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Science student slump causing concern

BY DAVID BRUCE

As Year 12 students across Australia spend their pre-Christmas days scanning university course guides, chances are their fingers will stop at psychology rather than physics, environmental science rather than geology, or computer science rather than chemistry. A dramatic decline in enrolments in the basic sciences in Australian universities, coupled with strong growth in new science disciplines, has been identified in a national report by Monash University researchers.

In the broadest analysis to date on science enrolment trends from Year 12 to undergraduate and postgraduate study at university, through to participation in the workplace, the report

commissioned by the Australian Council of Deans of Science challenges official government assertions that science enrolments are rising.

It suggests that the foundations for future national growth in innovative industries such as biotechnology have been seriously eroded.

The report by Mr Ian Dobson, associate to the deputy vice-chancellor (Research and Development), and

Mr Angel Calderon, manager of Statistical Services, argues that the 58 per cent rise in enrolments (35,155 students) to university science courses over the decade 1989 to 1997 was in one sense illusory.

"The teaching provided to many of these new 'science' students is now provided by departments outside some of the traditional science areas of physics, mathematics, geology and chemistry," Mr Dobson said.

According to the report, the growth in science enrolments has led to increased teaching by non-science faculty departments, and those which teach psychology (often located in arts faculties) and biological science (often shared with medical schools). Computer science has also been a strong growth area, but at many universities, much of the teaching in this discipline is provided either by separate faculties of computing or business.

The emphasis has changed radically, from mathematics, chemistry, physics and biology, to computer science, biology and psychology, with chemistry barely holding its own, and physics going backwards.

"This situation has led to declining student numbers in some departments, leading to severe financial constraints within faculties of science, which has prompted cutbacks in academic staffing in those departments," Mr Dobson said.

"It has been said that this situation has badly compromised the support base for future innovation to assist society and the economy in the development of growth areas of research, such as biotechnology."

After university, the job prospects for science graduates are far from bleak, but they may not be directly related to their studies or at an appropriate level.

As Mr Dobson explains: "Most science graduates are able to find professional or managerial employment, using the generic skills they have acquired from their science teachers at university. Some of the trends we have seen suggest that science graduates are less likely than in the past to get into a 'science' job, but they are nonetheless highly employable."

The report, Trends in science education: Learning, teaching and outcomes 1989–1997', can be accessed through the Australian Council of Deans of Science web site at www.acds.edu.au/issues.htm

Athletes urged to review training to avoid injuries

BY JOSIE GIBSON

Olympic hopefuls should take a good look at their training programs and alter routines which could cause serious muscle damage and even cost them a medal, two Monash researchers have warned.

Dr David Morgan and Professor Uwe Proske, who recently addressed an International Olympic Committee sports medicine congress on the subject, say inappropriate training could mean the difference between winning and losing.

They cite the case of Australian runner Lisa Ondieki, who collapsed and withdrew during the 1992 Olympic marathon despite being the race favourite.

The Monash academics believe Ondieki may have done the wrong sort of training for the Barcelona course, focusing mainly on the final uphill leg.

"She should have included some downhill running in her training as well," says Dr Morgan, from Monash's Electrical and Computer Systems Engineering department.

It was believed that Ondieki's training could have been inappropriate and that that was what had caused her muscles to be damaged in the initial downhill section.

Downhill running - and walking - are forms of eccentric exercise, where

Continued on page 2



Introducing Australia's newest dinosaur

Qantassaurus, Australia's newest dinosaur, named after our national airline, was about the size of a small grey kangaroo, and roamed the southern supercontinent Gondwana about 115 million years ago. This life-like image of Qantassaurus was developed from a jawbone discovered by a palaeontological team led by Monash academic Professor Pat Vickers-Rich and husband Dr Tom Rich. See the story on page 2.

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The dinosaur hunters

BY COREY NASSAU

Australia has a new polar dinosaur – Qantassaurus intrepidus – named in recognition of the airline widely known for its flying kangaroo logo.

Professor Pat Vickers-Rich from Monash University and husband Dr Tom Rich from Museum Victoria led the world-renowned team of palaeontologists that discovered the jawbone of the new dinosaur in rocks on a sandy beach in south-east Victoria.

Unearthed in 1996 at a site known as Flat Rocks near Inverloch on the Victorian coast, the new dinosaur has been officially documented with the release of a paper published by the

National Science Museum in Tokyo, 'Proceedings of the Second Gondwana Dinosaur Symposium'.

Qantassaurus roamed the earth 115 million years ago on its hind legs, using its hands to grab ferns and pine leaves for food. About the size of a small grey kangaroo, Qantassaurus lived on part of the supercontinent Gondwana that was situated close to present-day Antarctica, and the structure of its bones suggests it was probably warmblooded, which helped it survive in freezing conditions.

"Qantassaurus would have been a very agile, well filled-out lizard-type animal with scales and probably some pattern of spots to blend in with its habitat," Professor Vickers-Rich said. In order to reconstruct the Qantassaurus, the team had to estimate where the muscles would have attached to the jawbone and then place the skin over the top of those muscles.

"The jaw is unique because it is short and stocky, whereas other jaws in that dinosaur genus are long and slender," Professor Vickers-Rich said.

Qantassaurus had enormous eyes and a brain with large optic lobes – the part of the brain that processes sight signals – which probably allowed the resolute little creature to see in the dark of the polar winter.

For many years, Qantas has supported the work of Professor Vickers-Rich and Dr Rich by transporting tonnes of dinosaur bones around the world, including those for The Great Russian Dinosaur Exhibition, and has supported expeditions to South America and several Eastern European locations.

"Naming the intrepid little polar dinosaur after Qantas is our scientific way of saying thank you to the airline," Professor Vickers-Rich said.

Flat Rocks, where Qantassaurus was discovered, has been the site of many other discoveries by Professor Vickers-Rich and her team, including last year's announcement of Ausktribosphenos nyktos – thought to be the oldest placental mammal ever found.

"Flat Rocks is an exciting site. It's given us Qantassaurus and a set of several other little mammals. We will continue to go back there to work and discover more," Professor Vickers-Pick said



Professor Pat Vickers-Rich holds the jawbone of the recently named Qantassaurus intrepidus. Photo by Craig Wetien.

Athletes urged to review training to avoid injuries



Professor Uwe Proske (left) and Dr David Morgan. Photo by Richard Crompton.

Continued from page 1

muscles which normally contract are forced to stretch to act as brakes. Other forms of eccentric exercise include skiing, horseriding and several stretching activities.

In concentric exercise like swimming and bike-riding, contracting muscles shorten rather than stretch during each movement.

The Monash project dates back to initial research by Dr Morgan while on sabbatical at Harvard Medical School in 1990. He later teamed up with Professor Proske from the Physiology department.

Their theory explains why fit people often feel sore after non-routine exercise. Cyclists who go snow-skiing, for example, might end up sore because their muscles are not accustomed to being foreible stretched.

being forcibly stretched.

It follows that footballers prone to hamstring injuries might benefit from more eccentric exercise – stretching that mimics kicking the ball – in their training. A regular program of stretching exercises will lead the hamstrings to adapt and provide protection for extreme demands on the football field. The researchers have approached the Australian Football League for support for this work.

"If you include eccentric exercise in your sport, you must include it in your training," Dr Morgan says.

While the researchers' work has slowly been gaining acceptance in elite sporting circles, they say some quarters are still reluctant to embrace it.

"There is a natural conservatism among sports medicine people," Professor Proske says. "They have standard training programs and this idea – relating eccentric exercise to muscle damage – is relatively new."

Dr Morgan has done extensive research into the molecular processes which occur during eccentric exercise and consequent muscle damage. His insight has not only helped exercise physiologists and sports doctors but also explained many previously puzzling properties of muscle.

Professor Proske is just beginning to examine the pain itself.

With invitations to address European and English research audiences on their theory, the pair appear to be finally making their mark.

"We're providing hard scientific evidence in support of our idea," they say. "One of our goals is to popularise it – to make people who are not scientists aware that this relates to them too."

Japan's foreign aid program under scrutiny

BY SUE MCALISTER

Japan's foreign aid program – the biggest in the world – works more to the benefit of Japan than its recipients, a Monash University researcher claims.

For his PhD thesis, Mr Henry Scheyvens is researching Japanese overseas development assistance (ODA) from an unusual perspective, by focusing on the developmental impact of Japan's ODA program, an issue which has been largely overlooked by a literature primarily concerned with motives, according to Mr Scheyvens.

Mr Scheyvens says that while Japanese aid officials explain the program in terms of humanitarian concerns, it has also been called upon "to foster convivial diplomatic ties and to facilitate the penetration of Japanese investment and exports into developing countries", which Japan needs to maintain economic growth.

The Japanese Government, Mr Scheyvens says, openly acknowledges this, arguing that it is a win-win situation in which both Japan and recipient countries benefit. However, he claims that this win-win balance, where it does exist, is weighted heavily in favour of Japan.

Mr Scheyvens' research is unusual in that he chose to gain first-hand knowledge of Japan's ODA from the perspective of both donor and recipient. He spent three months in Japan, having gained permission to work through its aid agencies. This in itself was unusual,

he says, given that many bilateral aid organisations are wary of criticism.

Then, to ascertain the impact of the ODA, Mr Scheyvens undertook four case studies of projects in Bangladesh, all fully or partially funded by Japan, but which differed in type of approach and implementing institution.

"Here, as elsewhere, Japan has preferred to fund large-scale public works development, much of it constructed by Japanese contractors," he says. "Yet, Bangladesh's development history shows that such an approach will not create opportunities for the poor to improve their lot."

Later this year Mr Scheyvens will undertake a final case study in the Philippines, chosen, he says, as it claims a more "progressive, participatory approach to development".

BRIEFS

Monash graduates in new Vic cabinet

Three Monash University graduates were sworn in recently as members of Victoria's new Labor government.

Supporting Premier Mr Steve Bracks is deputy leader Mr John Thwaites (BSc 1978, LLB (Hons) 1981), who holds the health and planning portfolios.

Cabinet secretary is Mr Gavin Jennings (BA 1979) while Mr John Pandazopoulos (BA 1988) holds a number of portfolios including gaming, major projects and tourism.

Postgraduate evening an outstanding success

More than 550 people attended Monash University's Postgraduate and

Professional Information Evening, held recently by the University Marketing Office at the Hotel Sofitel.

Representatives from six of Monash's 10 faculties, including Business and Economics, Information Technology, Science, Law, Engineering and Education, were on hand to provide attendees with information and advice on postgraduate courses through oncampus study, flexible learning and distance education.

University Marketing Office manager Ms Cathy Kirkham said she was delighted with the success of the evening, with attendance numbers exceeding all expectations.

The event will be run annually. For more information, contact Ms Duyen Vo at the University Marketing Office on (03) 9905 3087.

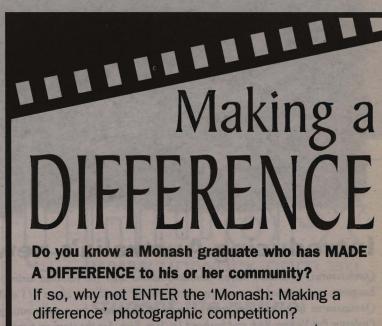
Clinical students a first for rural hospitals

Three Monash medicine students are undertaking clinical training in obstetrics and gynaecology in what is a first for rural hospitals.

The students are involved in an eight-week hospital-based training program at the Latrobe Regional Hospital in Traralgon, the Gippsland Base Hospital in Sale, and the West Gippsland Hospital in Warragul.

All three are currently completing the penultimate year of their medical degrees

Professor Roger Strasser, of Monash's Centre for Rural Health, said he hoped the program would help attract doctors to rural communities.



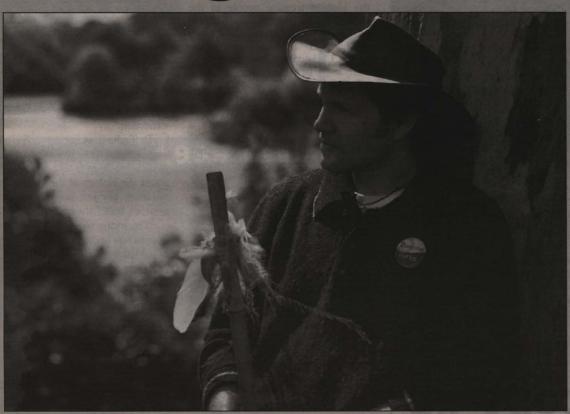
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Entries close on 4 February 2000.

Indigenous tourism a new growth area



Aboriginal tour guide Mr Dean Stewart. Photo by Christopher Alexander.

BY VICKI PEEL

With more than half a million visitors international Australia each year expecting to experience Aboriginal and Torres Strait Islander culture during their visit, indigenous tourism is a growing and lucrative market.

The Office of National Tourism says most of this expanding market comes from Europe, with Germans the dominant group at 16 per cent.

Films, documentaries and books, rather than glossy advertising, have nurtured their enthusiasm.

These international visitors aim for an authentic encounter that involves learning about a way of life different to their own.

In economic terms, the value of indigenous tourism to Australia has risen with its popularity. Tourism operations owned by indigenous Australians are estimated to be worth \$20 to \$30 million a year. Art sales are valued at some \$200 million a year and as part of this growth, the range of indigenous tourism activities has

These include visiting rock art sites, taking part in bush medicine workshops, listening to Aboriginal lore and attending performances of traditional or contemporary dance.

Federal government interest in indigenous tourism is high. In the

lead-up to the 2000 Olympic Games, the Australian Tourism Commission is keen to see indigenous culture portrayed internationally as a feature of contemporary Australia.

The launch of the national Aboriginal and Torres Strait Islander tourism industry strategy developed last year showed the government's commitment to indigenous tourism.

The strategy emphasises the provision of funding, marketing assistance and the establishment of training and support networks as vital to overcoming the hurdles faced by those new to the tourism industry.

The states are also keenly involved in promoting Aboriginal tourism and their efforts have expanded the market beyond the traditional focus of outback Australia.

But there are several difficulties to be overcome. Assuming a successful role in tourism, particularly in investment and business-related operations, demands a high level of skills as well as familiarity with the

One issue to receive attention is that of ownership of the culture being portrayed. Even when not actively engaged in tourism, individual communities have a right to be consulted over the use of their culture for tourism purposes.

This applies not just to nonindigenous Australians wishing to use that culture for their own ends. Responsibility also lies with members of Aboriginal communities involved in interpretation of traditions other than their own.

The problem is one that affects Mr Dean Stewart, who conducts the highly successful Aboriginal Heritage Walks at Melbourne's Royal Botanic

As a cultural interpreter of the natural world in the gardens, Mr Stewart sees his role in presenting and interpreting the meaning of a place that is not his traditional land as a trust.

He also believes the huge increase in Aboriginal tourism activity in areas other than central Australia is necessary to balance a one-dimensional image of indigenous

The mass-produced bark paintings and boomerang-throwing demonstrations that many international visitors as well as Australians believe is representative of a unified 'Aboriginal culture' is an unfortunate result of stereotyping.

Of his own work, Mr Stewart says: "There is a vast repertoire of meaning and symbolism that has been lost in Victoria. These walks are important for the awareness of Melburnians you don't have to go to Uluru."

Dr Vicki Peel is a lecturer in tourism at Monash University

Sex and the single wombat

BY PETER GOLDIE

Melbourne has been catastrophically transformed. Many suburbs no longer exist and those that do are completely isolated with little or no contact of any kind between them.

What effect would this have on social interaction within and between the suburbs?

Fast forward, say, five generations. Each of Melbourne's few remaining suburbs would have developed their own customs, organisations, structures, rites and ceremonies of courtship, even dress, music and language.

Each would be facing a diminished and diminishing gene pool as reduced resources force the populations down to a few larger tribal groups or families. Although the exact impact of this social dysfunction is not yet clear, extinction for these 'relic' populations could be on

What is science-fiction fantasy for the citizens of Melbourne, however, is hard reality for the remaining 70 or so northern hairy-nosed wombats, confined to a patch of land in Epping Forest, Queensland, as well as an increasing number of other Australian species under threat as our developed

ronments.

The effects of habitat fragmentation on the fate of the northern hairy-nosed wombat, its southern cousin, and other mammals, form the basis of research work by Logan Fellow Dr Andrea Taylor, of Monash University's Department of Biological Sciences.

Her team's work in tracking genetic structures through populations - molecular ecology - could lead to models capable of predicting biological consequences of habitat fragmentation.

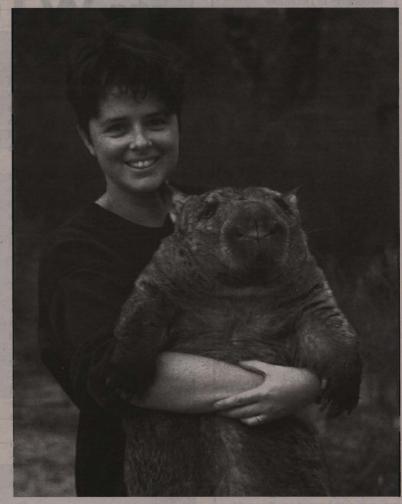
It could also provide evidence challenging the popular view that by preserving patches and colonies, we prevent the extinction of threatened species or even preserve their systems of social organisation.

"Issues such as mating systems, social organisation and gene flow are all accepted as essential factors in longterm survival of any group," Dr Taylor

The work involves getting DNA samples from the target group and over time tracking the dispersal or restriction of DNA characteristics, giving demographic and social data.

For instance, in her PhD work on northern hairy-nosed wombats,

Continued on page 4



Dr Andrea Taylor.

Monash heads inquiry into study of history in schools

BY DAVID BRUCE

In the lead-up to the republic referendum on the of Australia's centenary of Federation, the Federal Government has asked a team of Monash academics to determine a proper role for the study of history in schools.

A national inquiry into the teaching of history has been commissioned by the Education Minister, Dr David Kemp, to halt the steady decline in the number of students studying the subject over the past decade.

Associate Professor Tony Taylor. from Monash's Education faculty, is director of the project with six others from across the university.

"The study will look at what is actually going on in schools - as opposed to what people think is going on," said Dr Taylor. "There is a national and international debate, based on the twin assertions that both the teaching and learning of history are in decline, and indeed there is some evidence that this may be correct."

The project team intends to come up with some practical suggestions that governments and teachers can implement.

What is important is that the Australian debate remain firmly professional. Overseas experience tells us that different interest groups are keen to gain control of the study of history in schools and will often go to extraordinary lengths to gain this control," Dr Taylor said.

"This is because there is a clear link between historical literacy and political intelligence. To quote George Orwell from 1984: Who controls the past controls the future: who controls the present controls the past'."

The team intends to produce a report for Dr Kemp by April 2000 which will identify the current status and quality of school history, provide examples of good school history practice in Australia and overseas, and provide key recommendations for the improvement in the status and quality of school history in Australia.

Focus groups with history teachers, interviews with subject associations, and an online survey for teachers, students and parents are some of the ways the group will gather information. It will also seek submissions from state premiers, education ministers and professional associations.

Dr Kemp, who was a professor of politics at Monash throughout the 1980s but completed an honours year in history as a student, said history was undervalued, and government policy driven by an understanding of the democratic ideal - was poorer for it.

"A knowledge of a country's history is important, first of all to its national identity," he said. "It is important to Australians in the sense of who they are, where they have come from

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Schools



Transition video

The latest video on the school-touniversity transition, *Making* the Move, has been launched and sent to all Victorian secondary schools.

The video features interviews with a group of students conducted between 1996 and 1999. It explores their expectations, fears and attitudes about tertiary education during Year 12, compared to their actual experiences when they commenced university study. It is an entertaining and educational resource for Year 11 and 12 students, teachers and parents.

VCE - change of preference

Monash will be conducting information sessions during the VTAC Change of Preference period. Students will be able to access information about all courses at all campuses at each session.

Metropolitan region Wednesday 15 December 10 am – 2 pm Robert Blackwood Hall Clayton campus

Peninsula region Thursday 16 December 10 am – 1 pm George Jenkins Theatre Lounge Peninsula campus (Frankston)

Gippsland region
Tuesday 14 December
4 pm - 7 pm
Crofton Hastell Room
Gippsland campus (Churchill)

Also

Monday 13 December Bairnsdale: 12 noon – 2 pm Sale: 3.30 pm – 5 pm

Wednesday 15 December Leongatha: 4 pm – 6 pm

Students who are unable to attend a session can contact the Prospective Students Office for a copy of the *Change of Preference Guide* and advice on 03) 9905 1320 or email mci@adm.monash.edu.au

Opportunity to teach at tertiary level

Expressions of interest are sought from VCE teachers who may wish to become involved in the Enhancement Studies Program. The program allows high-achieving secondary students the opportunity to study a Monash subject as part of their Year 12 program.

Teachers involved in the program are fully briefed and supported by Monash academic staff and are paid at the prevailing university tutoring award rate.

The following subjects need teachers:

Australian History/Politics –
Peninsula campus

• Communications/Media Studies – Berwick campus

 Information Technology – Caulfield campus

Interested teachers should contact Ms Ngan Booth, Monash's Enhancement Studies Coordinator, on (03) 9905 3836, as soon as possible.

Study a lifelong quest

BY COREY NASSAU

When 82-year-old Marjorie Christophers graduated with a Master of Arts from Monash University last month, she could not help but stand out from the rest of the crowd at her graduation ceremony.

While most people her age were there to watch a grandchild collect their testamur, on this occasion it was Ms Christophers who was on stage with a grandson in the audience proudly witnessing her graduation.

Ms Christophers, who completed her Master of Arts in anthropology and sociology, admits that without her study she would not be the same person today. After losing both a son and a daughter, she felt she needed to refocus her life.

When her other son, David, was diagnosed with schizophrenia at 24, Ms Christophers became interested in studying mental illness.

Her thesis, entitled 'A qualitative study of people with mental illness in supported residential services', examines the effects of de-institutionalisation on the lives of people living with mental illness in the community. It also



De-institutionalisation has failed the mentally ill, according to Monash masters graduate Ms Marjorie Christophers. Photo by Craig Wetien.

focuses on the 'quality of life' issues affecting these people.

"I started off doing my MA in coursework, but I really wanted the challenge of writing a thesis, because I felt that I had something to contribute on this issue," Ms Christophers explained.

She said she wanted to assess whether de-institutionalisation had

benefited people who had spent part of their lives living in asylums. Her conclusion was that those people weren't much better off under the current system.

"I have nothing but praise for the idea of treating people in the community. However, there is a lack of funds and proper support to back it up," she said.

Ms Christophers said there were many important issues facing the mentally ill living in the community.

"A lack of access to transport and money is very limiting and makes integration into the community a difficult task.

"Those living under a community treatment order are told where to live, have limited pensions and really only have a perceived freedom."

Ms Christophers said she found the discipline of study to be highly therapeutic and has found herself at somewhat of a loose end following the completion of her thesis.

"I think some people thought I was silly to be studying at my age, but I felt that with all the unresolved issues that exist in the community, this was one on which I wanted to stand firm and be counted for my views." Sex and the single wombat

Continued from page 3

Dr Taylor found a higher incidence of both sexes living with close relatives of the same sex. This is unusual as, under normal circumstances, one sex – in mammals usually the males – tend to disperse.

"Our work involves observing how the selected groups respond to being isolated, whether they avoid mating with close relatives, or whether they inbreed," she said. "Unfortunately, in both cases the result may be extinction."

Dr Taylor does not get carried away with genetic detective work. "I use genetic markers to answer questions about the biology of the groups I am studying, not just out of interest in genetics itself," she explained.

"I'm trying to shed light on why populations become extinct as a result of habitat fragmentation and it may be that there are some general principles. However, we may find that species respond in very different ways to fragmentation. It may come down to having to make choices about which species we actively conserve."

China steps up its WTO push

BY SANDRA BUCOVAZ

The countdown is on to see if China can end a 13-year struggle and gain entry to the World Trade Organisation (WTO) before the start of crucial new global trade talks later this month.

Ms Alice de Jonge, a lecturer in Asian business law at Monash University, and Dr Shi He-Ling, a senior lecturer in Monash's Economics department, believe the third WTO ministerial conference in Seattle from 30 November could provide China with an excellent opportunity to finalise key outstanding issues.

If the accession remains unresolved, Ms de Jonge said, the next chance would be when China hosted the Asia Pacific Economic Cooperation summit in 2001. As chair, China will have a major influence in drafting the agenda, and WTO membership at that time would be a great publicity exercise for Beijing.

China has been haggling to join the WTO, initially through its predecessor, the General Agreement on Tariffs and Trade (GATT), since 1986.

The main stumbling block continues to be bilateral trade negotiations with the US, the dominant force in the influential WTO, whose 134 members account for 90 per cent of world trade.

Both trading giants and the rest of the trading world want China on board because of the mutual benefits to be reaped.

Ms de Jonge and Dr Shi said the key obstacle was that China wanted to join as a developing country while the US insisted that such a large trading economy should join as a developed member. Membership status is extremely important because it has a direct impact on all aspects of trade – a developing nation enjoys certain concessions and exemptions.

A recent study by the US International Trade Commission found that, if implemented, the concessions in China's current offer would see growth of 14 per cent in China's imports and 12 per cent growth in exports and would provide a 4 per cent boost to China's gross domestic product.

WTO membership for China would give the US greater access to the world's largest market place of 1.2 billion people. To sustain economic growth, the US must find new customers and new markets for its goods and services.

There is debate as to whether or not the US demands are reasonable and to what degree its domestic politics are stonewalling the accession.

Ms de Jonge and Dr Shi noted China had made genuine changes in key industries such as insurance, banking and communications, tariff reductions, and market reforms.

China is also trying to finalise negotiations with the European Union and is reportedly keen to resume talks before the WTO conference. Key outstanding issues with the EU include telecommunications, banking, insurance, securities and tariffs

Dr Shi said he did not believe the issue of human rights impacted on the bilateral trade negotiations with the EU and noted there had been significant improvements in their trade relationship.

"The only way to improve China's human rights record is to force open the doors (through open trade) so people can see what is happening," Dr Shi added.

The WTO was established on 1 January 1995 to succeed GATT. The WTO is much more comprehensive than GATT and covers trade in goods, services and intellectual property, whereas GATT only covered trade in merchandise goods. There are at least 30 countries and regions seeking WTO membership.

Monash heads inquiry into study of history in schools

Continued from page 3

and why the society does what it does. Unless you understand that, it is very hard to successfully mark out where we should be going in the future."

Other members of the inquiry team are Mr Michael Kupsch of the Education faculty's Professional Development Institute, and three lecturers from Education – Ms Libby Tudball, Ms Rosalie Triolo and Dr Julie Edwards. The Faculty of Arts will be represented on the team by Dr Mark Peel, a senior lecturer in history, and by Mr John Arnold, deputy director of the National Key Centre for Australian Studies.

MONASH CHANGE OF PREFERENCE DAYS



There's still time to change!

Now that you have your VCE results, you may want to rethink your course preferences. Our Monash Change of Preference Days will give you everything you need to know about all courses at all Monash campuses. So come along and discover how at Monash, the world is your campus.

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Wednesday 15 December 10 am – 2 pm Robert Blackwood Concert Hall

Gippsland campus:

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Thursday 16 December 10 am – 1 pm George Jenkins Theatre

For more information or for a copy of our free Change of Preference Guide, phone (03) 9905 1320, fax (03) 9905 3168 or email mci@adm.monash.edu.au



Pakistan: the question of the righteous military?

Pakistan remains possibly the least understood Asian country in the West. This is especially true in Australia, whose government condemned last month's military takeover led by General Pervaiz Mucharraf. The fact that it was a relatively popular event and came after years of deep disillusionment with Pakistan's democratic experiment has largely been ignored. Dr Marika Vicziany looks at what caused the coup as well as its implications.

OPINION

Nawaz Sharif had been in power for almost three years. On becoming prime minister, he was hailed as a symbol of three things held dear by

- a non-corrupt regime to replace the corruption of Benazir Bhutto and her husband, known as Mr Thirty Percent for the high kickbacks he was known to demand for expediting con-
- a renewed commitment to economic liberalisation, with Mr Sharif's entrepreneurial background serving as a strong reminder of the growing importance of the private sector in Pakistan; and
- a continuation of Pakistan's democratic experiment in the hope that civilian rule would devote more resources to domestic economic development rather than to military expenditure and military adventurism.

At the end of three years, only his record on the second point appears credible, and even then serious reservations have been expressed about the pace and depth of reforms. So what went wrong?

It has been argued that the Sharif government was inherently corrupt and inefficient and was incapable of delegating power to the appropriate civilian authorities.

This is very much the view of the Pakistani opposition parties. But complaints about the growing centralisation of power were widespread.

Another hypothesis is that the weaknesses of Nawaz Sharif's government reflect a much deeper problem in Pakistani society and politics - the weakness of civil institutions and the usual forces of countervailing power one identifies with healthy democracies.

According to this view, despite the growth of a significant Pakistani middle class, including entrepreneurs like Nawaz Sharif himself, the remnants of the feudal society which have characterised Pakistan's existence since independence in 1947 remain entrenched and opposed to sharing power with the emerging forces of democracy. The feudal tendencies of Pakistan are so great that even newly emerging middle-class families such as Sharif's become 'feudalised'.



Artwork by Elizabeth Dias.

A third hypothesis stresses the military's unwillingness to allow civilian regimes a fair go. Hence it has been suggested by some that it was military adventurism that led to Pakistan's disastrous involvement in Kargil in disputed Jammu and Kashmir.

One persistent strain of this argument has been that the military acted independently in getting Pakistan involved in a border war with India over Kashmir, and that Nawaz Sharif's withdrawal from that conflict was negotiated without the consent of the

Weaving between these three hypotheses have been certain common themes, in particular the national humiliation felt most acutely when Pakistan, in response to extreme pressure from China, America and the international community, was persuaded to withdraw from Kargil.

It is difficult for outsiders to appreciate the intensity of this humiliation. For a very short time it seemed as if Pakistan had succeeded in its objective of 'internationalising' the Kashmir question.

The issue of Kashmir goes to the very heart of Pakistan's creation in

1947. It is an open wound which has been inflamed by every government in Pakistan since partition - civilian and military alike - and by Benazir Bhutto,

Then suddenly, almost at the height of Pakistan's military successes in Kargil, Nawaz Sharif is compelled largely by external pressures to pull

I admired his willingness to do this in the face of widespread and very deep hostility from within Pakistan. It seemed as if the Pakistani Prime Minister had pulled back from the brink of disaster - a disastrous and more extensive war with India, although the use of nuclear weapons was never seriously contemplated.

But then, I am not a Pakistani citizen. Ordinary Pakistanis have been confronted with a host of deeper concerns. To them, all aspects of Kargil capture the weakness and incompetence of the Sharif government.

So which of these hypotheses provides the most useful explanation for the failures of Nawaz Sharif's third attempt to lead a civilian government in

Only the second hypothesis makes much sense. It also accommodates the first and third explanations.

The sorry fact remains that 50 years after partition, Pakistan's civilian institutions remain chronically weak and incapable of any sustained independence. This, in turn, reflects the still narrow and also weak foundations of the Pakistani middle class

One of the most perceptive commentators on Pakistan, Peervez Hoodbhoy, has gone so far as to suggest that the feebleness of civilian structures is so great that it would be futile and dangerous for the new military regime to pander to national and international sentiment by ruling through some kind of civilian, caretaker cabinet or committee.

According to Hoodbhoy, it would be better for the military to seize the initiative and rule openly and transparently in its own right.

Hoodbhoy's views on the military that it is the only clean, uncorrupted and efficient institution left in the country - are widely shared by others

According to this view, only the military has the willingness and capacity to act in the 'national' interest, beyond the interests of self-serving families, factions and thugs.

To those of us living in healthy democracies such as Australia, arguments for a 'righteous military' are disturbing and unsettling, but in Pakistan at the end of the 20th century there really does not seem to be any viable alternative.

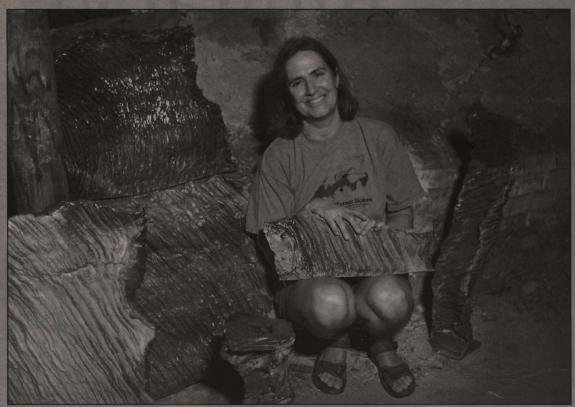
Given this, to further weaken the Pakistan state by denying it non-military aid unless it immediately restores 'democracy' is foolish and extremely shortsighted.

Hoodbhoy has sounded an important warning. If General Musharraf now panders to global clamourings for democracy in Pakistan by appointing some kind of civilian intermediary, "by giving the rest of the world what it wants, it actually amounts to a recipe for continued instability that shall further deepen the crisis of state and society in Pakistan".

Associate Professor Marika Vicziany is director of the National Centre for South Asian Studies at Monash University.

6

Artist revels in the spark of creation



On fire: Gippsland-based artist Ms Susan Scott. Photo by The Visual Resource.

By Josie Gibson

Gippsland-based American artist Susan Scott would never dream of getting out of the kitchen because of the heat.

A self-described pyromaniac, Scott is fascinated by fire and heat and its often-unpredictable effects on clay.

Work by the Monash masters student is on show this month at the Gippsland Centre for Art and Design in an exhibition called *Post-firing Blues*.

The show includes wood-fired sculpture and functional ceramics created by Scott since her arrival in February.

"I started out making functional things for the house, then moved into sculpture," she said, "but I think it's good to keep a hand in with the functional aspects of ceramics."

The work in *Post-firing Blues* was fired in a communal effort by students in the Ceramics department, she recalled. Three separate five-day firings, each with three eight-hour stoking shifts, took place in the centre's famous anagama wood-fired kiln.

Developed in China 5000 years ago and adapted by the Japanese, the anagama technique produces different glazing effects depending on temperature and the type of wood used in the firing process.

Operating a wood-fired kiln might sound the ultimate artistic approach but it can also be hard physical work. Yet Scott loves the whole process.

"It's one thing to put your pieces in an electric or gas-fired kiln and turn the valve or press the button, but to cut, split and stack the wood and feed the kiln for five days and nights is something else," she laughed. "I love a fire – I'm a real pyromaniac."

What: Post-firing Blues Where: Switchback Gallery, Monash University Gippsland campus When: Until 18 November

Who: For more details, contact the Gippsland Centre for Art and Design on (03) 5122 6261.

Space and Time: Monash Alumni

A unique exhibition bringing together works by Monash alumni has opened at Monash University's Caulfield campus.

Space and Time: Monash Alumni, at the Faculty Gallery until December, exhibits the creativity of 15 artists and designers who have contributed significantly to the development of visual culture.

All spent a portion of their early years at Monash's Faculty of Art and Design before going on to forge national and international reputations.

A notable contributor to *Space* and *Time* is performance artist Stelarc. The performances represented by 'Exoskeleton for extended body and walking machine' demonstrate the heroic innovation which has won him audiences in several continents.

Printmaker Judy Watson is represented in the exhibition by two works. Watson was awarded the prestigious Moet and Chandon Prize in 1995, and in 1997 represented Australia at the Venice Biennial.

Sculptor Les Kossatz, head of the sculpture studio in the Fine Arts department, was recently commissioned to create the Australian Korean War Memorial. *Space and Time* sees Kossatz displaying three of his most recent sculptures, confronting the Australian landscape with a mixed-media combination of filing cabinets and rocks strewn with paperwork.

Installation artist Louiseann Zahra returned to teach at Monash after graduation and is currently in Paris on an Australia Council artist-in-residence



'Id' (1999), by Steven Cornwell and Jane Sinclair, one of the works in Space and Time.

grant. She was selected for the Moet and Chandon exhibitions in 1998 and 1999.

Michael Doolan has a large sculpture installation of ceramic toys in the exhibition. Doolan was awarded the Sidney Myer Fund International Ceramics Award for 1998.

Also included in *Space and Time* are art and design works by Rick Amor, Jon Cattapan, Andrew Cope, Cornwell Design (Steven Cornwell and Jane Sinclair), Robert Bridgewater, Kate Derum, Pearl Gillies, Peter Jones and Maureen Williams.

The exhibition was curated by Malcom Bywaters.

What: Space and Time: Monash Alumni When: Until 11 December

Where: Faculty Gallery, Monash University's Caulfield campus

Who: For more details, contact Malcom Bywaters on (03) 9903 2882.

Artworks show the creators' search

A collection of millenniuminspired work by Monash artists is on show at the Monash University Gallery at Clayton this month.

Search brings together pieces by 14 graduating students from Monash's Faculty of Art and Design in a unifying theme of questioning the future.

The works range from installation, mixed media and painting to photography, sculpture, tapestry and glass.

According to curator Malcom Bywaters, artists working in academic institutions today are continually pushed to question the rationale for creative endeavour.

"This exhibition forces us to question the concept of good and bad, leaving us to ponder the dilemma of What next?'," he said.

"These artists are challenging us to question what will really happen when the Y2K bug hits the world's computers, and genetically modified foods become the norm. We're asked to ponder what the year 2000 will really deliver."

Largely unconstrained by the traditional limitations of their discipline areas, the artists mix mediums and methods with a refreshing disregard for expectations.

Reflecting a sense of contemporary transition, a number have used nontraditional methods and techniques



'Home sweet home', by Jennifer Land, one of the works in Search.

and opted for exploratory, rough-edged aesthetics rather than highly finished, polished works.

Mr Bywaters said student-centred exhibitions such as *Search* allowed emerging artists to experience the real world with the guidance and help of gallery professionals who understood the struggle.

"Success as an artist does not simply mean sitting in your studio doing your own work, and certainly not just getting your name on the gallery mailing list," he said.

"Success means getting actively involved in the creative art environment."

What: Search

When: Until 27 November

Where: Monash University Gallery, Clayton campus

Who: For more information, telephone the gallery on (03) 9905 4217.

Hitting the right notes



American Nina Gilbert was one of three high-profile guest conductors who recently spent time at Monash working with Music department ensembles. Others included Mark Ostyn, of Penang State Symphony Orchestra, conducting the New Monash Orchestra, and Joop Boerstoel, conducting the Monash Wind Symphony. The visits were part of a program of educational and cultural exchange for Monash staff and students. Ms Gilbert's eclectic background includes a term in the American Peace Corps in Kenya, where she translated Schubert's Mass in G into Swahili. Photo by Greg Ford.

Ancient doctrine in modern debate

BY DEREK BROWN

From the creation of the Church of England to the American War of Independence, the doctrine of parliamentary sovereignty has underpinned many of the major events of British history, according to new book by a Monash scholar.

In The Sovereignty of Parliament: History and Philosophy (Clarendon Press), Dr Jeffrey Goldsworthy traces the history of parliamentary sovereignty – a constitutional doctrine that requires judges to enforce whatever laws their parliaments enact.

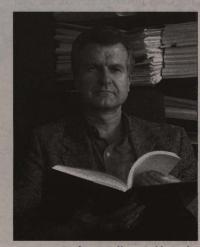
"The doctrine has long been considered the most fundamental element of the British constitution, and also forms part of the legal systems of New Zealand and, in a heavily modified form, Australia," said Dr Goldsworthy, an associate professor in the Monash Law faculty.

"It has been argued that the doctrine of parliamentary sovereignty has dubious historical credentials, because it is a relatively recent invention of academic lawyers. The historical evidence set out in my book refutes that argument," he said.

The book describes how, in the 1530s, Henry VIII used the authority of his Parliament to abolish the Pope's jurisdiction within England and create the Anglican Church.

It also details how, in the 1770s, the American War of Independence was sparked by the British Parliament's attempt to use its sovereignty to force the Americans to pay taxes.

The moral and philosophical basis for the doctrine has also been called into question in recent debate, with fears that such sweeping law-making powers could be abused.



Associate Professor Jeffrey Goldsworthy. Photo by Shannon Mattinson.

"Critics of parliamentary sovereignty find it unacceptable that a parliament could have power to enact a grossly unjust or undemocratic law, and that the judiciary would be legally bound to enforce it," Dr Goldsworthy said

But Dr Goldsworthy argues that in every legal system there must be at least one ultimate decision-maker against whose decisions there can be no appeal, and that the need to trust such a decision-maker is therefore inescapable. He added that it is not unreasonable to place that trust in a body of legislators who are accountable to the community, rather than in a small number of judges.

"While my book does not argue against constitutional reform, I believe it comes down to a question of who should hold that ultimate authority, a group of unelected judges over whom we have very little control, or a parliament made up of representatives chosen by the people," he said.

Foreign journalists feel the pressure

BY DEREK BROWN

The lot of Australian foreign correspondents is not always an easy one.

On top of the physical, linguistic and cultural differences they have to contend with, foreign journalists usually find themselves caught in a precarious double bind: how to write news stories which satisfy their Australian editors without incurring the wrath of local authorities.

Mr John Tebbutt, a Monash journalism lecturer and contributor to a new book published by the Monash Asia Institute, Foreign Devils and Other Journalists, believes foreign correspondents often have to contend with conflicting agendas which can alter the way a news story is told.

"While working as a freelance radio journalist in the Philippines in 1986 and again in 1989, I was often faced with the conflict of trying to tell a story in a way that would be acceptable to mainstream radio in Australia," he said. "At the same time, I was conscious that there were political stories which needed to be told that I knew would not be acceptable to local authorities or to my Australian editor."

He said that if a story went against what an editor thinks

Mr John Tebbutt. Photo by Shannon Mattinson.

Australians want to read, the editor often wouldn't run the story.

"Then again I have known foreign journalists who have been threatened with expulsion unless they stopped reporting issues that the local authorities felt were threatening."

Based on his own experiences, Mr Tebbutt's contribution to the book includes several interviews with foreign correspondents working in the Philippines during the 'people's power' uprising against the Marcos government in 1986.

"When Corazon Aquino returned to the Philippines as opposition leader to challenge the corrupt Marcos government, she was portrayed as a hero in the Australian media," said Mr Tebbutt.

"Yet after she replaced Marcos, journalists started uncovering accusations of corruption within the Aquino government as well," he said.

"This story was almost impossible to tell because it was thought that Australians wouldn't accept a negative story about Aquino - and journalists tend to write stories they know their editors will accept."

According to Mr Tebbutt, although Australians tend to see Asia as a unified area, journalists working in countries as diverse as Malaysia, the Philippines and Japan faced very different cultural and political environments.

Foreign Devils and Other Journalists, published by Monash Asia Institute and coedited by the Institute's executive officer, Dr Damien Kingsbury, focuses on key issues in reporting on and within Southeast Asia and will be released this month.

ARTS BRIEFS—

East Timor conflict role for artist

Melbourne painter and Monash graduate Rick Amor was recently named Australia's first war-artist in almost 30 years.

Accorded the temporary title of Captain Amor, he was dispatched to East Timor to gather impressions of the Australian-led security effort.

He is the first Australian artist to be officially sent to a war zone since the Vietnam War. The assignment is part of the Official War Art Scheme administered by the Australian War Memorial in Canberra.

Work by Amor is currently on show at Monash's Caulfield campus as part of the *Space and Time: Monash Alumni* exhibition.

Comedy ensemble to appear at Clayton

The Magnificent Seventeen, a hilarious musical romp through the Wild West, will be staged at the Monash Campus Centre theatre on 18 November in the finale of the Directors Cut series.

The 4 Noels production centres on the story of Buckley's Crack, a small western town vulnerable to the threats of an evil mastermind.

Formed in 1996, The 4 Noels – John Forman, Jesse Griffin and James Pratt – have been hugely successful over the past 12 months, winning best comedy awards at both the 1998 Melbourne Fringe and the 1999 Wellington International Fringe festivals.

They were also nominated for the 1999 Melbourne International Comedy Festival's Stella award for best comedy.

For tickets, call the Monash Box Office on (03) 9905 1111.

Monash student cleans up design award

A Monash student has won a prestigious Victorian award for industrial design.

Kurt Ramholt, a third-year industrial design student at Monash's Caulfield campus, took out the student category of the 1999 Victorian Design Awards for his novel vacuum cleaner design.

Among other criteria, award entries must benefit both the client and the broader community and be environmentally sound.

The awards are presented by the Victorian Government through Arts 21 and the Community Support Fund, the Design Institute of Australia and Schiavello Commercial Interiors.

Design students get a taste of Japan

Five students from Monash University's Faculty of Art and Design visited Japan recently as part of an international research dialogue with Musashino University.

The industrial design students had been given a brief to design vehicles on the theme of location and lifestyle, as part of an elective on transportation.

Each produced a vehicle design which they presented to car manufacturers and representatives of universities from Australia, Germany and Japan at a Transportation Design Exhibition

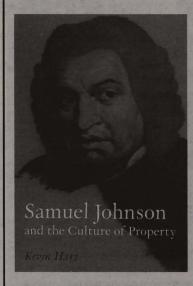
The program was supported by Monash International.

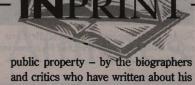
Samuel Johnson and the Culture of Property

Kevin Hart
Cambridge University Press:
RRP Hardback \$90

Late 17th-century poet and literary critic Samuel Johnson left a vast legacy in terms of volume of work as well as a reputation that has lived well beyond his death in 1784.

Through a detailed study of copyright, forgery and heritage during the 18th century, Professor Kevin Hart argues that Johnson has been turned into a monument – a piece of





Focusing on a biography of the literary giant written by Johnson's close friend James Boswell, Hart attempts to explain the factors that led to Johnson being crafted and preserved for posterity as an English literary legend.

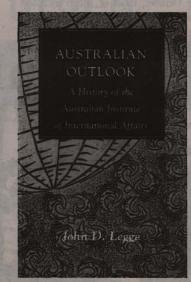
Kevin Hart, a professor from the School of Literary, Visual and Cultural Studies at Monash University, is vice-president of the Johnson Society of Australia and has written and edited several books.

Australian Outlook A History of the Australian Institute of International Affairs

John D. Legge Allen & Unwin: RRP \$29.95

During the 65 years that the Australian Institute of International Affairs has been in existence, our acceptance of Britain's imperial leadership has given way to a recognition of Australia as a nation that is separate and distinct, with specific interests and its own identity within the region.

In Australian Outlook, John Legge traces the history of this nation's international policy, showing how the Australian Institute of International



Affairs has helped shift perceptions through a process of cultural and political change.

From cementing the American alliance to developing closer ties with East and Southeast Asia, Legge analyses various domestic and international incidents that have created Australia's unique outlook.

A historical document for the most part, *Australian Outlook* concludes with speculation about new ways of viewing the international order.

Emeritus Professor John Legge is a research associate in the Centre of Southeast Asian Studies at Monash University.

All books featured in 'Inprint' are available or can be ordered at Monash's four on-campus bookshops.

• CITSU (Caulfield) (03) 9571 3277 • Clayton (03) 9905 3111 • Gippsland (03) 5122 1771 • Peninsula (03) 9783 6932

Rocket launches sensor project into aerospace

BY DEREK BROWN

Speeding into the atmosphere at two-and-a-half times the speed of sound, Mr Chris Sinclair's final-year engineering project, more than a year in the making, was over in less than a minute.

Mr Sinclair, a Monash University mechanical engineering student, produced a micro-processor-controlled sensor that was launched on a 2.6-metre Zuni rocket from Woomera, South Australia, in October.

"The sensor was designed to record the acceleration and temperature experienced by the rocket in flight. The information was downloaded to a laptop where it was converted into spreadsheets of data which can be analysed," Mr Sinclair said.

Although brief, the launch encountered a few problems, including excessive heat and jolting, which could have damaged Mr Sinclair's sensor.

"I'd done as much unofficial testing as time would allow, like heating up the sensor and shaking it to test for durability, but some problems were unavoidable. Thankfully, the launch was a success," he said.

Mr Sinclair hopes the sensor can eventually be improved to measure the speed and position of a rocket as well as the acceleration and temperature – data which can be used to guide the vehicle.

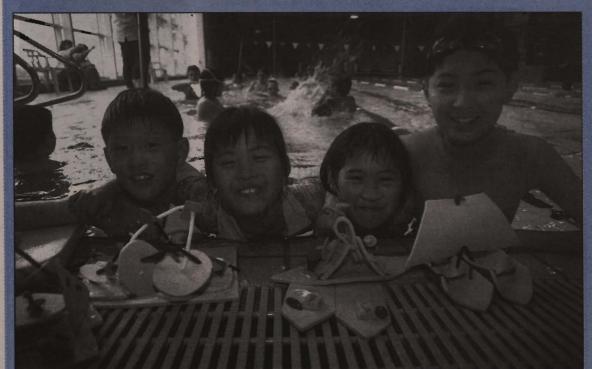
The Zuni sub-orbital sounding rocket used at the launch was originally a military surplus air-to-surface missile which has been converted for scientific purposes by the Australian Space Research Institute (ASRI).

The ASRI, an organisation dedicated to promoting space engineering in Australia, conducted 10 launches during October, most of which included student experiments.



Rocket man: Engineering student Mr Chris Sinclair admires a prototype of the Zuni rocket that successfully launched his sensor into aerospace. Photo by Tony Lewis, courtesy of The Australian.

Sink or swim?



Thirty-five children set Monash University's pool ablaze with colour recently with a flotilla of foam sculptures they made at the Monash Active Australia Day children's party.

Boats, flowers and floating space aliens were some of the imaginative creations produced by the participants with foam and pipe-cleaners in a onehour session at the University Gallery. The 'seaworthiness' of the sculptures was then put to the test at the Monash University swimming pool, with the children floating their creations in the water, then enjoying a swim and taking turns on the inflatable waterslide.

Entry to the pool was free on the day, with more than 250 people taking advantage of the many facilities offered

Photo by Greg Ford. by the aquatic centre, including two 25-metre swimming pools, a leisure pool, a sauna, spa and steam room.

Held on Sunday 10 October, Active Australia Day was a nationwide celebration of physical activity, targeting mass community participation, with the aim of exposing the Active Australia Day message to millions of people

BRIEFS -

50th law lecture delivered

The Chief Justice of Victoria, Mr John Phillips, AC, has delivered the 50th Monash Law School Foundation Lecture.

The lecture, 'The Steve Biko Tragedy', was held at Minter Ellison in Melbourne on 26 August.

The Monash Law School Foundation Lecture series began in 1990.

New postcode for Clayton campus

Monash University's Clayton campus has a new postcode – 3800.

The new postcode replaced the previous 3168 code from 1 October and will facilitate more efficient mail deliveries to the university.

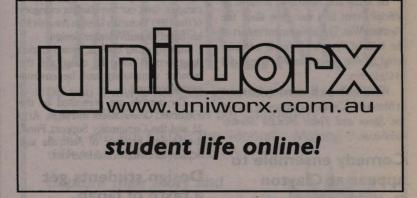
Engineering academic honoured

Monash academic and director of the UNESCO International Centre for Engineering Education Associate Professor Zenon J. Pudlowski has been awarded the Volta Silver Medal by the University of Pavia, Italy.

Dr Pudlowski was awarded the medal for his contribution to the success of the 1999 International Symposium of Electromagnetic Fields in Electrical Engineering.

The medal commemorates the 200th anniversary of the invention of the electric battery by Alessandro Volta, which laid the foundation for the advancement of electrical engineering.





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