaluate how to assess the credit value of experiential learning for higher education.

It will also consider linking and extending regional databases on accepted integrated pathways between TAFE and postsecondary education in South Australia, Victoria, New South Wales and Queensland.

The pilot project will look at the feasibility of establishing a centralised credit bank or credit broking agency, based on successful overseas models, to serve all member institutions of the unified national system.

A national credit transfer authority would determine what level of credit a university applicant should receive for previous study at another university, TAFE college or in work experience.



Rare books librarian, Mr Richard Overell, with Monash artefacts: the Clayton clay mug and signed French champagne magnum.

French champagne toasts Clayton clay

A clay mug and an empty magnum of French champagne are just two of the artefacts exhumed for an exhibition on the university's beginnings.

The Making of Monash University 1961–91, an exhibition of books, pictures, documents and curios, is on display on the first floor of the main library, Clayton campus, until 22 September.

The mug was made by Mrs Audrey Matheson, wife of the first Vice-Chancellor, Sir Louis Matheson, from clay excavated from the site of the first building on the Clayton campus. The label on the champagne magnum bears the signatures of the official party at the opening ceremony.

The program for the ceremony is on display as well as a photograph of the university's first recorded student prank – a skeleton wearing scholarly robes atop one of the science buildings. Another photograph shows students gathering in small groups at 9 am on the first day of term in 1961.

The exhibition includes aerial photographs of the university site in 1960, when it was mainly farmland. Another from 1965 shows the half-completed Menzies Building. Greater Monash is represented with archival material showing the development of the Caulfield and Frankston campuses from their origins as technical colleges.

An early exam paper is on show, along with the first *Lot's Wife*, dated 24 June 1964, its predecessor *Chaos*, and the first publication, simply entitled *Student Newspaper Vol.1 No.1, Nameless, Priceless.* A copy of *Wot's Life*, a 1968 parody, and other student magazines are displayed; the editorial staff of one *Lot's Wife* includes Peter Steedman, later a Federal MP. One display is devoted to the student demonstrations of the late 1960s and early 1970s.

INSIDE

AROUND THE CAMPI

GIPPSLAND

A research consortium to investigate optical character recognition (OCR) involving Monash University College Gippsland and RMIT has been set up with a $500,000 grant from the Australian Securities Commission.

The project is to improve the computer processing of forms and efficiency in transmitting document images.

At Gippsland $260,000 has been allocated to set up an OCR research laboratory. RMIT will investigate the telecommunications aspects.

The ASC also is offering two two-year studentships, each worth $20,000 per year, for postgraduate research at Gippsland.

At Gippsland the research will be led by head of the School of Engineering, Professor Ken Spriggs.

He said the research involved the intelligent reading of documents using advanced computer systems.

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The Gippsland group of the Institute of Engineers Australia has named Mr Raymond Paterson as best final year engineering student at Monash University College Gippsland for 1990.

The award, consisting of a medallion and cheque, has been presented by the group since 1977. Mr Paterson now works for VicRoads in Mildura.

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A tender has been let for the $5.5 million extension to the Gippsland campus. See page 9 for more details.

Ms Virginia Robinson has been named Senior Scholar for 1991 by the National Aborigines' and Islanders' Day Observance Committee of Victoria.

Ms Robinson, of the Monash Orientation Scheme for Aborigines, has completed a bachelor of arts and now is completing a law degree.

She was presented with her award at the Aboriginal Advancement League last week.

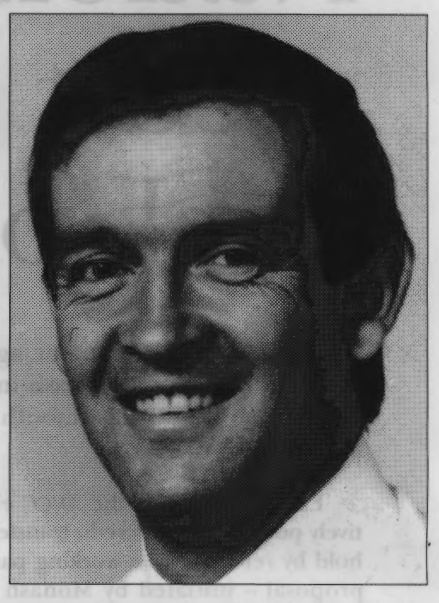
CLAYTON

Associate Professor Ken Ogden (pictured below), of the Civil Engineering department, Clayton campus, has been appointed a Professorial Fellow.

The appointment has been made possible with the support of the Accident Research Centre.

He will continue in his current position but a large part of his future research will be on projects in which the centre and the department have a joint interest.

Dr Ogden has been at Monash since 1969. He also is chair of the advisory committee of the Australian Road Research Board and a member of the council of Ballarat University College.



The database special interest group and the Pearcey Centre for Computing, of the Faculty of Computing and Information Technology, recently conducted a seminar on object oriented database systems.

The seminar included speakers from Monash, Telecom Research Laboratories, the CSIRO, and sponsors Simpsion Bowles and Associates. It was designed to provide computing professionals with an overview of the relevant theory behind this new form of database technology and to share industry experience.

Pictured above (from left to right) are Mr Peter Richardson, Telecom Research Laboratories; Dr John Smith, CSIRO; Dr Geoff Martin, Computer Technology department; Mr Jim Murphy, Simpsion Bowles and Associates; Mr Graeme Shanks, Information Systems department; Professor Phillip Steele and Mr Noel Craske, Computer Technology.

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The Chief Justice, The Honourable Sir John Young, addressed a dinner held by the Law School Foundation at Mietta's last month.

The dinner was attended by the Vice-Chancellor, Professor Mal Logan, Faculty of Law staff, representatives of Melbourne's major law firms and other supporters of the faculty.

The foundation raises funds for the faculty from outside organisations.

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Professor Alan Trounson has been appointed to a Personal Chair in Obstetrics and Gynaecology/Paediatrics.

His first appointment at Monash was in 1977 as a senior research fellow in the Department of Obstetrics and Gynaecology. He was later promoted to lecturer in 1978, senior lecturer in 1981 and reader in 1984.

In 1985 he was appointed Director of the Centre for Early Human Development in the Faculty of Medicine.

He also is deputy director of the Monash Institute for Reproduction and Development, and executive codirector of the Monash Centre for Agricultural Biotechnology.

In 1979, Professor Trounson joined the human IVF project and explored the use of superovulation for collection of human oocytes.

This research was followed in 1983 by the successful preservation of frozen human spare embryos. The technique is now used world wide.

Professor Trounson also reported the first successful pregnancy with epididymal sperm in 1985.

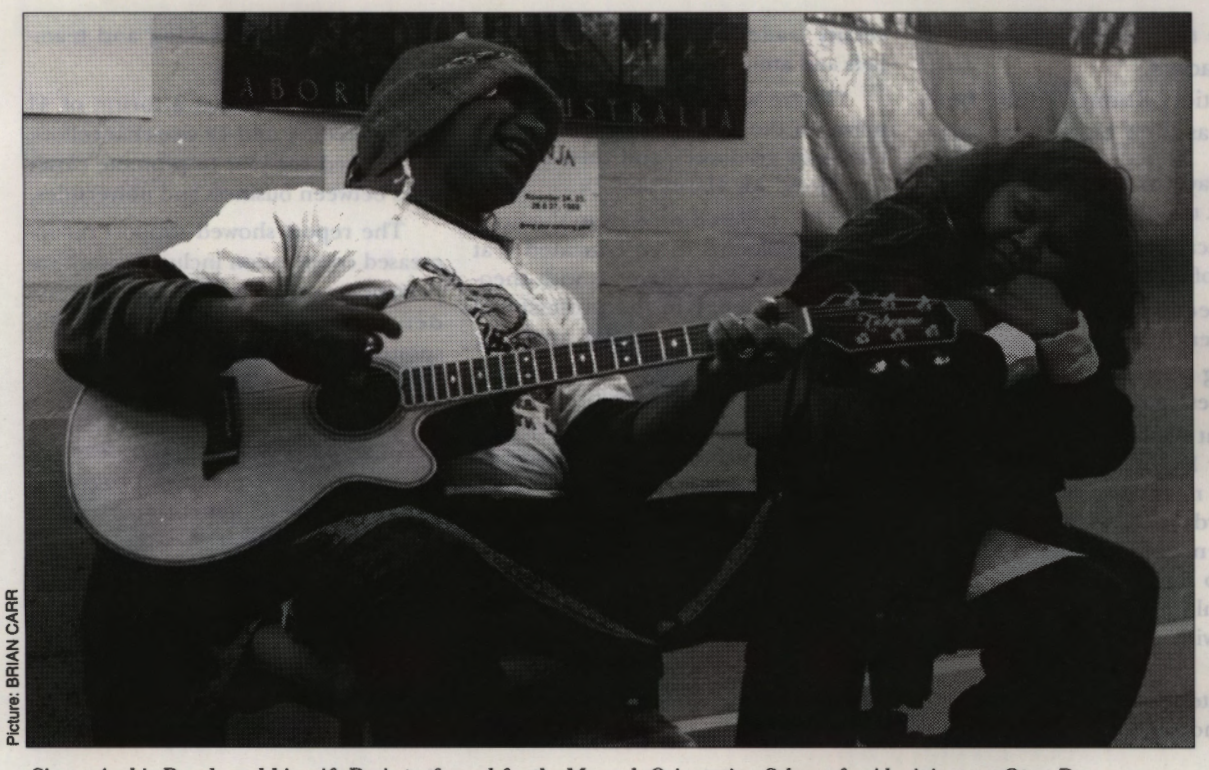
Two years later the first successful fertilisation of human eggs after microinjection of human sperm under the zona pellucida was reported.

Professor Trounson's current research is the development of ovine and bovine embryonic sperm cell lines.

An exhibition of industrial design work marked the graduation last month of the first group of students from the Bachelor of Technology (Design) course in the Department of Industrial Design, Caulfield campus. The department and its design group offer a degree in design and design technology, and a design consultancy service for industry. More than 100 students are enrolled.

Pictured above are (from left) lecturer Mr Mark Wilken; laboratory manager Mr John Alley; graduating students Mr Craig Caspersz, Mr Paul Van Roemburg, Mr Robert Charlton and Mr Andrew Stolp; administative officer Ms Janice Wasylenko; senior lecturer Mr Edward Kayser; lecturer Mr Arthur De Bono; and head of department Associate Professor Leo Bonollo.

Open day crowds reflect career concerns



Picture: BRIAN CARR

Singer Archie Roach and his wife Rosie performed for the Monash Orientation Scheme for Aborigines on Open Day.

Australia's biggest university open day last month attracted a crowd estimated at 40,000 across Monash's metropolitan campuses.

The Vice-Chancellor, Professor Mal Logan, said the high attendance figure reflected concern amongst school leavers about the state of the economy. As well, it showed a growing need by parents and students to assess courses and careers more fully.

"The job market is becoming increasingly complex, as is the diversity of courses," Professor Logan said. "This year we've made a major effort not only to better understand the needs of the professions and students, but also to provide a higher standard of information and assistance to the community."

The Open Day was designed to give prospective students and their parents first-hand experience of course and career options with a full day of displays, lectures and interviews.

Professor Logan said parents and students now faced a wider choice in higher education as leading institutions increasingly geared their courses to market demands. He said Monash now offered the most diverse range in Australia, with combined degrees proving increasingly popular.

Monash's three metropolitan campuses – Caulfield, Clayton and Frankston – were open from 10.30 am to 4.30 pm.

International research project to combat SIDS

Monash is to lead an international research effort to uncover the causes of sudden infant death syndrome (SIDS), which kills 20,000 babies worldwide every year. The National SIDS Council has given $830,000 to a three-year, multicentre research project involving four universities.

The research will support the establishment of Australia's first full-time SIDS research facility, the National SIDS Council Research Group, to be based at the Monash Medical Centre.

The project involves researchers from the University of Melbourne's Department of Psychology, the University of Western Australia's Department of Physiology, the University of Calgary, Canada, and Monash's Department of Paediatrics and Centre for Early Human Development.

Led by Associate Professor Adrian Walker, they will investigate the failure of cardiorespiratory control in infancy, study infants' protective mechanisms in sleep and the effects of stress.

"If we knew how SIDS happened, the medical community would be able to make recommendations based on a true understanding of the problem," Dr Walker said.

"We need more information on lung volume and oxygen stores. We need to know how sleep affects oxygen storage and use, and how oxygen stores might be altered by a mild infection."

Researchers already have isolated many factors which may contribute to SIDS.

The Monash team believes that the syndrome is the fatal result of a series of events beginning with an episode of unstable breathing – a common event in sleep.

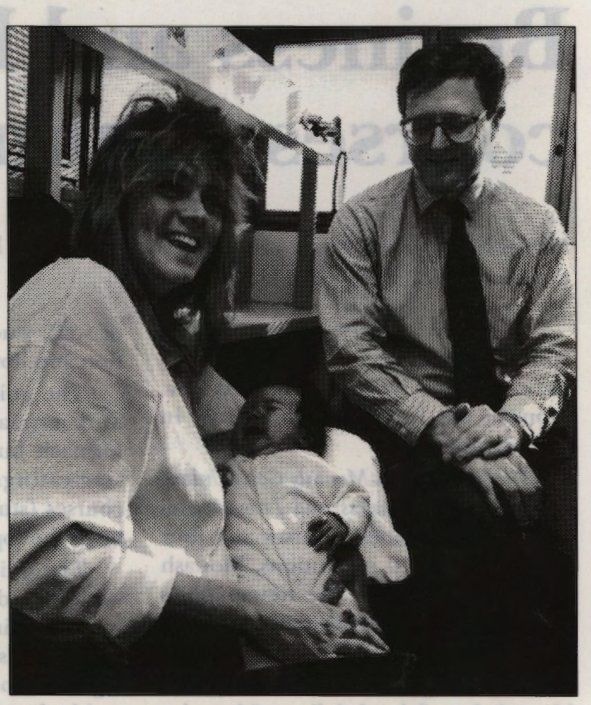
The project will look at factors which could circumvent or disrupt mechanisms for natural arousal and self-resuscitation.

These factors include depressed breathing, low oxygen levels, airway obstruction and irritability, increasing ambient temperature and infection.

The Monash group will contribute information on the effects on lambs of preterm birth, high body temperature and infection. It also will monitor babies in sleep and record key elements of cardiorespiratory performance.

The information will be used in a new computer model of an infant's breathing control system, developed at the Centre for Early Human Development. The program compares experimental data with information of infants' breathing and heart activities.

SIDS is the most common form of infant death in developed countries. Until recently the syndrome, also known as cot death, killed 140 babies in Victoria every year.



Project leader Professor Adrian Walker: we need more information.

Since July the State's maternal and child health nurses have been advising mothers to lay babies on their backs or sides. In the past year there have been 51 fewer deaths.

The latest SIDS research also advises parents not to let babies get too hot, to keep them in a smoke-free environment and feed them breast milk if possible.

Funding for the project follows a public appeal by Sudden Infant Death foundations around Australia, which last year raised about $4.3 million.

Letters to the Editor

In an effort to stimulate greater discussion of issues affecting Monash – and higher education in general – Montage plans to introduce a regular *Letters to the Editor* section.

Letters should be around 300–400 words and must be signed, with the writer's name clearly written. Please include a contact phone number for verification. Contributions may be edited for reasons of space.

Write to the Editor, Montage, Public Affairs Office, Gallery Building, Clayton campus.

Hay appointed VC at Deakin University

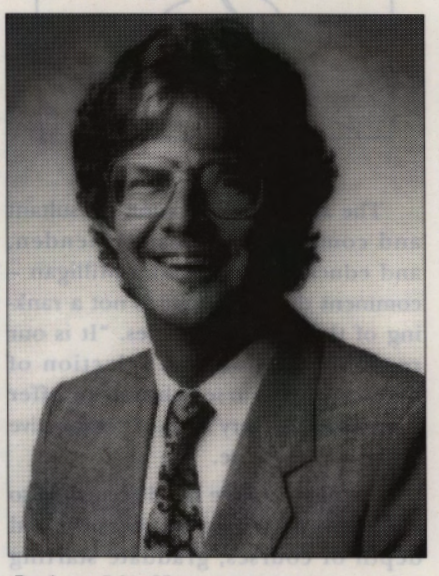
Professor John Hay has been appointed as the next Vice-Chancellor of Deakin University.

The Deputy Vice-Chancellor of Monash (Academic) replaces Professor Malcolm Skilbeck, who resigned last December. Professor Hay has been appointed for a seven-year term and will take up his position in January 1992.

He played a key role in the planning and implementation of Monash's merger with the former Gippsland and Chisholm institutes. At Deakin, he will finalise the merger with Victoria College.

Educated at the University of Western Australia and Cambridge, Professor Hay has held academic appointments at UWA, including a professorship of English.

He was appointed dean of the Faculty of Arts at Monash in 1987 and became Deputy Vice-Chancellor in 1989.



Professor John Hay

Educational standards not satisfactory: survey

Universities and secondary schools need to raise their standards, according to Australia's vice-chancellors and business leaders.

In a survey by the Business – Higher Education Round Table, both groups identified secondary education standards as their biggest concern.

Standards of literacy and numeracy, knowledge and problem solving needed to be improved, they said. The selection, training, qualifications and supervision of teachers also were matters of considerable concern.

They also agreed that higher education standards "fell well short of satisfactory". The quality of university teaching was rated as an issue requiring attention.

The report, 'Aiming Higher', prepared for the round table group by Professor Ken Sinclair of Sydney University, found other important concerns included:

- attracting and retaining high-quality teaching and academic staff;
- finding ways for business and education to work together more closely;
- communication and numeracy skills at all levels of education;
- the respect and priority given to teaching science and technology;
- improving research collaboration between business and universities.

President of the Business – Higher Education Round Table, Mr Eric Mayer, said members were concerned that standards in Australia's education system were not appropriate to take the country into the 21st century. Current reforms would not eliminate problems perceived with the secondary education system.

A separate survey asked round table members and other business and university leaders about educational beliefs and attitudes.

"There was a high level of agreement on the characteristics desired of university graduates, and their current standards," Mr Mayer said.

"They believed strongly in the need for professionals to be educated – at least in their first degree – with theoretical knowledge in the professional field and general skills for applying that knowledge, rather than narrow training in specific work skills."

Respondents agreed that current standards achieved in producing graduates with most of the desired characteristics were unsatisfactory.

"They believed there should be a broad general secondary education followed by a professional-oriented tertiary education," Mr Mayer said.

"At both levels there should be a very strong concentration on the development of skills in communication, thinking, decision-making and teamwork."

The Round Table, a forum of 41 chief executive and 19 vice-chancellors, was formed last year to promote closer links between business and universities.

The report showed support for increased cooperation including work experience programs for university students and staff, guest lecturers, sponsorship of cooperative education projects and staff exchange programs.

Universities could help business with company research and development, business education programs, professional development courses and access to library services.

Launching the report, the Minister for Higher Education, Mr Peter Baldwin, said there was agreement on the need to improve professional skills so Australia could maintain and improve its international competitiveness.

Business and law courses commended

Monash has been rated among Australia's best higher education institutions for its business and law courses.

In a survey of the 43 universities and institutions which offer undergraduate courses in business and law, Monash was listed as a 'best buy' in both disciplines.

The Independent Monthly Good Universities Guide to Business and Law recommends nine business courses and four law courses in 10 institutions. Monash also rated highly in the newspaper's overall guide to higher education, released in July.

According to the new survey, the Monash Law School delivers "thoughtful understanding of law and legal processes plus excellent preparation for legal work". In business, it says the big strengths of Monash degrees are their prestige and their variety.

The authors – education consultant and commentator Dean Ashenden, and educationalist Sandra Milligan – comment that the guide is not a ranking of the best universities. "It is our recommendation of a selection of high-quality courses chosen to offer something to every kind of prospective student," they write.

Institutions were rated according to indicators including the breadth and depth of courses, graduate starting salaries, staff to student ratios, quality of staff, student and graduate satisfaction and library facilities.

The guide compares cut-off scores and entrance opportunities. All Monash business courses scored five star ratings for offering in-demand courses (students scores would need to be in the top 10 per cent).

The guide says that school leavers would need to be in the top one per cent to gain entry to law at Monash. "Monash is not for faint hearts; it is big, hard to get into and makes considerable demands on its students," it says.

"Monash has for many years been the only serious rival to the law faculty of University of NSW. It has much the same strengths."

However, Monash offered a wide range of double degrees and, unlike UNSW, was open to school leavers.

The survey shows Monash law graduates' starting salaries are lower than average. But it cautions that "starting salaries are not the same as finishing salaries. Sometimes big, reputable law firms pay less than other employers because of the future opportunities they offer."

The proliferation of university law schools also is noted. Four new schools – at Deakin, Flinders, La Trobe and Griffith – will be open by 1993. Wollongong, James Cook, Murdoch, Bond and Northern Territory university are other newcomers since the late 1980s.

"The key questions: Where will they get their staff? The shortage of legal academics must be acute. Second, why do we need so many lawyers or law students?" the guide asks.

The books also are available through campus bookshops, or contact Mandarin Australia customer service on 646 6716.

Growth in completion rates in business and law degrees from 1981 to 1989 is shown in the graph at right.

Student information system redeveloped

An extensive redevelopment of the university's student information system is under way to cope with the demands of the greater Monash.

The Registrar, Mr Tony Pritchard, said conversion of old course and subject databases to the new Monash University Student Information System (MUSIS) already had begun, allowing faculties to maintain their course and subject files.

Modules for applications and enrolments now were being developed.

"The applications module will provide for processing of direct applications for courses and scholarships and improve the enrolment of all new students," Mr Pritchard said.

"The enrolment module will allow faculties to enrol students on-line, while fee calculation, statistics collection and ID card production will be done by central administration."

A new format student ID number would be introduced next year because of limitations with the old numbering sequence.

"Digital imaging will be introduced, not only to produce the card but to store a copy of the student's image," he said.

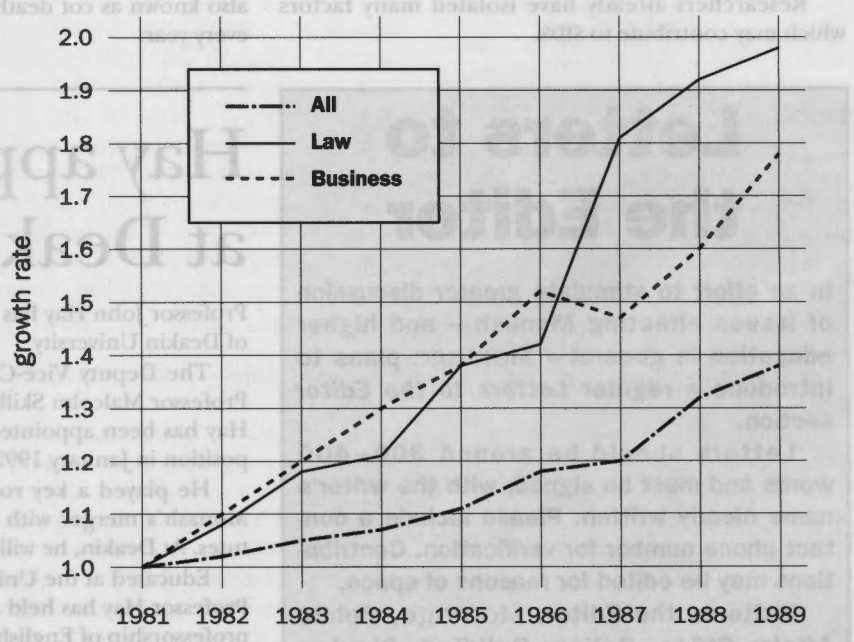
"With future development in 1992 this technology will facilitate the production of class and exam lists of students' names and faces."

Mr Pritchard said a review of the equipment and data communications network needed to implement the system also was well under way.

He acknowledged that the new system would affect faculty and administration workloads.

"This matter is under review with the aim being to allocate additional resources where necessary," he said.

The business and law boom



Source: DEET 1990. Note: 1982 and 1983 are interpolated data. Base year 1981.

Computing is X rated

Help is at hand for Monash researchers struggling with the SPSSx computer program.

A senior lecturer in anthropology and sociology, Dr Peter Hiller, and PhD student Ms Kristin Diemer have worked together to develop a computer course and monograph to help frustrated computer users come to grips with the statistical data program.

Funded largely through the Faculty of Arts research initiative fund, they have coproduced *The joy of X: A research lover's introduction to SPSSx* as a teach-yourself guide.

Written in what its authors call a "really light-hearted, fun sort of way", the guide aims to help computer users overcome their apprehensions about the program.

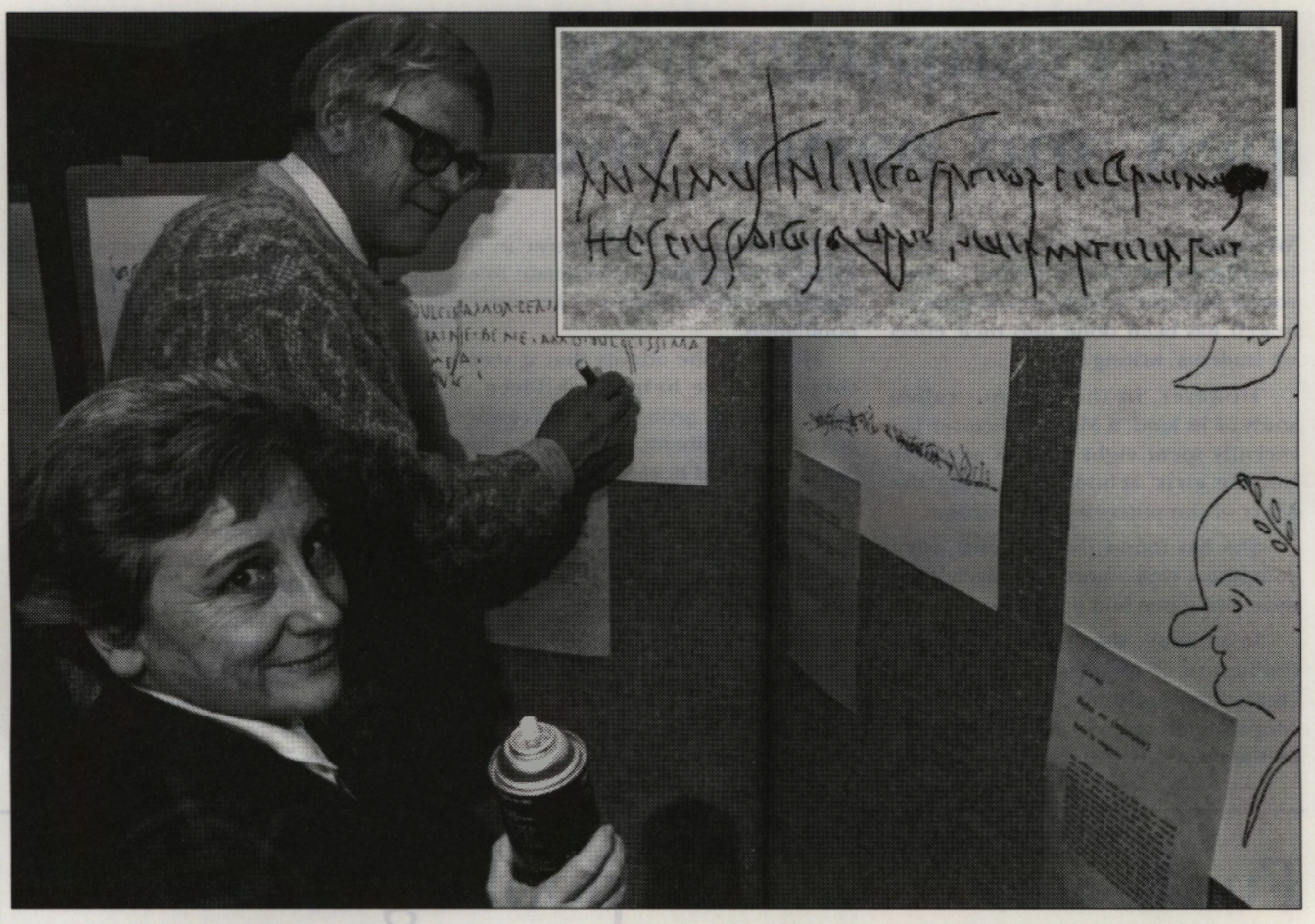
"It's the sort of terror and frustration that's involved when you make mistakes, that we really home in on; partly by dealing with the whole thing with a sense of humour and partly because we place an emphasis on making mistakes," Dr Hiller said.

"As soon as we've got people to do something very simple that actually shows you that getting the whole program up and running is quite easy, the next thing we make them do is make a whole lot of mistakes, because you actually learn from those in a way that you don't when you get things right."

Dr Hiller received many calls for help from university staff and students. "Between February and May this year I put in over 400 hours helping people. So one of my ulterior motives in the whole thing is to get people off my back a little," he said.

Dr Hiller and Ms Diemer now plan to market their program guide outside the university. "Potentially there is a world market for these monographs because there is very little literature available," Ms Diemer said.

For further information on either the program guide or information courses, please contact Dr Peter Hiller on extn 75 2964 or Ms Kristin Diemer on extn 75 2988.



Associate Professor Gavin Betts and Dr Alba Romano consider some modern additions to the scribblings of ancient graffiti writers. Inset: the original graffito on the subject of bed-wetting.

Scribbling for posterity on the walls of antiquity

Graffiti is often thought of as a modern phenomenon – but it is, in fact, as old as writing itself.

The Department of Classical Studies is running an exhibition entitled *The eternal graffito* which aims to introduce a new insight into writing and to get rid of old-fashioned ideas about the classics. The display, organised by the department's Dr Alba Romano and Associate Professor Gavin Betts, shows the continuity and similarity of practices of graffiti around the world.

"We are trying to show students that people in antiquity were not much different from us," Dr Romano, who has researched epigraphy (the study of inscriptions), said. "Graffiti are just spontaneous and anonymous inscriptions. The display shows the light-hearted side of epigraphy."

The oldest graffiti on display are from Egypt, written in ancient Egyptian (hieroglyphic and hieratic) and Greek. All of the examples of Roman graffiti on display come from Pompeii, including this timely inscription:

O wall, I am astonished that you have not fallen,
since you hold up the boring scribbles of so many writers.

Another quips:

I peed in bed. My guilt – I hide it not.
You ask me why? There was no chamber pot.

The ancient subjects included political advertising, joy at the victory of a favourite gladiator, social comment, abuse, sexual innuendos against others, and even personal messages addressed to a particular individual. Most are written in what is called *Vulgar Latin*, the language of the uneducated.

The exhibition, in Room S617 of the Menzies Building, will be on display until 15 September.

Road accident research gains new sponsorship

A new sponsorship deal has given added impetus to road safety research at Monash.

The Accident Research Centre has gained valuable research funds through a cosponsorship agreement with the Royal Automobile Club of Victoria (RACV) and the Australian Road Research Board (ARRB).

The RACV will contribute $100,000 this financial year while the ARRB will make in-kind contributions of about the same value. Both organisations were supporters of the university's application late last year to the Federal Government to establish a Cooperative Research Centre for Accident Research at Monash.

When this application failed, the RACV and the ARRB agreed to become joint sponsors of the existing centre. Representatives of both groups joined the ARC's board of management in July.

The Centre's director, Dr Peter Vulcan, said the agreement gave the centre an important link to road users, with the RACV, and the eight state and territory road authorities and the Federal Department of Transport and Communications, through their involvement with the ARRB.

The ARRB's sponsorship of the ARC would ensure that duplication of road safety research was avoided and that there was mutual support for the two groups' research.

He said the ARC conducted baseline research valued at about $600,000 for its five major sponsors. Research contracts for Federal and state agencies, including those in the health sector, were also carried out by the ARC.

"We've had a major study funded by the Federal Office of Road Safety which looks at ways to improve protection of car occupants in a crash," Dr Vulcan said. The study, involving an inspection of 300 crashed cars where at least one occupant was admitted to participating hospitals, now has been extended to 500 vehicles.

Members of the ARC board look on as the Vice-Chancellor, Professor Mal Logan, tests the centre's driving simulator.

"We have already reported on protection in frontal crashes and we're now going to report over the next year on protection in side crashes, in rear-enders and roll-overs," he said. In addition to road safety research, the ARC also works in areas such as children's injuries, injuries in the home and falls of the elderly.

The computer mightier than pen and paper: classroom study

While computers have become increasingly common in the nation's classrooms over the past 10 years, little research has been done into their effect on students' writing ability.

However, in the first Australian study of its kind, a Monash lecturer has recently spent eight months at a Melbourne girls' school examining the effect of computers in the classroom.

She has found that students using computers write more effectively than those using pen and paper.

In addition, the computer changes the nature of the classroom, helping create an atmosphere where students cooperate more and concentrate more on their work.

Dr Ilana Snyder, a lecturer in the Faculty of Education, is reluctant to extrapolate her findings to the general population.

However, she admits that it seems computers are helping children to write better by giving them access to a powerful and liberating tool. By eliminating the need to recopy, the students have more time to improve their texts.

For her study, Dr Snyder chose two groups of Year 8 students with equivalent academic ability. One class spent an average of two lessons per week in the school's computer rooms while the other spent an equal amount of time using pen and paper.

Students were given the same lessons by the same teacher with the emphasis on three main types of writing – narration, argument and report. They were tested at the beginning and end of the project and their written work marked by experienced teachers.

The essays were then typed and printed so the markers could not tell which students had originally handwritten their work and which had not.

The length, complexity of sentences and precision of each student's writing were then calculated and the general quality assessed. The teachers awarded the computer students higher marks than the pen students.

"This is strong evidence: word processing is very effective in promoting quality for all three genres investigated in the study," Dr Snyder said.

In addition to increasing the quality of the work submitted, students said working with word processors made writing less laborious and consequently more enjoyable.

"I enjoy writing with the word processor because it is easy to work with," one student taking part in the study wrote.

"Writing with a word processor is exciting. These days I find writing with a pen dull. I used to hate these mechanical things. Now I find them fun," another remarked.

Dr Snyder has received a $10,000 ARC grant to undertake further investigations into the computer's impact on students' writing and learning. Her next study will focus on writing for all subjects in the curriculum, rather than just English.

She adds that her research must, at present, be carried out in private schools because their State counterparts do not have the necessary computer facilities.

Funds accelerate car pooling scheme

Car pooling at Monash was given a boost last month with an $8000 grant from the Victorian Government.

The Minister for Planning and Housing, Mr Andrew McCutcheon (left) is pictured with the Monash Association of Students' (MAS) transport officer, Mr Jim Black, before the cheque presentation.

The money, given under the auspices of the Government's Area Improvement Program, will be used to promote the car-pool scheme on campus, assist VicRoads in developing a special computer program, and cover the salary of a part-time coordinator.

Also present at the ceremony was the MLA for Clayton, Dr Gerard Vaughan, who commended MAS, the Deputy Vice-Chancellor, Professor Geoff Vaughan, and the university's public transport working party for their initiative.

Mr Black can be contacted each lunchtime at the rear of the Union Building, Clayton campus or on extn 75 3138.

Female enrolments rise

Growth in female enrolments has continued to outpace that of males, according to recent Department of Employment, Education and Training statistics.

In 1990 females represented 53 per cent of the total higher education student population, compared with 45 per cent in 1980 and 51 per cent in 1988.

Female enrolments are highest in arts and education, although their share of total female enrolments has fallen from 72 per cent in 1979 to 50 per cent in 1990.

Last year, female students accounted for about 70 per cent of education, health and arts students but only 10 per cent of engineering students. However, females' share of engineering enrolments has risen over previous years.

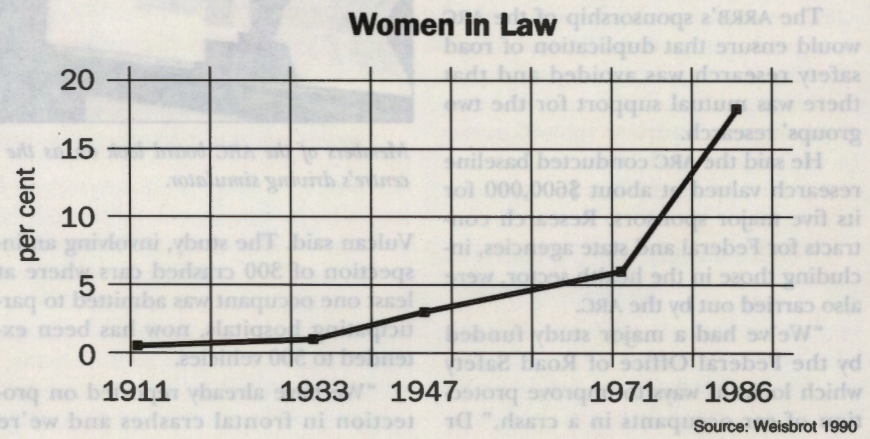
Women's share of postgraduate enrolments is lower than their share of undergraduate enrolments in all broad fields of study.

The statistics also show a slowing in growth rates for both male and female students in 1989, partly attributed to the introduction of the Higher Education Contribution Scheme.

In 1989 male enrolments rose by three per cent, compared with five per cent the previous year, while for female students the growth rate fell from nine per cent to seven per cent.

The growth rate for female enrolments in 1990 was 11.3 per cent and for male enrolments, 8.6 per cent.

The graph below shows the increase in female lawyers as a percentage of all lawyers, since 1911.



Connecting science and your society

The social context of science is to be examined in a series of lunchtime seminars, *Science, society and yourself.*

The seminars aim to focus on the wider issues of science not covered as part of formal university education, and to present a broader view of what science is and how it works.

Organised by second year physics student Roger Sharp with the support of the Faculty of Science, the series follows the success of a similar program last year.

"We are often told that in this technological world we need science-literate people and a science-literate society," he said.

"Our aims extend to the importance of having people- and society-literate scientists."

Mr Sharp said a diverse group of guest speakers would consider the place of science in society, including economic, political, ethical, environmental and personal aspects.

"By addressing these issues the series will not only be valuable to all science students but also to all concerned individuals," he said.

Last month's speakers were CSIRO head John Stocker and Alan Roberts, a former Monash physicist and now theoretical ecologist at the Graduate School of Environmental Science.

Forthcoming speakers include the director of the Science Policy Research Centre at Griffith University, Ian Lowe, and Freya Matthews, head of the Women's Studies Centre at La Trobe University.

Dr Peter Singer, head of the Bioethics department and world-renowned author of *Animal liberation*, will present a seminar later this year.

The series of *Science, society and yourself* seminars are held in Science Lecture Theatre S4 at 1.10 pm. For details check the weekly diary in *Etcetera.*

RESEARCH
MONASH

Shedding new light on ageing

The body's daily clock regulates sleep patterns in response to changes in light and temperature. Evidence now is emerging that this internal mechanism may regulate life span as well. Dr Jenny Redman is investigating the role of the hormone melatonin in ageing.

People seem to need less sleep as they grow older, and also become more prone to sleep disturbances. Dr Jenny Redman, of the Department of Psychology, suspects that the change in sleep patterns results from changes in the body's inner timekeeper, and that these changes may actually speed the ageing process.

Dr Redman was a pioneer in studies of the mammalian body clock. As a PhD student at La Trobe University in 1983 she produced the first evidence that the hormone melatonin, secreted by the brain's pineal gland, regulates circadian rhythms – the natural changes that occur in behaviour and body function during the day–night cycle.

Until her seminal discovery, biologists believed that while melatonin was involved in regulating the annual reproductive cycle in seasonally breeding animals, it had no obvious role in non-seasonal breeding mammals such as laboratory rats and humans.

It is now clear that melatonin does much more. It actively regulates the body clock, and through it, a wide range of physiological and neurological phenomena.

Disturbances in melatonin levels in the brain can account for such problems as jet lag, a form of depression called seasonal affective disorder (SAD) that may affect up to 50 per cent of the population in winter, sleep disturbances, and the difficulties that shift workers experience in adjusting to night work.

In 1987 a Swiss research team published a remarkable research finding that suggested melatonin might also be involved in ageing. When they added melatonin to the drinking water of mice during darkness, mice aged more slowly and lived up to six months longer – a 20 per cent increase in their normal life span.

Dr Redman says the Swiss team interpreted their finding as being due to melatonin reinforcing the function of the immune system, which is involved in protecting the body against infectious diseases and cancers.

Stress is known to impair immune-system function and the Swiss researchers suggested that melatonin might be acting as an antistress hormone, by stimulating the production of opioids, the brain's natural 'feel good' drugs, which are associated with pleasure and the dulling of pain.

Dr Redman and fellow pioneering melatonin researcher Dr Stuart Armstrong, of La Trobe University's Psychology department, recently published an article in the international journal *Medical hypotheses* proposing an alternative explanation.

Melatonin levels in the brain vary during the day, roughly in synchrony with the amount of light entering the eyes. Dr Redman explains that melatonin actually transduces information about light levels entering the eye, so that the pineal gland can adjust its melatonin secretion.

In younger individuals, melatonin levels change markedly during the day, depending on light levels in the individual's environment. Dr Redman says that as people age, the daily melatonin cycle tends to flatten out and the pattern of variation becomes more erratic.

To understand how this might have more general effects on the body, it is necessary to describe melatonin's primary role, which is to regulate the body clock. Dr Redman says the body's main timekeeper is thought to reside in the suprachiasmatic nuclei (SCN), which sit just above the point where the optic nerves cross over en route between the eye and the brain.

Light falling on the retina at the back of the eye causes impulses to travel along the optic nerves to the brain. However, another pathway – the retino-hypothamnic tract – transmits photic information from the retina to the SCN.

The SCN monitors the amount of light entering the eyes and informs the pineal gland, which produces melatonin. The SCN is studded with receptors for melatonin, and responds to the output of the pineal gland. The body clock thus regulates itself through a feedback loop, which is tied to the day-night cycle.

When the SCN senses less light entering the eyes towards dusk, it instructs the pineal to produce more melatonin, turning down metabolic activity and preparing the body for sleep. Around 5 am melatonin levels fall and the body begins to emerge from sleep; light entering the eyes when the person wakes halts melatonin production and the person becomes alert and ready for the day's activities.

But the overall regulation of the body's rhythms is more complex than this simple picture would suggest.

"There's an argument that says that while the SCN is the principal body clock, there are other clocks controlling separate cycles," Dr Redman said. "In humans there are at least two clocks, which are normally coupled or phase-locked together."

Many animals have a 'temperature clock', also regulated by the pineal gland. Dr Redman says the pineal monitors environmental temperatures that serve as cues for reproduction. The temperature clock may be particularly important for Australian animals, who need to synchronise their breeding with seasonal changes in temperature and food availability.

Picture: BRIAN CARR

Dr Jenny Redman.

Humans may also retain some vestige of a light- and temperature-controlled breeding clock; not without reason do poets exalt the arrival of spring, with its warmer, longer days.

Dr Redman says that while the various body clocks tend to be phase-locked to some extent, they are capable of being disturbed – sleep disorders, seasonal affective disorder and jet lag are all manifestations of such disturbances.

Her own research group, along with Dr Armstrong's research group at La Trobe University, has been attempting to perturb the clocks using various drug and light regimes, and by studying animals that have had the pineal gland removed.

Dr Redman says that normally, the removal of any organ in the body has profound effects, but pinealectomised animals seem to continue behaving quite normally. One consequence for female animals if the pineal gland is removed early in life is the premature onset of puberty, which originally suggested a role for melatonin in the breeding cycle.

But other longer-term consequences pointed to a larger role for the pineal and melatonin. Dr Redman says pinealectomised animals are more likely to develop tumours, and the tumours tend to grow faster. As early as 1959, Swedish researchers showed that pinealectomised mice had a shorter life span. Pinealectomy can retard growth in young rodents, upset sodium balance in the body, elevate blood pressure and produce diabetes-like symptoms, and produce increases in blood cholesterol.

The surprising recent result from the Swiss group, which found that extra melatonin, supplied externally, slowed ageing in mice, affirmed that melatonin has very broad effects on the body – instead of being a minor functionary, it may be something of a master hormone.

What makes Dr Redman and Dr Armstrong think that the immune system hypothesis advanced by the Swiss researchers is too limited is that melatonin and the pineal also affect ageing earlier in life, in the context of development and sexual maturation, and there is no evidence that the immune system is involved in these processes.

It is more likely, they believe, that the slow decay of circadian rhythms with age leads to an inner temporal disorder, which may lead to disease.

As people grow older, alterations in pineal melatonin secretion and decreases in the sensitivity of their retinas to bright light, may reduce the amplitude of their circadian rhythms, as measured by the difference between maximum and minimum melatonin levels over 24 hours.

Continued on Research Monash 4

Detecting a dangerous microbe

Footrot costs Australian sheep farmers tens of millions of dollars in lost production every year. Research student Ms Sharon La Fontaine is developing a new test to diagnose it reliably and, in the process, has given a new identity to the microbe which causes the disease.

Ms La Fontaine manipulating DNA samples in her gene probe test.

Footrot is a complicated disease caused by a microbe that has had something of an identity crisis during the past three decades.

This debilitating disease affects cloven-hoofed animals, including sheep, goats and cattle. It causes infections in the region where the hard material of the hoof connects with the underlying soft tissues. In extreme cases the horn of the hoof may separate from the soft tissues, crippling the animal and requiring it to be destroyed.

Originally the microbe was called *Fusiformis nodosus*, but 25 years ago was reassigned to a new genus, to become *Bacteroides nodosus*. It has recently undergone a third incarnation, thanks largely to research by Monash University PhD student Sharon La Fontaine and her supervisor, Dr Julian Rood, reader in the Department of Microbiology. The footrot microbe will now be known as *Dichelobacter nodusus*.

Behind the name change is an interesting story that illustrates the revolutionary and pervasive impact of molecular biology in the biological sciences.

In their successful search for a more reliable and sensitive method of diagnosing footrot, Ms La Fontaine and Dr Rood found themselves making an important contribution to the field of bacterial taxonomy.

The Department of Microbiology has a substantial research program into footrot, one of the most costly diseases of sheep in a nation that produces 30 per cent of the world's wool. The footrot microbe is an obligate parasite. It thrives in warm, wet conditions, and is most common in the wetter areas of Australia after rains in spring and early summer.

D. nodosus is a strict anaerobe; its requirement for an oxygen-free environment compounds the problems of culturing it on special media in the laboratory, which in the past has been an essential step in diagnosis. It takes four or five days to grow recognisable colonies from samples of infected tissue.

In certain regions, grazing properties where footrot has been detected must, by law, be quarantined to prevent the spread of infection. It typically takes two to three weeks to confirm a diagnosis, and to identify whether the property is infected by a virulent, intermediate or benign strain. Delays or misdiagnosis can have a severe economic impact, particularly if the property operates as a stud.

Picture courtesy DR L. J. DEPIAZZI

An electron micrograph of the footrot microbe Dichelobacter nodosus.

Ms La Fontaine began her research into improved techniques for diagnosing footrot as an honours student in 1988. She was looking for a simple way of identifying animals that are carrying the footrot microbe, but which show no clinical signs of infection. These carrier animals can carry *D. nodosus* over the summer and reinfect a property that had been cleared of infection during the previous year.

She decided to develop detection techniques based on gene probes. Gene probes are based on distinctive DNA sequences that occur in every living organism – sequences that constitute a unique genetic signature that distinguishes the organism from all others, even closely related species.

The scientist makes a copy of the DNA sequence, and then labels it with a mildly radioactive isotope of phosphorus. The labelled sequence is used to search for any sequence with the same code in DNA isolated from the sample under test.

If the sequence is present, the complementary strands of DNA pair up or 'hybridise'. The DNA sample is then washed; if there is no match, the radioactive probe is washed away. But if the probe has found a matching sequence, it makes a dark spot on a photographic negative laid over the sample.

Ms La Fontaine identified several DNA sequences in the genetic blueprint of *D. nodosus* and showed that probes derived from these sequences could successfully signal the presence of the microbe. But the test was not sufficiently sensitive. If there were fewer than about 10,000 bacterial cells in the sample, they did not provide enough DNA to make a positive identification.

In the mid-1980s, a revolutionary new technology called the polymerase chain reaction (PCR) became available for amplifying minute quantities of DNA. Forensic scientists have used it to multiply and identify DNA sequences from biological samples as small as a single blood or hair-root cell.

Ms La Fontaine decided to use her existing gene probes as the basis of a PCR test to identify *D. nodosus*. The PCR technique involves separating the two DNA strands from each other using heat, then attaching DNA 'primers' at two points along each strand.

A special heat-resistant enzyme, called DNA-polymerase, then shuttles between the primers, constructing a second DNA strand that complements the original. Two double-stranded DNA sequences are created from the original.

With repeated cycles, the two sequences become four, four become eight and so on. The exponential rate of duplication means that millions of copies of the original DNA sequence between the two primers can be generated within half a day, providing enough DNA to be detected and analysed.

For footrot, it is enough just to confirm the presence or absence of the genetic signature of *D. nodosus*, without actually analysing the DNA. The university has filed a provisional patent on the use of Ms La Fontaine's DNA probes to detect footrot. She says the PCR test using these probes can detect *D. nodosus* in samples containing fewer than 10 bacterial cells.

Ms La Fontaine is now working to adapt the test so that it can be used to detect *D. nodosus* directly in clinical samples, avoiding the delays involved in culturing the organism.

The test actually focuses on bacterial DNA (deoxyribonucleic acid) which codes for a form of single-stranded ribonucleic acid (RNA) – ribosomal RNA – that is present in multiple copies in bacterial cells. The genes which encode the ribosomal RNA are also present in multiple copies, and therefore should provide the basis for a sensitive test.

When a gene is active, its genetic instructions are copied into a single-stranded RNA molecule. A structure called a ribosome then travels down the RNA molecule, processing its instructions and assembling the encoded protein.

The ribosome is itself constructed from a special form of RNA, called ribosomal RNA. As might be expected for an organelle with such a basic and crucial function in the cell, its accurate function depends on the RNA being free from errors induced by mutation. A single mutation in a critical region of the molecule might impair or destroy its function, which would be fatal to the cell.

However, ribosomal RNAs do accumulate non-lethal mutations in less critical regions of their genetic code as they evolve. Closely related organisms diverging from a single ancestor will have slightly different ribosomal RNA codes; the differences become more marked in distantly related microbes.

Ms La Fontaine began her analysis of the ribosomal RNA of the footrot microbe during her honours year. At the time, the bacterium was still included in the genus *Bacteroides*, under the name *B. nodosus*.

The Monash research group had learned that two researchers in Boston, Dr Floyd Dewhurst and Dr Bruce Paster, of the Forsyth Dental Institute, were studying the ribosomal RNAs of several other unusual bacteria, with a view to reclassifying them.

Ms La Fontaine's analysis confirmed that *B. nodosus* was misplaced in the genus *Bacteroides*. It was not even closely related to other species in the genus, sharing only 77 per cent of its ribosomal RNA sequence with them. It was more closely related to the common gut-dwelling bacterium *Escherichia coli*, with which it shares 85 per cent of its genetic code.

However, its closest relatives are the two obscure microbes that Dr Floyd and Dr Paster were studying, *Cardiobacterium hominis* (92 per cent similarity) and *Suttonella indologenes* (94 per cent). Even these relationships are not sufficiently close to include the three microbes in the same genus, so a new genus was established.

At the time the decision was made, Dr Rood was in the United States on sabbatical leave. He sought out experts in latin and ancient Greek at the Virginia Commonwealth University and Virginia Polytechnical Institute – Dr Robert Cromey and Emeritus Professor Thomas MacAdoo – asking for a name that would reflect the microbe's parasitism of cloven-hoofed animals.

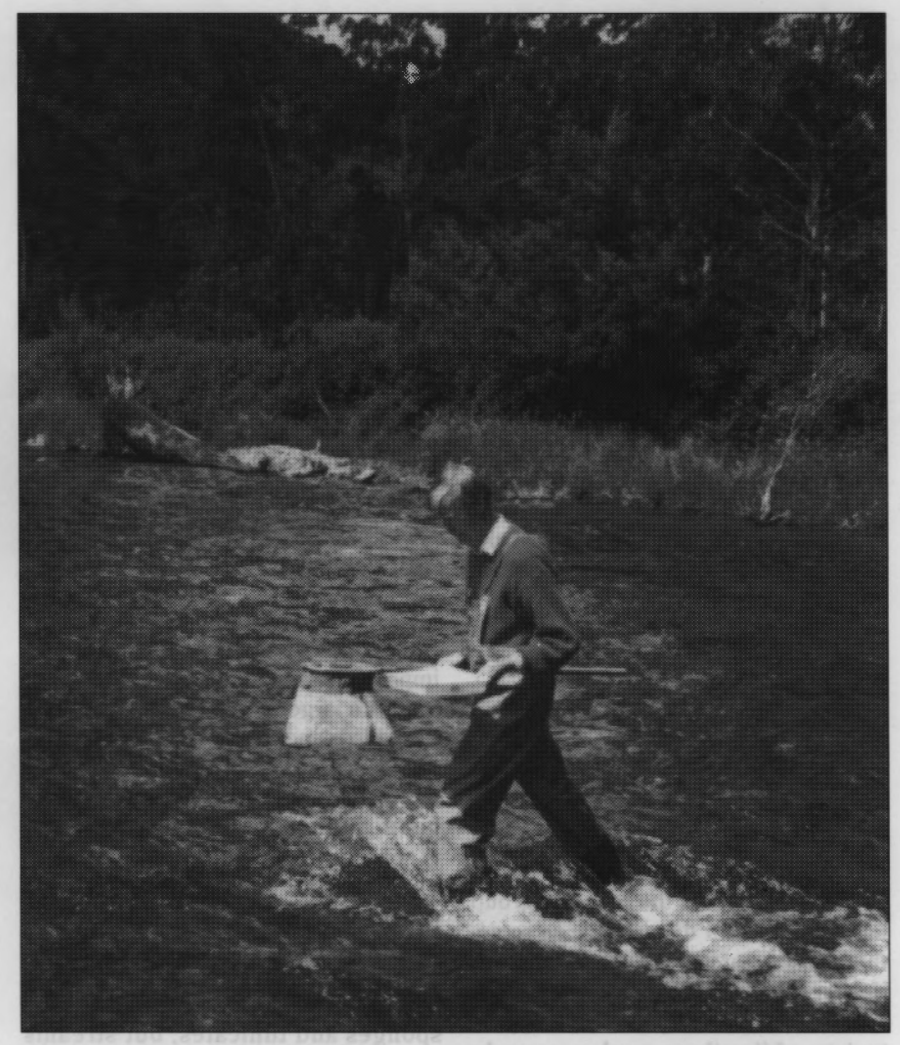
The name *Dichelobacter* was chosen: 'dichelos' means cloven-hoofed in ancient Greek. Along with *Suttonella* and *Cardiobacterium*, *Dichelobacter* is now included in a new family of bacteria, the *Cardiobacteriaceae*.

Dr Rood says molecular genetics is revolutionising bacterial taxonomy. Past classification methods were based on various parameters including the size and shape of bacteria, their ability to

Continued on Research Monash 4

Flowing against the current

Australia has long neglected the ecosystems of its rivers and streams. Stream ecologist Dr Sam Lake has been examining how these systems work. What he has found challenges the prevailing scientific view with a different way of looking at natural communities.



Dr Sam Lake collecting samples in the Acheron River.

The idea of stability and balance in ecosystems has dominated debate over environmental issues for the past two decades. Conservation is concerned with maintaining this perceived stability, or with restoring the 'natural balance' of ecosystems disturbed or degraded by human activity.

Stream ecologist Dr Sam Lake, of the Department of Ecology and Evolutionary Biology and the Centre for Stream Ecology, says that while these concepts may hold true for some ecosystems, they do not apply universally. They certainly do not hold true for Australian rivers and streams.

Dr Lake, his colleague Dr Barbara Downes, and several graduate students, are providing new insights into the workings of southern hemisphere stream ecosystems, through long-term studies of two rivers in the Melbourne region, the Acheron and the Lerderderg.

Dr Lake has studied freshwater ecosystems for much of his research career. He worked initially on rivers in Tasmania and south-eastern NSW that are still contaminated by heavy metals from mines that ceased production early this century.

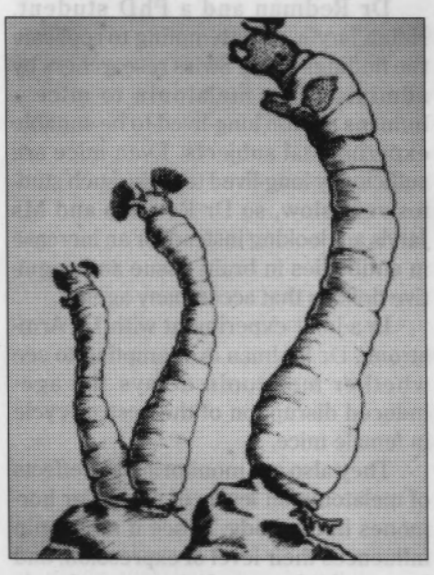
"I came to the realisation that in Australia we had little understanding of how our streams work," Dr Lake said. "Prior to the 1980s we had acquired empirical knowledge about how to foul streams up, but we knew very little about how natural stream communities were structured or how they functioned. In a world context, stream ecology had been a neglected area of ecology.

"Most of the work we did on damaged rivers was descriptive. We'd take basic chemical measurements, or measure metal contamination, but we did no work on basic ecological processes that allow streams to work normally.

"So in the late 1970s, I decided that we should study some of Melbourne's local streams, like the Acheron River. When we looked at these stream communities, we found that they were very different from the stream communities hitherto described in the scientific literature.

"The literature described equilibrial systems: the sort of predictable, very structured 'balance-of-nature' communities that vary predictably with the seasons.

"We now know that Australian streams are not like this. They are highly dynamic entities – what we would call non-equilibrium dynamic systems – rapidly changing with the seasons and with natural disturbances. It was a totally different way of looking at streams – or natural communities for that matter."



Blackfly larvae, studied in detail as part of the stream ecosystem work.

Ironically, it was from woodland stream studies in North America up to the 1970s that the view of stream ecosystems as stable and predictable entities emerged. This helped to form the conservationists' imperative to restore disturbed ecosystems to their original 'natural' balance.

"These studies produced the River Continuum Concept. It was foisted upon the world by a small group of stream workers in North America. Many northern hemisphere streams do tend to be very predictable, and they made generalisations to apply for the rest of the world," Dr Lake said.

"But here in Australia and in New Zealand, some – including our group – disagreed with the concept. It did not apply to Australian streams because the North Americans never considered in their models the idea of stochastic non-seasonal variation in flow. Along with southern Africa, Australia has some of the most variable streams in the world.

"Our streams also have some of the most diverse and dynamic of natural communities in the world. If you take samples over an extended period of time, you get different species at different times of year, and the communities have a structure not seen in the perennial streams of North America.

"The species change rapidly, yet there are no large or rapid changes in the actual number of species. This implies that there are processes that regulate community structure, even though the communities vary continuously in composition."

Dr Lake's group began studying the source of this variability and community structure, focusing on episodic events such as floods and droughts, which deplete freshwater plants and animals.

They have found that in the wake of flood or drought, some parts of the system recover rapidly, while others recover much more slowly. Dr Lake believes disturbance, not stability, is the most important determinant of the structure and diversity of many stream ecosystems.

Paradoxically, Australian stream communities seem to have very low resistance to floods, and suffer severe depletion as organisms either leave their stretch of a river or are swept downstream. But almost as rapidly, they come back.

"Up to 70 per cent of the organisms may be lost in a flood. But within a few weeks – at most a month – of the water subsiding, they're back. The question is: where do they go when the flood hits?" Dr Lake asked.

Rapid colonisation, not rapid reproduction, seems to be the explanation, because even organisms that have only one generation per year come back rapidly. When a 50 year flood broke the 1983 drought, the worst in eastern Australia this century, it swept the bed of the Lerderderg River clean. Everything was back within a month.

"They've got adaptations we don't understand," Dr Lake said. "Some may sense flood coming and go down into the hyporheic zone – the sediments below the surface of the stream bed.

"British stream ecologists favour the idea of dead-water zones that become refuges when flood hits. The organisms take shelter behind logs and stones, or retreat into backwaters to ride out floods."

Even in North America, home of the River Continuum Concept, ecologists studying desert streams in Arizona have found similar patterns of loss and rapid recovery, and have concluded that rapid recruitment was primarily responsible, abetted by high water temperatures that favour rapid growth.

The Monash ecologists have been delighted by the diversity of life in Australian streams. Dr Lake says that in the Acheron, which is disturbed more often by flooding than drought, his research group has recorded a total species pool of over 300 invertebrates: insects, a few crustaceans, molluscs and worms.

"That diversity is probably one of the highest in literature of any river system in the world at that size – obviously there is greater diversity in large rivers like the Amazon, but they're much bigger systems," Dr Lake said.

"The latitudinal species diversity gradient assumes that species composition becomes more diverse as you move from the temperate zone towards the equator. But sitting on Melbourne's doorstep, in the warm temperate zone, rivers like the Acheron, La Trobe and the Mitchell have a diversity of life equal to that reported for tropical streams."

How is this diversity regulated? Dr Lake says he and his colleagues realised that the high level of disturbance, overlaid upon marked seasonal change, constantly throws up a mosaic of habitats. The mosaic changes rapidly, and with it the species, but the number of species per habitat seems to be tightly controlled as a function of the area of the particular habitat.

For single stones, he believes the diversity of Australian stream habitats – literally, islands in the stream – follows the same pattern as the diversity of animals on oceanic islands. If the number of species is plotted against island area, it rises in a geometric rather than in a linear manner.

Dr Lake believes the discovery that a similar relationship exists in temperate freshwater streams is very significant, because this species–area relationship was originally derived from equilibrium systems. On oceanic islands, the number of individuals of each species – and the community structure – remains approximately constant through time.

Here in Australian streams, the same relationship is describing a very different system; one in which the number of individuals of each species in a particular habitat fluctuates widely, and the community structure constantly changes.

Dr Downes says the regulation of species richness in ecosystems is one of the big questions in conservation biology. "We need to understand it if we are going to conserve ecosystems like streams, intertidal habitats and alpine bogs," she said.

"If you pick up stones from streams, count the number of species on them, and then graph it against the area of the stone, there is a very tight relationship. You can actually predict how many species you are going to get on it; it's extraordinary that it's so consistent."

She says that preliminary results from a study of the Acheron River by honours student Michael Douglas seems to rule out a theory that species diversity is a simple function of area – that the bigger the area, the more individuals.

Continued on Research Monash 4

Streams colonised rapidly

From Research Monash 3

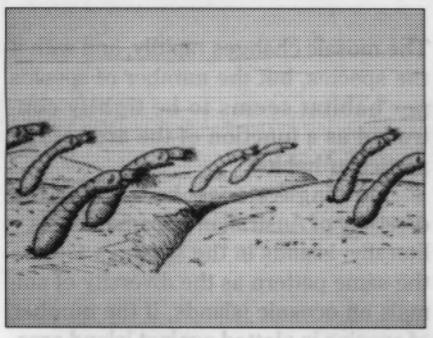
"One of the ways the species–area relationship may be generated is through increased resource diversity," she said. "Larger stones supply more food and living space. This is a much simpler idea than invoking equilibrium communities where diversity is controlled by competition between individuals."

In Australian streams, vacant stones are rapidly colonised after flood or drought, but competition only develops well after the initial colonisation and utilisation of resources.

The beauty of working with rapidly-changing stream communities, Dr Lake says, is that it is possible to obtain answers very quickly. To obtain answers to the same questions by studying forest communities, or intertidal communities, would take a lifetime.

"These animals respond very quickly to new vacant patches. Colonisation occurs in days rather than weeks, so we can do a large number of manipulations and replicated experiments in a single summer," he said.

Dr Downes says the research group has come to view disturbance as something that creates a mosaic of habitats, ripe for colonisation by whatever species arrive first. Some species are opportunists, while others employ a smash-and-grab strategy.



Blackfly larvae: filter feeders.

"The various patterns of mobility may be a key to how they exist. Some may come in and occupy and defend a territory, others may be fast-moving and stealthy," she said. "They might eat a hole in a patch of algae but, as soon as they are detected, move on – and on the odds, they will find another patch of algae and repeat the process.

"No stream animal is totally sessile, like a limpet. That's a deadly strategy in streams, because any rock eventually is going to be turned over. But some animals may live semipermanently in cracks, while others may move every 24 hours."

Dr Downes says mobility is a very valuable characteristic in a frequently disturbed environment. With so many stream species being mobile, it is possible to perform experiments encompassing scores of species that would be impossible to do in a terrestrial ecosystem with larger mobile animals like reptiles, birds and mammals.

"One problem with community ecology is that so many experiments have been done on sessile species, or research has been limited simply to observing mobile species like birds moving in and out of the study area," she said.

"Marine ecologists have done some nice experiments on sessile species like sponges and tunicates, but streams really are a great place to test ideas and develop general models for ecosystems with mobile animals."

Among the species Dr Downes and Dr Lake have studied in greater detail are blackfly larvae. These larvae (at left) are filter feeders, standing upright in the current to strain particles as small as bacteria out of the water column with fan-like structures on their heads.

In some stretches of river blackfly larvae reach very high densities. "If you scrub a stone clean and put it back in the stream, blackfly larvae will colonise it very quickly and will reach high densities in two to four days," Dr Downes said. "But then their numbers decline sharply.

Dr Barbara Downes (left) and research fellow Ms Sabine Schreider at work on site in the Acheron River.

"We wanted to know if they were fugitive species, among the first to get in and exploit resources by securing an attachment spot, but then being pushed out by more competitive species. We have been looking at two species of blackfly, *Austrosimulium torrentium* and *A. victoriae*, which coexist at most sites."

Most ecologists would expect that species in the same genus that feed the same way in the same habitat would do approximately the same things. The idea is called ecological equivalence, or the functional groups concept. It came out of the North American stream studies.

"When we did experiments to test whether the blackfly larvae are both fugitives, we found that one is and one isn't. They had quite different patterns of behaviour," Dr Downes said.

"*A. torrentium* is a fugitive: when you give it clean surfaces, it moves in quickly but then declines rapidly with time. With *A. victoriae*, numbers built up slowly and stabilised. We were surprised, because they are ecologically similar in all other ways. Then we found exactly the same thing with two caddisflies in the same genus, *Asmicridea*, well known to fly fishermen. These species are similar, if not identical, in many ways but differ in forms of mobility and patch utilisation."

Dr Lake says his research group greatly values the Acheron River but it is increasingly concerned at how the river is being abused as population pressures in Melbourne bring increasing numbers of visitors to the area.

His group has collected 12 years' worth of data from the river, but has already seen one invaluable study site lost when the Department of Conservation and the Environment approved the establishment of a trout farm.

The Acheron catchment is deteriorating because of a combination of forestry activities, the movement of four-wheel drive vehicles, and pollution by nutrients from pastures, sewage and trout farms. In its lower levels the river has finally become very dirty due to bank erosion.

The Monash group moved to the Steavenson River this year to establish a three-year project. The group is seeking greater protection for the Acheron river system, which is already on the register of the National Estate.

Footrot microbe

From Research Monash 2

take up special stains, and their growth conditions. These methods led to many microbes, including *Dichelobacter*, being misclassified.

Dr Rood says he has no intention of staying in the field of bacterial taxonomy. "I'm not a bacterial taxonomist and neither is Sharon. We just wandered into the field by accident," he said.

Ms La Fontaine now has had two papers published in the *International Journal of Systematic Bacteriology*, the world's leading journal for bacterial taxonomy – a significant achievement for a student who has only just begun the third year of her PhD studies.

The test she is developing for detecting the footrot microbe eventually may be sold overseas, as well as in Australia. Footrot is a problem in New Zealand, Britain, the United States, and even in parts of Asia.

For her outstanding research, she was awarded a prestigious Australian Wool Corporation Postgraduate Research Scholarship in 1989. She has been nominated by the Microbiology department for this year's science and technology Young Achiever Awards.

The body's clock may regulate life span

From Research Monash 1

It is known from animal research that the stability of the circadian system is positively correlated with its amplitude; the larger the amplitude the more resistant the system is to perturbations.

Dr Redman and Dr Armstrong, in their *Medical hypotheses* paper, point to evidence that the pineal gland and melatonin may have some role in regulating life span: that the daily body clock also functions in some way as a life-cycle clock.

Noting that longevity varies with species, they wonder whether the limiting factor in life span might relate to the number of revolutions made by the inner circadian clock, rather than the number of day–night cycles that an animal experiences during its lifetime.

Two intriguing pieces of evidence point in this direction. Menarche, the age of onset of the menstrual cycle, is accelerated in blind females, and in an early cave isolation experiment, a 26 year old woman showed a shortening of her menstrual cycle from 29 to 25 days as her own circadian rhythms (as indicated by her core temperature) lengthened from the normal 24 hours to 25 hours.

Such observations are consistent with the idea that other body clocks take their cue from the main body clock in the SCN. A decrease in frequency in the main clock may result in either decreases or increases in frequency in other biochemical cycles, depending on how they are coupled.

If animals are given melatonin at the right time of day, it can resynchronise body rhythms; Dr Redman says it functions as a chronobiotic.

A chronobiotic is a substance that can act as a synchroniser or zeitgeber to reset the phase of biological rhythms, so that it can be used therapeutically to re-entrain circadian rhythms that have been desynchronised or disrupted by environmental insults like shift work, or jet lag induced by international flights across time zones.

Dr Redman and Dr Armstrong say that there is little data available on what sort of lighting is appropriate for ageing people, to compensate for their declining circadian function. In their paper they say there are good prospects that an increase in artificial lighting or the duration of exposure to natural sunlight may counter these disturbances.

In situations where bright light is unavailable or the retinal system has degenerated too far to capitalise on bright light, evening oral administration of melatonin would be an ideal medication.

Dr Redman and a PhD student, Helen Jarvis, are attempting to replicate the findings of the Swiss researchers by administering melatonin to mice – humans are too long-lived to be suitable experimental subjects. Even mice are sufficiently long-lived to make such studies very slow, so Dr Redman and Ms Jarvis are looking instead for an increase in antibodies in brain tissue and cognitive deficits that accompany ageing.

In a joint experiment with Dr Armstrong, Dr Redman is attempting to see whether melatonin delays the age-induced disruption of the oestrus cycle in female mice.

They also are monitoring the effects of melatonin on levels of particular hormones in the body, to see if melatonin influences their level of expression, and how such changes in hormone levels may feed back to influence the function of the SCN body clock.

Separating the food facts from the fads

Do white-flecked fingernails indicate a calcium deficiency? No. Does ginger prevent travel sickness? Yes. Are brown eggs more nutritious than white eggs? No.

Food: Questions and answers is something of the nutritional equivalent of that old Woody Allen classic, *Everything you always wanted to know about sex (but were afraid to ask).*

Cowritten by Professor Mark Wahlqvist, Monash University's professor of medicine at Prince Henry's Hospital and Monash Medical Centre, and Associate Professor David Briggs, of the Department of Human Nutrition at Deakin University, this handy paperback separates the unhealthy dross from the nutritional gold.

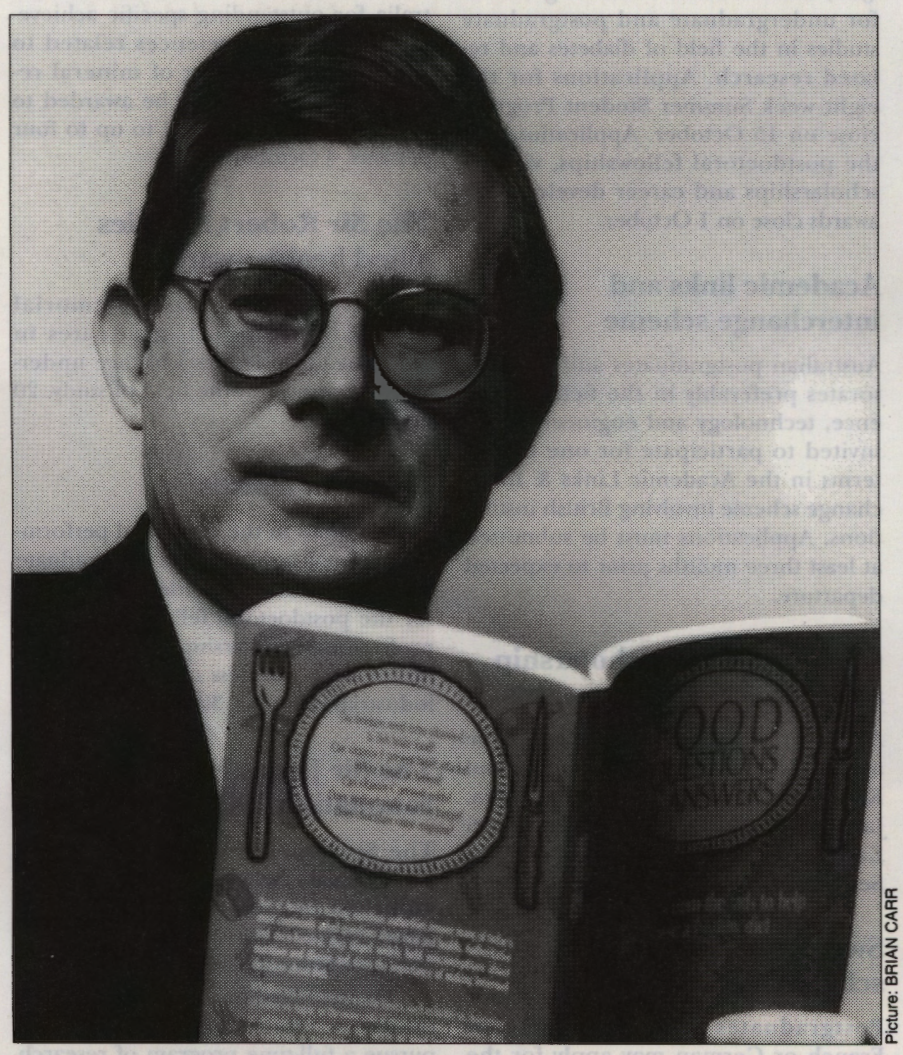
The authors do not seek to alarm, although their dispelling of numerous misconceptions about food will have that precise effect. (Can vitamin C help prevent colds? No. Liquid diets are most effective for weight reduction. False. Sugar causes behavioural problems. Probably not.) Rather they inform through carefully presented argument backed by research.

"It is becoming apparent that the major health problems of industrialised nations such as Australia are related to the way we eat," Professor Wahlqvist said. These problems include coronary heart disease, most diabetes, obesity, osteoporosis and certain cancers.

"Added to that is the fact that there are still problems of undernutrition in Australia. For example, in hospital patients, people with eating disorders and wasting diseases, and in people with bizarre food beliefs that are most precarious."

Oddly enough, Australians today are eating about the same in calorie terms as they were at the beginning of the century. But with the advent of mechanised transport, physical activity has declined and waistlines have expanded.

What has helped keep most of the Australian population out of hospital is our great food diversification, Professor Wahlqvist says. In fact, the abundant variety of cereals, seafood, meats and vegetables has even accounted for gains in our health.



Picture: BRIAN CARR

Professor Mark Wahlqvist: major health problems related to the way we eat.

"The potential to improve health is quite large. For example, there are a number of ways that food can affect favourably the possibility of a heart attack. It is possible to change the composition of the heart membrane cells by the way we eat, and to alter the stickiness of blood platelets that can block arteries and cause a thrombosis."

Professor Wahlqvist has some firm thoughts on diets, the not-so-healthy bread and butter of many women's magazines. "The business about diets is a mixed blessing. On one hand, the exploration of new ideas is very important. They generate new awareness and new ideas. This exploration is good for change, and the magazines provide an opportunity to develop our pluralistic food culture.

"On the other hand, diets can basically fix one in a perpetual dieting mode.

"But the greater problems come with the exploitation of women. What is required of them today often is unrealistic and unanatomic.

"To alter body shapes so that women return to a prepubescent form is mischievous. It denies the range of human body shapes within and between ethnic groups and with age. The best illustrations are those diets that are meant to trim thighs and reduce 'cellulite'. Unlike fat around the middle, fat around the hips is not a health hazard."

Professor Wahlqvist believes that losing weight is not principally a food issue, rather one that also involves more exercise, no tobacco, and modest alcohol consumption.

Food production techniques of the future are sure to test our personal choice-makers. Our present quest for convenience food has not yet destroyed our basic food skills, but who knows what will happen when we are faced with contrived food? (Also known as functional food or food analogues, contrived food is exactly as it sounds: it may look like fish or meat, but its ingredients are all totally processed.)

"Sadly, there is going to be a polarisation of society. Those with knowledge about food will be decidedly advantaged. We need to learn to make better choices, to inquire about food and its quality, to pick and choose. Information about food, particularly processed food, needs to be readily available at the point of purchase.

"It also is fundamentally important for all of us to be involved in food production and food preparation. In the past, the food skills we grew up with were enough, now we need new skills to make intelligent decisions. Unless we question, unless we sort the facts from the fads, and are prepared to live with a degree of uncertainty, we are going to be in strife."

Koorie plant guide cultivates knowledge

Illustration: JOHN CONRAN

The Murnong or Yam-daisy, Microseris lanceolata, *a small dandelion-like herb, is the plant most frequently mentioned in early accounts of the Victorian Koorie diet.*

On which plants would you find leaves, pods, roots and stems to relieve headaches, cure fevers, supply protein and satisfy a sweet tooth?

This information and more may be found in a new book *Victorian Koorie plants,* written by Dr Beth Gott of Monash's Department of Ecology and Evolutionary Biology, and illustrated by Dr John Conran of the University of Adelaide.

The book is a comprehensive guide to plants used by Koories for food, medicine and tools. Published by the Hamilton Aboriginal Keeping Place, it was launched in Hamilton last month.

Many of the plants featured in the book are found in the Hamilton district. Dr Gott said more than 700 species of Victorian plants had been used by Koorie people and 50 of the most interesting had been presented in the book.

"I regard the information in this book as information that belongs to Koorie communities. I have just recovered it from places that are difficult to get at if you are not a botanist," Dr Gott said.

"The research has taken me back to primary sources as much as possible and a good deal of work is from documents, manuscripts and early books."

Dr Gott has studied the use of plants for 12 years. Now an honorary research associate in the Department of Ecology and Evolutionary Biology, she has given courses on Aboriginal ethnobotany (the study of relationships between plants and people).

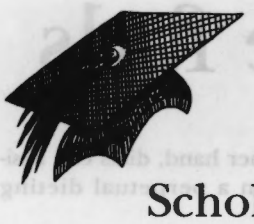
She has tried most of the plants herself. "Testing is absolutely essential," she said. "You can't just rely on what the books say; you must search for, dig up and try the plants yourself. In doing this you learn a lot more about the materials and how they were used."

Many of the plants included in the book are being cultivated in the Aboriginal garden in front of the Biology building, Clayton campus.

Dr Gott now is working on extending her database on Koorie plants to cover the whole of south-eastern Australia.

The book, financed by the Victorian Ministry of the Arts and the Victorian Koorie Heritage Trust, is aimed at the general public and schools. It is on sale for $10 at Monash bookshops.

GRANTS & SCHOLARSHIPS



Scholarships and fellowships

Vacation scholarships

The Heart Foundation is offering undergraduates in third or fourth year of a science or medicine degree a six to eight weeks vacation scholarship. 15 September.

The Australian Cancer Society is inviting science and social sciences undergraduates to apply for the Leslie vacation scholarship consisting of six to eight weeks of research in a cancer-related field. 1 October.

Massey University, New Zealand, is offering summer research scholarships to students completing at least three years of study and returning to university in 1992. There is no restriction on the field of study.

Sugar research scholarships

The Sugar Research and Development Corporation is offering postgraduate scholarships to permanent residents or Australian citizens holding first or upper second class degrees and interested in a career in the sugar industry. The scholarship is tenable for three years. The host institution is to cover expenses. 30 September.

Juvenile Diabetes Foundation awards

The Juvenile Diabetes Foundation (JDF) International is offering awards for undergraduate and postgraduate studies in the field of diabetes and related research. Applications for the eight week Summer Student Program close on 15 October. Applications for the postdoctoral fellowships, visiting scholarships and career development awards close on 1 October.

Academic links and interchange scheme

Australian postgraduates and postdoctorates preferably in the fields of science, technology and engineering are invited to participate for one or two terms in the Academic Links & Interchange scheme involving British institutions. Applications must be submitted at least three months prior to expected departure.

Commonwealth scholarship and fellowship plan awards

Applications are invited for these awards normally tenable in the United Kingdom, Canada, Hong Kong, India, Jamaica, Malaysia, Malta, Nigeria, Sri Lanka, Trinidad and Tobago. 27 September.

Swiss government scholarship

Postgraduates with knowledge of French or German may apply for the nine-month scholarship, offered by the Swiss government, for study in Fribourg. 27 September.

The Australia prize

The Australia Prize is an international award of $250,000 given by the Government of the Commonwealth of Australia for outstanding specific achievement in physical sciences related to mining or processing of mineral resources. The prize may be awarded to an individual or awarded to up to four persons. 4 October.

The Sir Robert Menzies allied health award

The Sir Robert Menzies Memorial Foundation supports graduates in allied health sciences who are undertaking a project in the field of study. 20 September.

Fulbright awards

Professionals in the visual and performing arts may apply for the postgraduate student award. PhD holders are eligible for the postdoctoral fellow award. The professional scholarship is open to professionals in business management and industrial relations. 30 September.

The Sir James McNeill foundation 1992

The Sir James McNeill Foundation Postgraduate Scholarship has been established in memory of the late Sir James McNeill who had a long association with Monash University.

The scholarship will be awarded annually to enable a PhD scholar to pursue a full-time program of research which is both environmentally responsible and socially beneficial to the community. The award shall be made in the field of engineering, medicine, music or science and will be awarded on the basis of outstanding merit.

NH&MRC biomedical postgraduate scholarships

Australian graduates or permanent residents not benefiting from the CPRA and equivalent awards may apply for the biomedical postgraduate scholarships to pursue medical research in any Australian institution. 20 September.

Publications for perusal

The following publications are available for consultation at the Higher Degrees and Scholarships Section counter: *The British universities' guide to graduate study* and *University entrance 1992: The official guide.*

Tapes of talks

Tapes of the talks held on 25 and 30 July by representatives of the British Council and Australian-American Educational Foundation respectively on the opportunities for study in UK and USA can be borrowed from the Higher Degrees and Scholarships Section.

US information service

An excellent library with information on study in the USA is located at the United States Information Service, 6th floor, 553 St Kilda Road, Melbourne. Visitors should first contact the service on 526 5930 to make an appointment.

For further information, contact the Higher Degrees and Scholarships Section on extn 75 3009.

Research grants

Australian Academy of Science

Gottschalk Medal

The Gottschalk Medal recognises distinguished research in the medical or biological sciences by younger scientists. 13 September.

Pawsey Medal

The Pawsey Medal recognises outstanding research in experimental physics by younger scientists. 13 September.

UK Postdoctoral Fellowship

Postdoctoral fellowships tenable in the UK are provided for young Australian scientists with a proven ability for original work of scientific merit. The awards cover research in the natural sciences, mathematics, engineering science, non-clinical sciences, non-clinical medical research and the scientific research aspects of psychology, archaeology and geography. 19 September.

The Royal Society of Victoria medal

The society invites nominations for the Silver Medal which will be awarded this year for scientific research into earth sciences. The research will be carried out in Australia with preference for work done in or on Victoria. 16 September.

DITAC International Conference Support Scheme

Applications are invited from organisers of major international science, technological or engineering conferences to be held in Australia. 13 September.

Janssen-Cilag Travelling Fellowships

The objective for the fellowship is to provide the opportunity for the recipient(s) to attend an international meeting on Cystic Fibrosis or visit leading Cystic Fibrosis Centres in other countries or recognised institutions involved in research in the field. 13 September.

ARC Australian research fellowships (industry)

Applications for 1992 fellowships are now invited from researchers in fields of science, mathematics, engineering and social sciences. Work will be for between three and 12 months on at least a half-time basis in an industrial or commercial environment on a project at any stage from fundamental research to experimental development or commercialisation. 14 September.

Dairy Research and Development Corporation

The Corporation (part of the Commonwealth Competitive Grants Scheme) invites preliminary submissions from applicants for research in the following areas: soils and pasture, animal health, farm management, animal nutrition, genetics and reproduction, and dissemination and application of farm research. 16 September.

Frederick White prize

The prize is awarded to a scientist whose research has been undertaken mainly in Australia in physical sciences (mathematics, physics, astronomy or chemistry), or the terrestrial and planetary sciences (plant and animal sciences at all levels). 13 September.

Sugar Research and Development Corporation

The Sugar Research and Development Corporation (a member of the Commonwealth Competitive Grants Scheme) is calling for preliminary project proposals for new projects to commence in 1992/93. 20 September.

The Holdsworth Wildlife Research Fund

The fund invites applications to support ecology, wildlife management and natural history studies. Applications in three general areas are encouraged: field work on native mammals and birds to gain understanding of their numbers, distribution and ecological interactions; wildlife management relating to waterfowl, hunting, kangaroo control or the management of non-game birds and mammals; and conservation biology relating to native birds and mammals or the management of protected areas. 20 September.

Bureau of Immigration research grants

Applications for a limited number of research grants are invited from relevant organisations and individuals with a research capacity. Applicants should present research proposals for projects that would examine demographic, social, economic and environmental implications of Australian immigration policies. 20 September.

ALS motor neurone disease

Applications are invited from graduates in medicine or the biological sciences for grants-in-aid to conduct research in fields related to amyotrophic lateral sclerosis. 20 September.

1992 Fulbright awards: postdoctoral fellow

This award is for those who have recently completed, or are about to complete, a PhD and who plan to pursue postdoctoral study at an American institution. 20 September.

MA Ingram Trust

The MA Ingram Trust provides support for research projects concerned with the preservation of indigenous mammals and birds, particularly those with habits in Victoria. 23 September.

RE Ross Trust

The trust invites applications for projects concerned with social welfare and the issue of disadvantage; nature conservation and the protection and preservation of flora and fauna; and the education of foreign students, particularly those from Melanesia. 27 September.

For further information, application forms and guidelines, contact the Office for Research on extn 75 3085 or 75 5134. Applications must be lodged by the date specified.

BRIEFS

Computing and information technology dean appointed

Professor Cliff Bellamy has been appointed Dean of the Faculty of Computing and Information Technology.

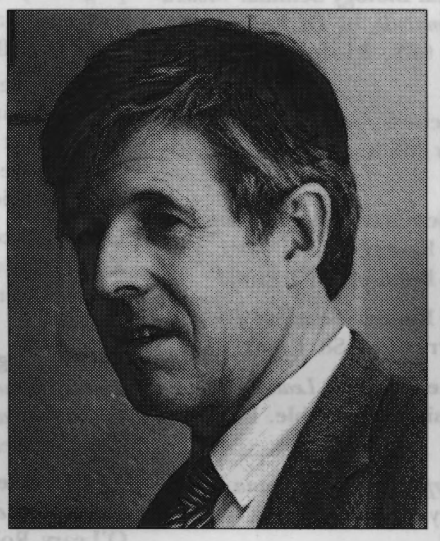
He graduated BE (Civil) with first class honours from the University of New Zealand in 1957. In 1960 he was the first candidate to be awarded a PhD in civil engineering from Sydney University.

Professor Bellamy joined Monash in 1963 as a senior lecturer in mathematics. The following year he was appointed director of the Computer Centre, a position he held until July 1990 when he became dean of the newly-formed faculty for a one year term.

He has worked for the Burroughs Corporation in California while on study leave on two occasions, managing the design automation department and doing research and development.

His contributions in the field of computer technology include the design and supervision of Monet, the Monash computer network. It is one of the few computer hardware programs in Australian universities which has been put to practical use.

He directed and managed the Monash University Education Computer System (MONECS), used widely in universities and secondary schools, and researched and developed computer-based systems for hospital administration, and laboratory and medical services. This latter work led to the formation of a large health computing service and consulting company, now based at the Monash industrial park. He also has been a consultant to other universities on computing.



Professor Cliff Bellamy.

Since 1965, he has advised organisations including the Victorian Government, totalisator agency boards, insurance companies, hospitals, private medical laboratories, registered clubs in NSW and the Victorian Universities Schools and Examinations Board.

$5.5 million Gippsland building gets under way

Work will begin this month on a major expansion of the Gippsland campus.

Worth more than $5.5 million, a new building will link the buisness and Binishell buildings to the main campus block.

Financed mostly by the Federal Government, it will provide additional teaching and office space, as well as room for the Monash University Distance Education Centre.

The union building also will be expanded, funded by a student union contribution.

Chief executive of the University College, Professor Tom Kennedy, said tenders had been received from seven Victorian construction firms. The succesful tenderer was Kane Constructions (Vic.) Pty Ltd.

The building will be completed in stages, with the final section due to open in May 1993.

Carmina Burana in concert

The Monash University Choral Society will present Carl Orff's *Carmina Burana*, conducted by Andre de Quadros, at Robert Blackwood Hall at 8 pm on 14 September.

The society, with the Geminiani Chamber Orchestra – resident at the Victorian College of the Arts – and the Victorian Boys' Choir, also will present Mendelssohn's *Symphony No.3 'Scotch'*, conducted by Marco Van Pagee.

Featured soloists are soprano Kathleen Southall-Casey, baritone Ian Cousins and tenor Gerald English.

Carmina Burana, composed in 1937, is based on a set of early 13th century Latin-German manuscripts discovered in the Benediktbeuren Abbey, Munich. The work, known for its driving rhythms, combines pagan hedonism, mediaeval tragedy, Bavarian peasant life and Christian mystery.

Tickets cost $16 and $10 (concession). For bookings, phone extn 75 3090 or 75 3091. For more information, phone 568 7374.

Law firms unite to fund chair

Partners of Melbourne's seven largest law firms have joined forces with Monash to fund the Sir Keith Aickin Chair of Company Law. Dr Sam Ricketson, a world authority on copyright law, will take up the chair in December.

The firms – Arthur Robinson & Hedderwicks, Blake Dawson Waldron, Clayton Utz, Corrs Chambers Westgarth, Freehill Hollingdale & Page, Mallesons Stephen Jaques, and Minter Ellison – have pledged $500,000 over the next 10 years. It is the first time in Victoria that a chair has been funded jointly by the legal profession and a university.

Pictured (from left to right) at a function to mark the appointment are: Mr Rob Paterson, Blake Dawson Waldron; Mr Martin Hudson, Freehill Hollingdale & Page; Mr Frank O'Brien, Mallesons Stephens Jaques; Mr John Walter, Clayton Utz; Dr Sam Ricketson; Professor Bob Williams, Dean of Law; Mr Rob Stewart, Minter Ellison; Mr Ian Renard, Arthur Robinson & Hedderwicks; Mr David Miles, Corrs Chambers & Westgarth.

Press cuttings

The following is a selection of Monash print media coverage over the past month:

1 August *The Australian* – **Professor Ian Rae**, Science: White can be called black if you're green.

2 August *The Age* – **Professor Margaret Plant**, Visual Arts: At last, artists turn the tables on their critics.

2 August *Business Review Weekly* – **Graeme Macmillan**, Public Sector Management Institute: Why public service accounting fails the test.

4 August *The Sunday Age* – **Professor Graeme Davison**, History: Our suburbs are heading for the hills.

5 August *The Bendigo Advertiser* – **Professor Adrian Walker**, Centre for Early Human Development: Government offers funds for research.

Winter Edition *Nature and Health* – **Guy Werner**, Ecology and Evolutionary Biology: Sea greens find a place at the table.

6 August *Herald-Sun* – **Professor Roger Short**, Reproductive Biology: New IUD serves a dual purpose.

6 August *Sandringham Brighton Advertiser* – **Professor Maurice Balson**, Graduate Studies: Lessons for life.

6 August *Sandringham Brighton Advertiser* – **Dr Liz Harris**, Community Medicine: Doctors under examination.

6 August *The West Australian* – **Dr Robert Birrell**, Sociology: New arrivals struggle for work.

6 August *The West Australian* – **Dr Ilana Snyder**, Graduate Studies: Computers help in better writing.

6 August *The Financial Review* – **Professor Mal Logan**, Vice-Chancellor: Universities join the top 500 exporters.

6 August *The Age* – **Peter McKenzie**, Faculty of Computing and Information Technology: Fourth generation provides the way to language future.

6 August *Herald-Sun* – **Graeme Shanks**, Information Systems: Learning to love your computer and other bits and pieces.

6 August *Herald-Sun* – **Dr Alan Trounson and Dr Ismail Kola**, Centre for Early Human Development: Hope for couples in sperm research.

6 August *Herald-Sun* – **Professor Roger Short**, Reproductive Biology: Reuseable condoms tip.

7 August *The Weekly Times* – **Ms Rosemary Martin**, Course and Career Centre: Preparation the key.

7 August *The Age* – **Professor Bill Russell**, Graduate School of Management: Keeping urban hell at bay.

7 August *Free Press* – **Professor Peter Chandler**, Faculty of Business: Tertiary education forum. (Also in *Lilydale and Yarra Valley Express, Croydon Post.*)

8 August *The Warrnambool Standard* – **Professor Peter Singer**, Human Bioethics: Animal libbers ask ethics head to quit.

9 August *The Age* – **Professor Peter Dixon**, Centre of Policy Studies: Line of long-term unemployed keeps growing: academic.

9 August *Herald-Sun* – **Dr Malcolm Sim**, Social and Preventive Medicine: Tests on breast milk pesticides.

11 August *The Sunday Age* – **Dr Kevin O'Connor**, Geography and Environmental Science: Melbourne can be a foreign 'home'.

13 August *Hamilton Spectator* – **Dr Beth Gott**, Ecology and Evolutionary Biology: Hamilton chosen for Koorie book launch.

13 August *The Hastings Independent* – **Mr Murray Cree**, Faculty of Business: Free seminar aims to foster enterprise.

13 August *The Sydney Morning Herald* – **Professor Mark Wahlqvist**, Medicine: Food fallacies.

13 August *The Age* – **Professor Clive Probyn**, English: The question of validity.

14 August *Oakleigh Springvale Times* – **Professor Mal Logan**, Vice-Chancellor: Make careful uni choices. (Also in *Border Mail, Ballarat Courier, The Hobart Mercury.*)

14 August *Oakleigh Springvale Times* – **Mrs Judy Rich**, Economics and **Dr Bob Birrell**, Sociology: Dole queue swells.

14 August *The Croydon Mail* – **Professor Carl Wood**: On endometriosis.

15 August *The Australian* – **Professor Bruce West**, Chemistry: Smart glass opens window of opportunity.

16 August *The Age* – **Centre of Policy Studies**: Business lobby group backs Libs' tax plan.

21 August *Australian Business* – **Centre of Policy Studies**: Everything you wanted to know about consumption tax.

Press cuttings may be perused at the Public Affairs Office, first floor, Gallery Building, Clayton campus.

NOTES & DIARY

Diary

SEPTEMBER

5 **Koorie Studies Lecture** *Koorie Women*, by Ms Virginia Robinson. R6. 1–2 pm.

Religious Centre Lunchtime Concerts *Harpsichord recital – Bach's Partita No. 6 in E, BWV 830*, by Elizabeth Anderson. Religious Centre. 1.10 pm.

Afternoon Concert *Waverley Music Eisteddfod Schools Choral Competitions*. Robert Balckwood Hall. 4.30–7 pm.

Mechanical Engineering Seminar *Towards advanced control for building energy management systems (BEMS)*, by Dr Dennis Loveday, Loughborough University of Technology. Mechanical Engineering Meeting Room, Room 203, Engineering Building 5. 4.15 pm.

Southeast Asian Studies Seminar *Islam, politics and society in Indonesia*, by Abdurrah Wahid, President, Nahdatul Ulama. Room 515, Menzies Building. 11.15 am.

Ecology and Evolutionary Biology Seminar *Hormones and bell miners*, by Aldo Poiani, La Trobe University. S8. 1 pm.

6 **Accounting and Finance Seminar** *The effect of variation of information load on information selection and processing by auditors*, by Mr Roger Simnett, Univeristy of New South Wales. Room 954, Menzies Building. 2.15 pm.

7 **Evening Concert** *The Victorian Boys' Choir*. Robert Blackwood Hall. 8 pm.

Librarianship, Archives and Records Seminar *Future directions for the PRO/Archival Heritage Project*, by Ross Gibbs, Archival Heritage Program. Room 403, Menzies Building, 2.15 pm.

9 **English Seminar** *Body narratives and professional secrets*, by Dr John Wiltshire and Kay Torney, La Trobe University. Departmental Library, Menzies Building. 12.10 pm.

10 **History and Philosophy of Science Lecture** *Griffith Taylor and 'Australia Unlimited': Environmental population controversies in the interwar period*, by Dr Joe Powell. Senior Common Room, Mannix College. 8.15 pm.

English Seminar *Peter Porter reading his poetry*. R3. 1.10 pm.

Australian Studies Seminar *Australian book publishing*, by John Curtain. NCAS Meeting Room. 10–11.30 am.

11 **Environmental Science Forum** *The incompatibility of free market economics and the information society: Is there an environmentally-conscious solution?* by Mr Graeme Pryor, Australian Democrats. R6. 5.15 pm.

Genetics and Developmental Biology Seminar *Molecular aspects of a parasitic nematode*, by Dr Keith Savin, Calgene Pacific. Room 662, Biology Building. 4.15 pm.

12 **Koorie Studies Lecture** *Anthropology and Anthropologists*, by Dr Michael Stevenson. R6. 1–2 pm.

Southeast Asian Studies Seminar *Modern Indonesian Culture*, by Professor Umar Kayam, Gadjah Mada University. Room 515, Menzies Building. 11.15 am.

Ecology and Evolutionary Biology Seminar *Food-web structure and stability*, by Gerry Closs. S8. 1 pm.

Religious Centre Lunchtime Concerts *Leading original instrument ensemble*, by Elysium Ensemble. Religious Centre. 1.10 pm.

14 **Evening Concert** *Orff's Carmina Burana*, by the Monash University Choral Society. Robert Blackwood Hall. 8 pm.

Evening Concert *Monash University Orchestra*. Toorak Uniting Church. 8 pm.

16 **Librarianship, Archives and Records Seminar** *Determining the format of British books of the second half of the eighteenth century gathered in sixes*, by Pam Pryde and *Cartographic collections in public libraries of Melbourne*, by Colleen Downs. Room 403, Menzies Building. 2.15 pm.

18 **Environmental Science Forum** *The campaign to save Australia's native water birds*, by Mr Laurie Levy, Animal Liberation. R6. 5.15 pm.

General and Comparative Literature Seminar *Noise and poetics: Jakobson postmodernised*, by Associate Professor Marie Maclean. Room 809, Menzies Building. 3.15–5.15 pm.

Genetics and Developmental Biology Seminar *Cloning of the Duchenne muscular dystrophy gene by reverse genetics: An overview*, by Dr Sharon Bodrug, Walter and Eliza Hall Medical Research Institute. Room 662. Biology Building. 4.15 pm.

19 **Koorie Studies Lecture** *Koories and the Law*, by Ms Greta Bird. R6. 1–2 pm.

Accounting Seminar *Staff seminar research program*, by Dr David Tweedie, UK Accounting Standards Board. 4th level, C Block, Caulfield campus. 11 am.

Southeast Asian Studies Seminar *Working in marshy territory: Studying the intelligence state in Indonesia*, by Associate Professor Richard Tanter, Kyoto Seika University. Room 515, Menzies Building. 11.15 am.

Ecology and Evolutionary Biology Seminar *On the variance in avian abundance in some woodlands of central Victoria*, by Dr Ralph MacNally. S8. 1 pm.

Music Research & Work-in-Progress Seminar *Tuning and transcription style for the guitar passacalles of Santiago de Murcia (c. 1685–1740)*, by Nina Treadwell. S807, 9.30 am.

Religious Centre Lunchtime Concert *An all Mozart program of music*, by Jeremy Vinogradov, Lyn Alcantra, Zoe Black and Anthony Di Glantomasso. Religious Centre. 1.10 pm.

Moninfo **Seminar** *Reference advisory systems*, a seminar on developing reference advisory systems using hypertext, expert systems and authoring packages. Manton Rooms, Menzies Building. 8.45–5.15 am. $95/$75/$60. Inquiries: Mary Lou Maroney, extn 75 2959.

20 **Accounting Seminar** *Staff seminar research program*, by Professsor Joseph Orsini, California State University. 4th level, C Block, Caulfield campus. 11 am.

Accounting and Finance Seminar *Post-completion audits, managerial learning, environmental uncertainity and performance*, by Professor Robert Chenhall. Room 954, Menzies Building. 2.15 pm.

22 **Afternoon Concert** *Young Voices of Melbourne – International Concert*, directed by Mark O'Leary. Robert Blackwood Hall. 2 pm.

23 **Lunchtime Concert** *The Big Brass*, by the Royal Australian Army – the third military district band. Robert Blackwood Hall. 1 pm.

Genetics and Developmental Biology Seminar *Plant hormone mutants in tomato and Arabidopsis*, by Dr Maarten Koornneef, Agricultural University, The Netherlands. Room 662, Biology Building. 4.15 pm.

24 **Australian Studies Seminar** *Archaeology, heritage and the media*, by Hilary du Cros. NCAS Meeting Room. 10–11.30 am.

Business Seminar *Staff seminar research program*, by Dr Lokman Mia. La Trobe University. Clayfield Room, Caulfield campus. 11 am.

25 **Reproductive Biology Annual Lecture** *Sex, Science and Society*. Main speaker: Dr Harold Hawk. Alexander Theatre. 7.30 pm.

26 **Religious Centre Lunchtime Concert** *Conrad Nilsson – featuring the marimba in an exciting Brazilian program*. Religious Centre. 1.10 pm.

Accounting Seminar *Staff seminar research program*, by Professor Mike Scott, University of Stirling. 4th level, C Block, Caulfield. 11 am.

27 **Genetics and Developmental Biology Seminar** *Molecular and genetic analysis of flower development in Arabidopsis*, by Dr Elliot Meyerowitz, Caltech, USA. Room 662, Biology Building. 4.15 pm.

Southeast Asian Studies Seminar *Armijn Pane: On the construction of an Indonesian national identity in the 1930s*, by Professor Bill Frederick, Ohio University. Room 515, Menzies Building. 11.15 am.

28 **Evening Concert** *Il Trio Della Sila*, by Balli Taormina Organisation. Robert Blackwood Hall. 7 pm.

Notes

Reference systems seminar

The Graduate Department of Librarianship, Archives and Records and Moninfo will present a seminar on *Reference advisory systems* on Thursday 19 September. The seminar will cover the use of hypertext, expert systems and authoring packages. The seminar, to be held in the Manton Rooms, Menzies Building, from 8.45 am to 5.15 pm, will cost $95 ($75 for ALIA members and $60 for Monash staff and students). For further information, contact Mary Lou Maroney on extn 75 2959.

Holiday arts and crafts

The Arts, Crafts and Tuition Centre is offering a *Children's Holiday Program* during the September/October school holidays. The courses, from 23 September to 3 October, include pottery, electronics, guitar and photography. Enrolment will take place up to the start of the program. There is a 15 per cent discount for Monash students and staff. For further information, contact Teresa Mora on extn 75 3180.

1991 ANZAAS Congress

Eminent British film maker and natural historian, Sir David Attenborough, will present the 1991 ANZAAS Lecture at the Adelaide Festival Theatre at 8 pm on 30 September.

The theme of the illustrated presentation is the way natural history films are made and issues of veracity, distortion and morality. The 60th annual ANZAAS Congress, with the theme 'Reproduction and Renewal', will be held in Adelaide from 1 to 3 October.

Registration for the full three-day program costs $145 (members) and $220 (non-members). Day registration costs $95 and $115, respectively. Tickets to the public lecture are on sale now and cost $20 (adults) and $10 (children). To register or reserve tickets, phone Ms Jackie Thompson on (08) 228 4777 or fax (08) 232 4590.

English production

Students of the new first year English course, *The language of performance* will present *The good person of Setzuan*, by Bertolt Brecht this month. The production, in the Guy Manton Rooms, ground floor, Menzies Building, is on 5, 9, 10, 12 and 13 September at 7.30 pm, and 6 September at 1.30 pm, Tickets – $8 and $5 concession – are available from the Student Theatre Office (extn 75 5164), the English Department or in front of the Union between 1 and 2 pm daily.

Postgraduate budget lunch

The Monash Postgraduate Association will again cater lunch for postgraduate students on Friday 13 September from 1 to 2 pm in Studios 1 and 2 in the Arts and Crafts Centre, Clayton Campus. Preference will be given to those who missed out last time. Those interested must book a free lunch voucher by 9 September. For further information, contact extn 75 3197.

Law and literature

The Faculty of Law, in conjunction with the Law and Literature Association of Australia and the University of Sydney, will present a three-day conference entitled *Law and literature* from 20 to 22 September.

The conference will provide an opportunity to seek literary insights into the law, and legal insights into literature. It will cover topics such as *Tales of gothic horror and the criminal court room – Queensland's vampire murder, The law in theatre, Dickens and the law*, and *Sex, lies and defamation: The bush lawyer of Wessex.* For information about services and registration, contact the Office for Continuing Education on extn 73 2804. For additional information contact the Faculty of Law on extns 75 3331, 75 5308 or 75 3353.

Lloyd Rees lecture

The Australian Academy of Science will present a memorial lecture to mark the second anniversary of the death of distinguished Australian chemist, Dr

Subversive stitches sewn

The subversive stitch, an exhibition of works which use craft-type materials, is showing at the University Gallery until 28 September.

The show has been put together by Ms Natalie King, a postgraduate student in the Department of Visual Arts. It concentrates on 10 young artists whose work reworks and subverts some modernist art practices.

The artists – working in Melbourne, Sydney and Paris – explore the decorative realm, generally within the abstract framework. They employ different textures and materials such as felt, hessian, denim and acrylic fur.

The group employs these materials, as well as replication, parody and repetition to undermine the authority of the singular art work. The exhibition shows irreverence towards traditional techniques and the tradition of the well-crafted painting.

Most of the artists have received little commercial exposure; the Melbourne artists mainly exhibit in a small, independent space in Prahran, Store 5.

The exhibition was opened on 29 August by the associate director of Tolarno Galleries, Ms Jan Minchin, a previous curator of 20th century Australian art at the National Gallery of Victoria.

The Monash Gallery is open from 10 am to 5 pm, Tuesday to Friday; and from 1 to 5 pm Saturday. Phone extn 75 4217 for more information.

The Monash University Orchestra at a recent performance.

University orchestra plays in church

The Monash University Orchestra (est. 1982) is to hold its first full-length concert this month.

The concert will be held at the Toorak Uniting Church on 14 September at 8 pm. The program comprises Mussorgsky's *Pictures at an exhibition*, Barber's *Adagio for strings* and *Overture to the barber of Seville* by Rossini.

Beginning as a string ensemble, the student orchestra has grown into a full-sized symphony orchestra. Its repertoire includes works from Bach to Debussy, with emphasis on the Romantic period.

The orchestra's conductors have included composer David Adams and current New Monash Orchestra leader Warwick Stengards. At present, it is conducted by Richard Green.

Tickets cost $10 and $7 (concession) and are available at the door.

Notes

Lloyd Rees. The lecture will be delivered by Professor John Cowley, Professor of Physics at the University of Arizona. The lecture will be held at the Alexander Theatre on Thursday 19 September at 3 pm.

Librarianship now open

The Graduate Department of Librarianship, Archives and Records will hold an open day at its headquarters in the Menzies Building on Tuesday 10 September from 9.30 am to 5 pm. Courses leading to a professional qualification in librarianship, or archives and records management are available to graduates with a good pass degree. For further information, contact the department on extn 75 2959.

Booking a theatre

The Alexander Theatre Bookings Committee is now compiling a schedule of bookings for 1992. In accordance with established policy, it is calling first on university groups to lodge bookings for 1992. To assist with the preparation of a program, applicants are asked to supply a number of alternatives for each booking. Requests in writing should be sent to the Director, University Theatres, Alexander Theatre, Clayton campus, by Friday 13 September.

Engineering continued

The Department of Civil Engineering will run a three-day workshop for professional staff entitled *Traffic engineering practice* from 23 to 25 September. The workshop aims to provide the practising traffic engineer with some of the skills necessary to tackle traffic problems. For additional information about the course itself, contact Associate Professor Ken Ogden, extn 75 4973, or Dr Robin Underwood, extn 73 2329.

The Department of Mechanical Engineering, in conjunction with the Department of Civil Engineering, will run a five-day intensive short course on *Finite element method* from 30 September to 4 October. For further information about the course, contact Dr Y. Lam, extn 75 3521.

The Monash Offshore Engineering Program will run two intensive short courses in coming weeks. A five-day course entitled *Steel jacket structures* will be held from 23 to 27 September and a two-day course on *Offshore foundations* will be held from 30 September to 1 October.

Both courses provide a comprehensive coverage of the significant aspects of design, fabrication and installation of steel jacket structures. For further information about the course, contact Associate Professor Paul Grundy on extn 75 4966.

For further information about services and registration, contact the Office of Continuing Education, extn 73 2804.

Study abroad

Staff and students are invited to join the ninth consecutive study abroad program organised by Monash in conjunction with the University of Auckland. *The Principe de Asturias study zbroad program Madrid (January–February 1992)*, will cost $3585 – $3950.

This price includes four weeks accommodation, a four-week intensive language course, excursions, a variety of cultural activities, and a special VOX student card allowing free entry to most museums and art galleries in Madrid.

The tour is open to anyone interested in visiting Spain.

For further information and brochures, contact Mr Alun Kenwood, Department of Romance Languages, extn 75 2265.

Department of English events

Ficton writing workshop

■ Noted author Murray Bail will conduct a fiction workshop at Monash on Wednesday 9 October between 2 and 5 pm. For further details, contact Ms Jennifer Strauss in the Department of English on extension 75 2144.

Women and words

■ The department, the Centre for Women's Studies, the Faculty of Arts through the Vera Moore Fund for the Performing Arts and the Feminist Book Fortnight have combined to sponsor a one day Wordfest at Monash titled *Women at Work with Words, 1991.*

Female novelists, poets and journalists will talk about their works and read excerpts at the seminar and workshop, at the Monash University Gallery from 10 am to 4 pm on Saturday 21 September. The cost is $20, including lunch. Concessions are available. For inquiries or preregistration, ring the Centre for Women's Studies on extension 75 2996.

Peter Porter reading

■ The department invites you to hear the distinguished Australian poet Peter Porter read from his own work in Rotunda Lecture Theatre 3 on Tuesday 10 September at 1.05 pm.

Howitt Hall anniversary

Howitt Hall will celebrate its 25th Anniversary *Jubilee Gaudy* Dinner on Saturday 7 September. All former and current residents are welcome.

For further information and tickets, contact Dr Aubrey Townsend on 544 8133 (extn 278) or extn 75 3930.

Death in a multicultural society

The Monash Medical Centre will present a conference entitled *Cultural and religious issues in healthcare* from 9 to 12 September.

The conference will examine issues relating to sickness, dying, death and birth in a multicultural society. It will be of specific interest to individuals or groups working in the healthcare industry. The registration fee is $300. Discounts are available to students. For further information, contact the Monash Medical Centre on 78 2338.

Egyptology seminar

The Egyptology Society of Victoria is holding a one-day seminar at Monash on *Kleopatra – Myth and Reality*. The seminar will be held on Saturday 21 September in Rotunda Lecture Theatre 1 between 9.30 am and 5 pm.

For further information, contact the Egyptology Society of Victoria through the Department of Classical Studies on extn 75 3264.

Notes & diary

Send contributions to the Editor, *Montage*, Public Affairs Office, Gallery Building, Clayton campus, by the last Friday of the month prior to publication. Extn 75 2067, fax 75 2097.

SAVANT

by Peter Marden

IT WAS NIETZSCHE who claimed: "Those who know that they are profound strive for clarity. Those who would like to seem profound to the crowd strive for obscurity".

This inclusion is a self-imposed dilemma for anyone attempting to come to grips with notions of postmodernity and deconstruction. Yet despite these rather abstruse intellectual concerns, they nevertheless raise some fundamental questions about the way we construct and interpret the world around us.

The project (not theory) of deconstruction emerged out of the theoretical debates which dominated French intellectual life in the late 1960s, and has since become the most controversial critical movement in contemporary academic discourse. The supporters of deconstruction often hail it as a bold, provocative, and innovative school of thought; while its detractors condemn it as impenetrable, nihilistic, self-indulgent, and pretentious.

To be sure, this is an age of rapid change. Indeed, none of us has to be reminded about how such change has affected our tertiary institutions. The response from the intellectual community has been fraught with uncertainty and anxiety, ranging from feelings of hostility and deference to that of heady enthusiasm.

Things are being deconstructed all around us. The social, economic and political changes taking place at the moment in this era of restructuring are reflected in the uncertainties of intellectual life. It would seem that the theoretical and philosophical contours of the modern (whoops ... sorry!) postmodern era are shaking the foundations of scholarly construction and making the realm of dialogue and debate a restless domain.

This is not surprising when one considers the influence of such thinkers as Foucault, Derrida, Lacan and Lyotard on a variety of disciplines, from sociology and politics to philosophy, aesthetics and literary theory. Scepticism has been replaced with radical doubt. The emphasis on radical is appropriate recognition of the enormous implications of deconstruction on campus life.

Already we are witnessing major transformations in the study of literature and culture in Australian universities. Even the less philosophical and textually aligned disciplines such as geography have not escaped from this powerful intellectual movement.

The project of deconstruction is subversive to the extent that traditional scholarship in the arts, humanities and sciences is being seriously questioned. The critical position of deconstruction is premised on the need to deconstruct the rational basis of scientific progress and renounce categories of perception that oblige us to study the world from the virtue of objectification.

The goal, therefore, is to move beyond scientism and recognise that there are other legitimate forms of experience and knowledge that cannot be reduced to the canonical forms of the formal and natural sciences. It is a recognition that there is no such thing as absolutes.

It appears there is no refuge from these esoteric concerns. The point is, no matter how questionable one may find some of the assertions of deconstructionists, they are nevertheless strangely compelling. To countenance the notion that all knowledge is contestable makes one yearn for the blissful peace of ignorance. Yet despite the discomfort arising from this realisation, there is a certain excitement about deconstruction.

Today, no intellectual community can afford complacency about its methods of investigation. Nor can they afford to guard zealously their individual domains against wandering graduates eager to venture beyond traditional pursuits. Hence, not only is the very basis of knowledge being contested by the interpretive project of deconstruction, but also the way in which knowledge has become compartmentalised.

So where does this leave disciplinary autonomy? Is it a matter of course that disciplines reaching out into other intellectual domains will lose their niche or identity? It is unbridled paranoia that sets rigid intellectual boundaries to the pursuit of knowledge. Allegiance to the idea of epistemological integrity is, of course, the aim of every intellectual discourse.

However, the notion that somehow this will be compromised by encroaching into other fields is utter nonsense. To be holistic is not an avowed claim for generalism over specialisation, but a recognition that such oppositional thinking is irreproachable in the face of today's complexities, nuances, and indeterminancy.

Radical doubt is unsettling. Perhaps Chew with his bootstrap theory is correct in suggesting that the greatest breakthrough in science in the next decade will not emerge from some grand unifying theory, but rather from the acceptance that all our concepts are approximations. In this respect, the science of the future may well consist of a mosaic of interlocking theories that go beyond conventional disciplinary distinctions.

In many respects, the current ecological crisis has forced us into new ways of thinking. What confronts us today is the painful discovery that, for too long, the systematic compartmentalisation of knowledge has culminated in the complete neglect of the interrelations between economics, ecology and politics.

Nevertheless, despite its charm, a deconstructed–postmodern or ecological world view may, indeed, lead us into blind alleys – particularly if such a position is viewed as being synonymous with simple solutions. However, I would argue that a holistic framework, on the contrary, focuses our attention on the dangers of reductionism, and the irresistible attraction of simplicity.

And if we are to become the clever country, then it would do us well to remember the comment of the American essayist H. L. Mencken: "To every human problem there is a solution that is simple, neat and wrong!"

Peter Marden is a sessional lecturer and postgraduate in the Department of Geography and Environmental Science, Monash University.

DIOGENES

SOME PEOPLE do it on a quiet beach, some do it in the privacy of their own homes, while others choose the seclusion of a remote forest. They are relaxing, taking it easy, slacking off, unwinding, resting the oars, coasting. Or at least trying to.

Whatever the terminology, at hand is the task of regaining a foothold on life's steadily shifting ground. It is a process that entails a reduction of distractions and a return to basics.

This is *serious* deconstruction, an act miles and meaning away from the rarefied affair performed only between consenting academics (see above).

The case studies below indicate just how serious.

Deconstruction 1: For seven months, Marcie and Kevin have attended classes in Advanced Navel Gazing. One day they decide to go solo. On their first attempt, they stand for 20 minutes on their heads amidst the seagrass on Port Melbourne beach. Each week they extend the inversion period.

Within a month they are spending almost half a Sunday with the wind whistling around their Reeboks and their faces nostril deep in dirty sand.

But no one warns them about spring tides, and one day they are caught totally unawares. As the water begins to lap against his neck Kevin confuses drowning with a new state of consciousness. Marcie, who has always been able to pick the difference between a good thing and a bad thing, is quick to respond and pulls him feet first from the beach with a beatific smile on his face and applies mouth-to-mouth.

After a week in intensive care, Kevin comes home fit and relaxed. Meanwhile, his wife, almost sick with worry, has invested in a time share resort in Lorne to aid his recovery. Last seen, they were standing headfirst on a rooftop tennis court overlooking the Great Ocean Road.

Deconstruction 2: After having tied up five deals, laid off 10 staff, and endured three unsuccessful affairs, Barry, in an attempt to get away from it all, books a walking tour through the Victorian Alps.

This is despite the fact that the last time he placed one foot before the other in anger was as a boy scout. However, with the benefit of a full gloss of hindsight, he recalls the experience as the only time in his life when he was in complete control of his destiny.

He duly purchases a hiking kit for the journey. But on the party's first night out, overcome either by the vista or the contents of his hip flask, he confuses firelighter for water and sets the camp ablaze.

In the ensuing confusion, Barry discovers that a fellow firefighter is head of a firm who has been trying to buy out his company for some time. He meets three similarly like-minded people during the clean-up and another five while making a statement at the local police station. All wish to do business.

By trying to get away from everything, he has wound up back in the thick of it. He plans his next holidays, but never takes them. Just to confuse everyone.

Deconstruction 3: Jennifer is a teacher. Teaching is a stressful position. On the last day of term the realisation hits her with the force of a sudden memory of compulsory corporal punishment.

She does not know where to hide. Then she has an idea. Gathering books from the library, stationery from the newsagent, and wine from the bottle shop, she decides to skedaddle to the privacy of her parents' beachside home and begin writing the novel whose seed has been germinating in her mind since she once saw her principal carefully cutting the new spring flowers from every schoolyard plant. "Too much colour stifles a child's creativity," he had told her.

But in time the view through the picture window becomes more attractive than the words being delivered of a painful birth on the page.

She joins the scenery after the third full day of trying to ignore it. She feels free and uninhibited. On the way home she buys a boot-full of daffodil bulbs. That night she plants them around the schoolyard.