



Developing on-the-spot drug tests

DRUG TESTING

Monash University researchers are investigating whether saliva can be used to accurately detect illicit drug use and determine the dose taken.

The researchers from the Department of Forensic Medicine are determining how saliva tests compare with the current drug tests of blood and urine.

Professor Olaf Drummer, head of scientific services at Monash's Department of Forensic Medicine, said the research was part of a program to develop devices for on-the-spot detection of people affected by drugs such as amphetamines, cocaine, opioids and marijuana. The research would also help

determine whether instruments that are under development for detecting drugs in saliva were accurate and efficient.

The Monash researchers are currently working with the Victoria Police in assessing drivers who have volunteered to be tested, as well as with volunteers in other organisations who have taken controlled doses of certain drugs.

Professor Drummer said there was increasing demand for a simple, non-invasive technique that could detect illicit drug use, which could later be confirmed with more tests.

"There's a desire among employers to detect drug use among people who, as part of their occupation, are working with machinery or driving trucks, buses or trains, because a mistake could have

disastrous consequences," he said. "There's also a desire among police to identify motorists who are adversely affected by drugs.

"In Victoria, 26 per cent of fatally injured drivers are drug positive and 14 per cent have used cannabis. It is likely that eight per cent of drivers have used cannabis shortly before their crash. All drugs that people take are present in their saliva for a period of time."

The detection of drugs in saliva offers some advantages over fluids such as blood and urine because collection is less invasive and does not require much specialist skill.

Professor Drummer said a further advantage was that the concentration of drugs in saliva may be as good an indi-

cator of the drugs' physiological effects as blood, and superior to urine. "Saliva, therefore, has possible advantages in situations where active impairment from drugs is being determined."

He said basic drugs such as amphetamine and opioids may be detected in saliva for more than 24 hours after use, depending on the dose and other factors, providing people have not had anything to eat or drink for at least 30 minutes prior to testing.

"Recent developments in technology have produced detection devices for drugs in saliva that enable a positive response to different drug types to be produced electronically," Professor Drummer said. "It's not possible yet to define the actual

degree of specificity and reliability for any of the drug types or devices in field testing. However, it appears that the detection of amphetamines, opioids and cocaine is less difficult than cannabis and benzodiazepines."

With any on-site testing device, the instruments will probably never be 100 per cent specific for a defined drug, meaning there is still potential for a false positive, so any result should be regarded as presumptive until proven positive by a confirmation procedure in the laboratory, he said.

— Penny Fannin

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Tribe: A car design for Indigenous lifestyle

INDUSTRIAL DESIGN

A futuristic vehicle called Tribe, designed to cater for the unique lifestyle of Indigenous Australians, has won a Monash industrial design student an international award.

Final-year student Mr Joseph Rudolph, who is undertaking a double degree in the faculties of Art and Design and Engineering, was presented with the award recently by the International Transportation Design Forum in Germany for his concept vehicle.

Mr Rudolph has built a small-scale prototype of the car, which is designed to cater for the needs of Australia's Indigenous population living in rural environments.

"I saw an opportunity to design a more cost-effective and environmentally friendly vehicle," he said. "The vehicles currently used in these communities are often old and poorly maintained and so can be damaging to the environment."

The vehicle is powered by a methanol fuel cell, which produces water as a by-product which is then cooled, stored and available on tap for a variety of uses, including drinking.

The methanol fuel could be produced by the communities from plant



Car of the future: Joseph Rudolph won an award for his futuristic vehicle, Tribe, at the International Transportation Design Forum in Germany.

Photo: Greg Ford

residue, while the fuel cell could also provide electricity to power other equipment when the vehicle is stationary, allowing the communities to become more self-sufficient.

In keeping with traditional practice, it is anticipated that the vehicles will be bought in bulk by many Indigenous communities. They can

then be parked and 'locked' together, creating an enclosed communal space, which can be used as a meeting area or temporary shelter.

The six-seater vehicle has flexible seating that can be moved to open up the cabin as a cargo area or allow passengers to face each other.

A sliding internal wall allows the

vehicle to become a van, utility, people-mover or sedan.

Designing must be in the Rudolph family's blood, as Mr Rudolph's twin brother Frank, who is also studying industrial design at Monash, has designed a vehicle which serves as a sports coupe, people-mover and all-terrain vehicle. Lynx, also still in its

prototype phase, is designed to appeal to young people who are looking for an innovative alternative to traditional cars.

— Elizabeth Begley

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NEWS

Child detention

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Research unit to focus on terrorism

POLITICS

A team of Monash University academics will work together to research the nature of terrorism – why it emerges, how it spreads and the effect it has on national policies.

Led by Dr Pete Lentini from Monash's School of Political and Social Inquiry, the Global Terrorism Research Unit will focus on regional and national developments in the war on terrorism in Australia, the US, China, Malaysia, Indonesia, Singapore and the former USSR.

The unit will consider a range of issues, including new approaches to interpreting and predicting terrorism and to establishing counter-terrorism measures; new interpretations of

security and international relations; and the effect of the war on terrorism on media culture, identity, politics and civil liberties.

Fifteen members from the School of Political and Social Inquiry are taking part in the project, with some members developing research links with Monash colleagues in the School of Languages, Linguistics and Culture, the faculties of Law and Business and Economics, and the Monash Asia Institute.

Researchers involved in the project include postdoctoral fellow and leading scholar in Islam and the politics of Central Asia Dr Shahram Akbarzadeh, senior research fellow and former senior terrorism analyst at

the Office of National Assessment Dr David Wright-Neville, and Dr Jenny Hocking from Monash's National Centre for Australian Studies.

Dr Lentini said the main strength of the Global Terrorism Research Unit was its diversity.

"As President Bush says, this is going to be a war fought on many fronts. Similarly, this unit represents a number of different fields. If you look only at military issues, you get a very narrow interpretation of terrorism," he said.

"The approach we're trying to take is that this is a very complex problem, and we have to look at it from all avenues to best understand it."

Dr Wright-Neville said the

project was established in response to the September 11 attacks last year and a lack of global debate on terrorism.

"What we noticed was all the information was coming out of the US," he said.

"We knew there were experts in those areas here in Australia.

"Shahram Akbarzadeh is an internationally renowned expert in terrorism, and Jenny Hocking is one of the leading people on security issues in this country."

– Diane Squires

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Milestone ceremony for Malaysia campus

GRADUATIONS

Graduation ceremonies held in Malaysia and Singapore in September have highlighted Monash University's continued commitment to internationalisation.

The combined graduation of Monash University Malaysia's pioneer students in engineering, business and information technology and communications with students who completed their studies in Australia marked a milestone for the Malaysia campus.

The ceremony in Malaysia saw the graduation of 393 students, of which 282 were from the Malaysia campus, and the rest having completed their degrees in Australia or by off-campus education.

At the ceremony, held at the Sunway Lagoon Resort Hotel, vice-chancellor Professor Peter Darvall said the success of the graduates was something all Monash graduates could identify with and be proud of.

"Monash University Malaysia has become very successful," Professor Darvall said. "It could soon be the university's third largest campus. It is fast



Degrees of success: Information technology graduates in high spirits after the ceremony in Malaysia.

Photo: Southam Studios Photography

developing an international reputation as an integral and important part of Monash."

Pro vice-chancellor of Monash University Malaysia Professor Robert Bignall said the graduation was an historic occasion for both Monash and the graduating students.

"These students have contributed

to the history of Monash and we are confident that, like all our graduates, they will be productive and responsible leaders who are also citizens of the world."

Another graduation ceremony was held at the Ritz-Carlton Millenia in Singapore for more than 500 graduates. The chancellor Mr Jerry

Ellis conferred an honorary degree of Doctor of Laws on Professor Tommy Koh, Director of the Institute of Policy Studies in Singapore.

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Medical students to lend a helping hand

COMMUNITY SERVICE

Monash University medical students could find themselves caring for children with disabilities or working with at-risk children under a unique partnership program established by the university and four key service organisations.

The Community Partnerships Program, the first of its kind in Australia, will see second-year Bachelor of Medicine/Bachelor of Surgery students working on projects at Anglicare, the Brotherhood of St Laurence, Melbourne Citymission and Wesley Mission Melbourne.

Under the initiative, students will select from almost 80 projects developed by Monash University and the agencies, including tutoring, the 'foster care friends' program, assisting case workers, working with at-risk families and caring for children with disabilities.

Dean of the Faculty of Medicine, Nursing and Health Sciences Professor Nick Saunders said it was important that modern medical courses addressed issues of social justice.

"When I was a medical student,

we had no exposure to these ideas. It is really important that it becomes part of medical education, because doctors are confronted with these issues every day in their practices," he said.

"The great strength of the Community Partnerships Program is that it puts this ideal into practice."

Associate dean (Education Development) Professor Chris Browne said the program would provide a meaningful learning experience for medical students while also benefiting the agencies and their clients.

At the end of the year, the students will be judged on their projects and how they met the needs of the agencies. The winner will receive the Chris Silagy Memorial Award.

Professor Chris Silagy, who was director of the Monash Institutes of Health Services Research until he died earlier this year, was instrumental in establishing the partnership.

– Diane Squires

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IN BRIEF

Monash College launched in Jakarta

Monash College will offer courses in Jakarta after signing a memorandum of understanding with a private Indonesian education provider.

English-language bridging programs and diplomas in business and information technology are expected to commence at the college this month.

Monash International general manager Mr Owen Slattery said the location of Monash College in Jakarta would enable more students to undertake Monash studies closer to home.

Professor takes on leading role

Professor Gary Bouma, former associate dean (Research) in the Faculty of Arts, has been appointed acting deputy vice-chancellor (Research and Development) at Monash.

Professor Bouma has been at the university for 24 years and has developed a significant reputation for teaching and research in his field of sociology.

His appointment follows the appointment of Professor Peter Darvall, previously deputy vice-chancellor (Research and Development), to the position of vice-chancellor.

Active kids program wins award

A Monash-led program encouraging young children in child care to become more active has won a State Government 2002 Sport and Recreation Industry Award.

Developed by education lecturer Dr Justen O'Connor, the 'Active care, a meaningful movement program for children in care' program won the education category of the award.

Dr O'Connor developed the program with Monash researcher Ms Vicki Bradley and Dr Vivienne Temple from RMIT.

New manager for Pharmacy

The Victorian College of Pharmacy has appointed a new faculty manager after the retirement of Mr Michael Watson from the role of registrar.

Ms Janet White, the first female faculty manager in the college's 121-year history, brings to the role an extensive background in university administration, including previous positions as general manager of human resources at RMIT and managerial roles at Melbourne and La Trobe universities.

NHMRC grant for liver research

Monash researchers have been awarded a \$330,000 development grant by the National Health and Medical Research Council for research into treatments for liver disease.

Dr David Phillips and Professor David de Kretser, from the Monash Institute of Reproduction and Development, and Dr William Sievert, from Monash's Department of Medicine at the Monash Medical Centre, were awarded the funding to investigate the use of a protein called follistatin in the treatment of liver disease.

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Student Accommodation Available

Mobile speed radars help reduce accidents

ROAD SAFETY

A mix of marked and unmarked police cars used in mobile radar speed enforcement operations reduced the number of road accidents substantially when combined with publicity campaigns, a Monash study has found.

The study, by Professor Max Cameron and Ms Kathy Diamantopoulou from the Monash University Accident Research Centre, examined the use of mobile speed radars – those

attached to police vehicles – in rural Victoria from July 1995 to June 1997.

It included a statistical analysis of mobile radar speed enforcement using marked cars, unmarked cars and a combination of the two.

The study, 'An evaluation of the effectiveness of overt and covert speed enforcement achieved through mobile radar operations', found the number of crashes that involved casualties was also reduced when unmarked police cars (covert) were used alone.

Professor Cameron said the study had revealed some surprising results, including that there was no effect on crash rates when only marked cars (overt) were used.

"But this clearly shows that a combination of marked and unmarked cars provides the best results in traffic safety."

He said they had found that casualty crash rates were reduced for up to four days after the mobile radar operations, whether operations were

covert or a combination of overt and covert, particularly when accompanied by high levels of publicity.

"If people know about the radar operations, they seem to adjust their driving accordingly for several days afterwards," he said.

– Diane Squires

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Policies for children in detention too severe: study

HUMAN RIGHTS

Australia's policies and systems for processing child asylum seekers are unnecessarily severe compared with those of other developed nations, a new study by a Monash University researcher has found.

The study, by Associate Professor Susan Kneebone from the Faculty of Law with Monash law graduate Ms Gabi Crafti, includes a comparison of the policies and procedures of Australia, the UK, the US and Canada for dealing with young asylum seekers.

The researchers found the other countries do not have mandatory detention policies for children. If they do detain children it is as a last resort before moving those whose applications for asylum have failed.

The paper was written as part of a submission by Monash's Castan Centre for Human Rights Law to the ongoing National Inquiry into Children in Immigration Detention being conducted by the Human Rights and Equal Opportunity Commission.

The plight of child asylum seekers has come under the spotlight recently due to the rise in the number of family groups seeking asylum.

Australia's policy of placing people in mandatory detention regardless of age has been in place since 1992 when it was introduced by the then Labor government. But since that time,

Dr Kneebone said, the rights of detainees, and especially those of children, have consistently been eroded.

"We found that young refugees in detention in Australia don't have the fresh, healthy expression you expect of youth. These are young people who are grey and ashen and are traumatised by the treatment that they have received," Dr Kneebone said.

"The main problem is that the children are kept in detention centres for long periods of time, where they see distressed adults often attempting to harm themselves, which can have a profound impact on their already fragile wellbeing.

"I think this is going to have an enormous psychological impact on these children wherever they eventually settle."

Dr Kneebone said that while the Federal Government had policies and procedures in place to protect the rights of children, those rules were not always adhered to.

"There is a great deal of anecdotal evidence describing children who have no toys, no form of entertainment and no access to education – crucial things that are stipulated within the policy."

She said this was in sharp contrast to other developed nations, where safeguards put in place to protect the rights of children were more strictly observed.



Children in crisis: The rights of detained children are being consistently eroded, a Monash study has found.

Photo: Newspix

In other countries like the UK and Sweden, the term 'detention' can be used much more loosely, because detention centres are really more like reception centres, according to Dr Kneebone.

"Family units are not detained as such – they're free to go out into the community, to work and go to school,

but they're expected to come home at night, whereas under our system detention is a form of imprisonment"

– Konrad Marshall

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Postgrad study options on show

POSTGRAD EXPO

Information on how to choose the best postgraduate course without the burden of an upfront payment will be available at the Monash Postgraduate Information Expo next Tuesday, 15 October.

The expo, which starts at midday and runs until 7.30 pm at the Melbourne Town Hall, is an excellent opportunity to find out about postgraduate courses and career programs and to discover options for making study both affordable and flexible.

Attendees can learn about the Postgraduate Education Loan Scheme (PELS), which provides an interest-free loan facility for eligible Australian citizens and most permanent residents.

Monash University Prospective Students Office manager Ms Caroline Knowles said the scheme was growing in popularity.

"In the past, people have needed to pay for their postgraduate courses upfront, however under PELS they can study now and pay later through taxation," she said.

As well as providing information on PELS, the postgraduate expo will be an opportunity to gain information on a wide range of courses in business, arts, health, education, information technology, law, engineering and science.

Information about options for local and international students intending to study by coursework or research, on or off-campus, will be on hand.

Ms Knowles said the expo was an efficient way of gathering information on postgraduate study and comparing courses.

"Experts from different disciplines at Monash will be available to speak personally to prospective postgraduate students about their needs, so they can make an informed choice," she said.

"Our objective is to have as many experts in the one place at the one time to provide information and advice to prospective students."

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On site: Monash University vice-chancellor Professor Peter Darvall (left), chairman of the National Scientific Advisory Committee for the Australian Synchrotron Professor Frank Larkins, State Innovation Minister Mr John Brumby and Monash University chancellor Mr Jerry Ellis inspect the equipment which will be used for geotechnical testing on the synchrotron site.

Photo: Peter Anikijenko

Work starts at synchrotron site

RESEARCH

The site of Australia's first synchrotron, at Monash University, was launched this month by Victorian Innovation Minister Mr John Brumby and the university's vice-chancellor Professor Peter Darvall.

Preparation works have begun at the site, with major construction due to begin in the first half of next year at the corner of Blackburn and Wellington roads in Clayton.

Geotechnical testing is underway to determine the exact location of the water table and to work out the bearing capacity of the ground so the best places for the foundation footings can be determined.

The site launch was well attended,

with the chair of the National Scientific Advisory Committee for the Australian Synchrotron, Professor Frank Larkins and representatives from RMIT, Melbourne and La Trobe universities, Chisholm Institute and Swinburne University of Technology present.

Professor Darvall said the synchrotron was an essential tool for Australian researchers if they were to be at the leading edge of fields such as drug development, information technology, biotechnology and mineral processing.

"The synchrotron will introduce a higher level of technology to Australian researchers than is currently available locally," he said. "Monash has the research base and the networks within the broader scientific commu-

nity to help make the synchrotron a resource of national significance."

A synchrotron is a device that uses very high energy electrons to create bright, pinpoint beams of light, which allow scientists to examine the structures of molecules over a wide range of materials. Mr Brumby said the project was on track to be completed by 2007.

Professor of x-ray and synchrotron physics at Monash Professor Rob Lewis said the university's research community was showing increasing interest in the synchrotron and how it might be used to advance their research.

– Penny Fannin

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Red Sea rangers to the eco-rescue

ECOTOURISM

A Monash University ecotourism expert is contributing to strategies to encourage environmentally sound behaviour and understanding among tourists to Egypt's Red Sea marine park.

Associate Professor Betty Weiler, of the Department of Management at Monash's Berwick campus, recently held a workshop on communication and customer service principles for Egypt's 'Red Sea rangers' at the resort town of Sharm El Sheikh.

The rangers are the park's environmental guardians. Traditionally, they have been responsible for inspecting dive boats to ensure they are licensed and comply with mooring and waste disposal regulations.

But now the rangers' role is being widened to educate tourists and operators about sound environmental practices in the ecologically fragile area.

In the nine-day workshop, held by Dr Weiler in collaboration with Dr Sam Ham from the University of Idaho, participants were taught communication strategies, how to identify and analyse communication problems and how to give interpretive talks and tours.

The workshop was sponsored by the United States Agency for International Development (USAID) and GreenCOM, the environmental communications project of USAID.

Dr Ham and Dr Weiler will continue to monitor the work of the Red Sea trainees as they implement several projects aimed at raising awareness of environmental issues in the marine park.

These include developing self-guided tours on land and under water, making presentations to tourist groups, developing a website and a newsletter and producing shortwave radio programs for boat captains.

— Fiona Perry

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Tissue graft breakthrough

Endangered species could be given new hope for survival following Monash University research that shows an animal's ovarian tissue grafted onto tissues in another species can produce healthy young.

Researchers from Monash's Department of Physiology and the Monash Institute of Reproduction and Development (MIRD) are the first to generate healthy live young using ovarian tissue xenografting, a technique where the ovarian tissue of one species is grafted into another.

In the study, the researchers grafted ovarian tissue from mice onto the kidneys of rats. The kidney is an ideal site for such grafting as it has a high number of blood vessels, which increases the chance of a graft being accepted.

Although researchers have previously grown eggs contained in the ovaries of one species – wallabies, wombats and elephants – in the body of another, this is the first time live young have been produced. The success of the Monash team was published last month in the international journal *Science*.

Ms Melanie Snow, the PhD student who undertook much of the work, said the research team had been exploring xenografting as a means of propagating rare and endangered species. "It overcomes one of the major problems encountered with assisted reproduction techniques in endangered animals – a scarcity of mature, fertilisable eggs," she said.

Dr Shae-Lee Cox, a research fellow in the Physiology department,



New generations: Researchers, from left, Dr Shae-Lee Cox, Dr Jillian Shaw, Associate Professor Graham Jenkin and Ms Melanie Shaw with a liquid nitrogen tank containing the tissue of endangered species.

Photo: Greg Ford

said the technique could be applied to endangered mammalian species as long as in-vitro culture and fertilisation protocols had been established for the species and there was a surrogate mother available.

"For example, with this tech-

nique we could take ovarian tissue from a live or recently dead female of an endangered species, put that tissue into a rat and the immature eggs, which are the most abundant eggs in the ovary, will become mature," Dr Cox said. "We could

then remove the eggs grown in the rat host, mix them with the sperm of the endangered species, and then transfer the embryos into a surrogate mother from that endangered species or possibly a closely related species."

Dr Cox said this would serve not only to assist in increasing the population numbers of endangered species but also to preserve the existing genetic diversity within species. "There are sperm, eggs, embryos and ovarian tissue of threatened animals stored at the Animal Gene Storage Resource Centre of Australia based at MIRD and we could, theoretically, use that tissue to generate live young."

In the study, Ms Snow, Dr Cox and Associate Professor Graham Jenkin from the Physiology department and Dr Jillian Shaw and Professor Alan Trounson from MIRD took ovaries from mice and grafted them onto the kidneys of rats.

Dr Jenkin said it appeared the mouse eggs had not been altered by being grown in a rat and that the offspring produced were healthy and gave birth to their own healthy pups when mated naturally once they had reached adulthood.

Monash researchers are now measuring the success of the technique using ovarian tissue from the common wombat and the tamar wallaby.

— Penny Fannin

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SCHOOLS

Enhancement studies program

Monash's Enhancement Studies Program offers VCE students the chance to undertake a first-year university subject while still in Year 12. The enhancement subject is counted as a sixth VCE subject and included in the calculation of the student's ENTER. A pass grade in the enhancement subject may earn the student credits at university level.

Credits awarded will depend on the university and program of study in which the student subsequently enrolls.

A wide variety of enhancement subjects is offered at Monash through the faculties of Arts, Business and Economics, Information Technology and Science. Most subjects are available off-campus or at selected secondary schools across Victoria, which act as host centres for enhancement classes.

For more information, consult the *2003 Enhancement Studies Program handbook*, which is now available from VCE and careers coordinators.

For more information about the program, contact Ms Philippa Young on +61 3 9905 5859 or Ms Natasha Alexander on +61 3 9905 5685.

Information evening

An Enhancement Studies Program information evening will be held on Wednesday 16 October from 7.30 pm to 9 pm in South One lecture theatre, building 64, Clayton campus. The session will give students an opportunity to find out more about enhancement studies and talk to subject coordinators.

For more information, contact Ms Philippa Young on +61 3 9905 5859 or Ms Natasha Alexander on +61 3 9905 5685.

Do you want Monash to visit your school?

Staff from the Prospective Students Office at Monash University are available to give presentations and talks to secondary schools. The presentations provide information on topics such as course and career options at Monash, application and selection procedures, scholarships, fees and expenses, and life as a Monash student. Talks are available for Year 10, 11 and 12 students.

To discuss your requirements, contact Ms Jodie Martin-Blick, schools liaison coordinator, on +61 3 9905 3152.

Psychology at Monash Gippsland

The Department of Psychology in the Faculty of Medicine, Nursing and Health Sciences offers students studying at the Gippsland campus the opportunity to undertake an undergraduate major in psychology, which is accredited by the Australian Psychology Society (APS) and approved by the Psychologists Registration Board of Victoria.

Gippsland students enrolling in first-year units of the APS-accredited psychology sequence from 2003 will be taught in the off-campus learning mode with compulsory on-campus attendance requirements.

For these students, all accredited psychology units in subsequent years will be taught in off-campus mode.

Students who complete a degree with an APS-accredited undergraduate major in psychology may apply to undertake an accredited fourth-year program in psychology. The fourth year is a prerequisite for further study in the field and for registration as a psychologist.

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Tax, not tickets: a public transport vision

An annual levy that replaces the current ticketing system could transform Victoria's public transport system into one that is envied throughout the world, argues Monash academic Associate Professor Frank Fisher.

It is no secret that a well-patronised public transport system moves people around more efficiently than a transport system based mainly on the use of private cars. But while the potential benefits to the environment are also well known, the disincentives to using Melbourne's existing system are legendary.

One of these disincentives is, of course, the ticketing system. In addition to its current inability to generate a revenue flow above its current costs, the Victorian system is not designed to furnish statistics which can then be used to improve the system. One could be forgiven for wondering whether it was designed by the road lobby.

Having to purchase a ticket encourages us to stick to our cars – and because most of us believe we must own a car rather than rent or borrow one, it makes good sense to use it for all travel after often having paid a substantial amount to buy it.

Still another disincentive is Melbourne's awkward if extensive, radial or CBD-centric public transport network. Connections to most destinations outside the central business district are poor, and while this problem could be overcome by introducing bicycles into the existing public transport equation, it is unlikely many Australians would take to the idea.

Many of these disincentives could be overcome with the introduction of a public transport levy, which would give the community a bigger stake in the transport system. But how would a public transport levy make Melbourne 'marvellous'?

Firstly it would provide an explicit incentive to use public transport by requiring all urban income earners to pay an annual amount in much the same way as we currently pay for vehicle registration, Medicare and the fixed costs of reticulated water, electricity, waste-disposal and so on. Public transport would then be free at point of access – a social revolution.

How such a levy would be struck and collected would be the subject of a study in its own right. But at first glance, since outer suburban residents' access to the public transport system is poor while their use is extensive in kilometre terms, it seems that a fixed levy for all people within the MET system's catchment



Tramming it: Benefits of rising public transport patronage would include more frequent and faster services.

Photo: Newspix

would be a fair and straightforward mechanism. The usual equity measures would apply.

Once the hurdle of implementation was overcome, its user-friendliness would become obvious. Visitors, the young, the old and disabled people of all kinds (the sick, physically disabled, frail and non-local language speakers) would benefit from the improved access. Many of the current disincentives would disappear as the clear incentive to use the system became apparent.

Levy-payers would realise they had already paid for public transport and so would be encouraged to use and be responsible for it. At present,

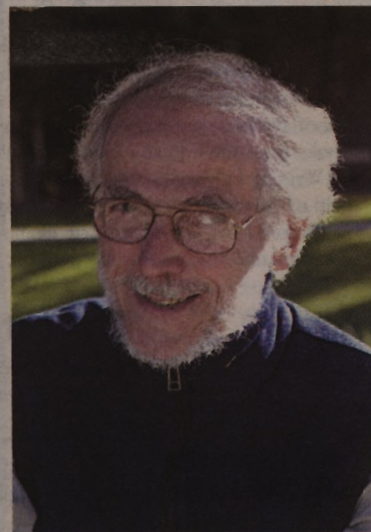
while we do pay for public transport through our taxes, it is not brought to our attention, therefore it is easy to understand why we feel no responsibility for it.

Benefits of rising patronage would include fuller vehicles, more frequent and faster services and better connections, and as these improvements became apparent patronage would further increase. We might then see a real reduction in the costs of transporting each person.

The levy would provide a real and trouble-free income beyond its establishment and annual collection costs. It would enable ticket inspectors to become transport assis-

tants and, in the same vein, could open existing, exclusive real estate to community and commercial interests. The many empty and vandalised stations (another cost) could be let to 24-hour users such as the police, health centres or other community activities whose very presence would render stations safer.

A levy would also preclude the possibility of the State Government introducing 'smart tickets' – schemes that enable operators and others to monitor individual commuter movements. While exempt in the post-September 11 environment, these schemes would seem to constitute a decline in social capital



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“Visitors, the young, the old and disabled people of all kinds (the sick, physically disabled, frail and non-local language speakers) would benefit from the improved access.”

and must therefore be considered a negative.

The eventual mass shift of commuters to an efficient public transport system would not only offer numerous and far-reaching environmental and social benefits, it would also offer comprehensive health benefits. Well-patronised rapid transit stations would eventually be within walking or cycling distance for most people, providing them not only with an efficient public transport system but also with the opportunity of staying fit and healthy.

To the government and the taxpayer, the overall cost of public transport would not change; it would only be exposed and the public benefit from these government dollars would increase. In terms of community enhancement and environment however, there would be no disadvantage, only benefit.



INPRINT

Attributing Authorship:

An Introduction

By Harold Love

Published by Cambridge University Press

RRP: \$49.95

Questions and methods of author attribution are important for any historical study of literary scholarship. In recent years, the subject has been given a powerful new impetus by advances in statistical studies of language and the presence of large databases of

texts in machine-searchable form.

This new book by Professor Harold Love is an up-to-date, comprehensive survey of the area of author attribution from a literary perspective. It covers traditional and computer-based methods of attribution and evaluates a number of famous controversies, including the authorship of the Homeric poems, books from the Old and New Testaments and the plays of Shakespeare.

Written with wit as well as erudition, *Attributing Authorship* will make this field of literary study accessible for students and scholars alike.

Harold Love is professor of English in the School of Literary, Visual and Performance Studies, Faculty of Arts, at Monash University.

The Internet Journalist

By Kamal Siddiqi

Published by CeLTS, Monash University

RRP: \$15.00

After providing a background to and overview of the subject of online journalism, this book moves on to examine the issues facing the profession today and also brings into focus some of the problems encountered by online journalists.

The book is aimed at assisting students of the subject to better understand how this form of journalism is different from, and often more challenging than, print or broadcast journalism and shows what the future holds for those interested in moving into this area of the profession.

It also covers some of the ethical and moral issues involved in online journalism and examines the concept of news delivery in the future following the introduction of new technologies.

Kamal Siddiqi has been a journalist for more than a decade. He has reported for CNBC and CNN, and written for *The Australian* and *The Age*. He is currently a lecturer in the School of Humanities, Communications and Social Sciences, Faculty of Arts, at Monash University.

Silicon Literacies:

Communication, Innovation and Education in the Electronic Age

Edited by Ilana Snyder

Published by Routledge

RRP: \$56.00

Electronic communication is radically altering literary practices. This book unravels the key features of the new communication order to explore the social, cultural and educational impact of electronic literary practices.

Written by leading international scholars from a range of disciplines, the essays in *Silicon Literacies* examine the implications of text produced on a keyboard, visible on a screen and transmitted through a global network of computers. The book covers topics as diverse as role-playing in computer games, the use of graphic symbols in onscreen texts and internet degree programs.

Recognising that reading and writing are only part of what people have to learn to be literate, the book's contributors enhance the reader's understanding of the ways in which new technologies influence, shape and sometimes transform literary practices.

Ilana Snyder has published widely regarding issues of education and technology. She is associate professor in literary education in the Faculty of Education at Monash University.

POSTSCRIPT

Renowned palaeontologist and Monash alumnus John Long has written a new book that explores the secretive world of international fossil trade. *The Dinosaur Dealers: Mission to Uncover International Fossil Smuggling* is the result of Dr Long's attempts to recover rare dinosaur footprints stolen from Western Australia, which took him around Australia and to Europe and the US. The book is tied in to a TV documentary to be screened on SBS this month.

If you are a member of the Monash community and have a forthcoming book, contact monashnews@adm.monash.edu.au

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

• CITSU (Caulfield) +61 3 9571 3277 • Clayton +61 3 9905 3111

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www.monash.edu.au

Discovering the waterbugs' hidden world

To Edward Tsyrlin, a freshwater pool is an intriguing, hidden world full of alien creatures just waiting to be discovered.

Mr Tsyrlin, a research assistant in Monash University's Water Studies Centre in the Faculty of Science, is fascinated by the dragonflies, yabbies and insects he sees when he peers into freshwater ponds or streams.

It is a fascination that has led Mr Tsyrlin, together with Mr John Gooderham from the University of Tasmania, to write *The Waterbug Book: A Guide to the Freshwater Macroinvertebrates of Temperate Australia*.

Mr Tsyrlin remembers clearly the origins of his obsession with the miniature world of bugs.

"As a child, I was always a bit of a social dropout. I preferred the company of insects to that of my peers – and the kid inside me is still alive today," he said.

According to Mr Tsyrlin, waterbugs play a vital role in the health of our freshwater ecosystems.

"They form the basis of the food chain, feeding on algae, plants and each other before falling prey to all manner of aquatic creatures. Larger aquatic creatures in our waterways – fish, frogs and even the platypus – would all disappear without the presence of waterbugs," he said.

"They also play an important role as bioindicators of our waterways. Some are sensitive to pollution while others have greater tolerance, and by finding out which have survived and which have perished, we can see what effect pollution and habitat degradation have had on water systems."

Waterbugs are generally small and hide in the dark recesses of rivers and dams. Because of this, Mr Tsyrlin says, people don't realise the wealth of life that is taking place beneath the surface of the water. Yet he says aquatic habitats can be as lively as any exotic land destination.

"In one square metre of a stream,



A waterbug's life: Edward Tsyrlin has been fascinated with the miniature world of bugs since childhood.

Photo: Greg Ford

you can often find even more variety of life than on a square metre on the ground," Mr Tsyrlin said. "It can be as rich as the Amazon jungle because there are so many different species in there, and the interaction between them is so complex."

The Waterbug Book brings together information from various research papers and taxonomic guides on waterbugs. It is a useful source of

information for environmental consultants, academics, students of the ecosystem and fly fishermen, who use the book to design flies that mimic the characteristics of waterbugs.

– Konrad Marshall

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Tracing history: Audiences were captivated as the history and controversy of the atomic bomb were revealed during recent performances of *Copenhagen*.

Unravelling the history of the atomic bomb

It is not often that the abstract and often mysterious world of physics becomes the subject of a theatrical performance.

And when that performance traces the birth of the atomic bomb – a turning point in the history of the world – the result can be both confronting and enthralling as audiences at Monash University's Alexander Theatre discovered recently.

According to John Gaden, who played one of the main characters in the Monash performances of *Copenhagen*, the play focuses on a pivotal moment in the history of atomic physics.

"Based on an historical event, the play is set in Nazi-occupied Denmark. It tells the story of Werner Heisenberg, the leading German physicist of his day, as he pays a visit to the home of his old mentor, the half-Jewish Neils Bohr," he said.

"The two men go for a walk and, when they return, Bohr seems in shock at a proposal put to him by Heisenberg. Heisenberg abruptly leaves and the two men never speak again."

After the war, both men gave very different versions of their conversation, and what was said during their walk has been a point of speculation ever

since, Mr Gaden said. "Bohr claims that Heisenberg was trying to find out what he (Bohr) knew about the Allies' development of the bomb so he could use the information to perfect the Nazis' own bomb project, but Heisenberg denies it," he said.

Mr Gaden, who has been part of the play's successful run in both Sydney and Melbourne, said the Monash audiences responded favourably to the work.

"Many people commented on the thought-provoking nature of the play," he said.

– Derek Brown

Australian art rocks the boat

A new exhibition at Monash University's Gippsland campus this month takes an original approach to showcasing the works of 12 prominent Australian artists.

Rock the Boat, curated by artist and former Monash staff member Mr Jon Campbell, includes more than 200 works-on-paper arranged around the gallery space to spell out each letter of the exhibition's title.

According to Mr Campbell, whose work is also featured in the exhibition, the unusual arrangement provides an opportunity to view the works and the exhibition from a number of different perspectives.

"Each letter includes around 20 works – at least one from every artist – which allows visitors to look at each letter as a microcosm of the whole exhibition, or to look at the letters one after another and follow one artist's work around the room," he said.

Mr Campbell believes the creative format perfectly expresses the originality and rebelliousness that were the exhibition's inspiration.

"I wanted the exhibition to come together freely and evolve in a casual way. Rather than set out with a particular theme in mind, I simply approached artists whose work I liked, those who I had worked in

collaboration with previously, and those who were friends and asked them to become involved," he said.

"I asked each of the artists to include the works in the exhibition that they liked or found interesting. In many cases I was surprised by what they included."

Works in the exhibition range from printed posters and music scores to elusive images in acrylic and watercolours and figurative drawings in pencil.

Mr Campbell said his own artwork explores his experiences of living both in Melbourne and in suburbia.

"Most of my work tends to focus on the ordinary but intimate moments

that surround you as you are growing up, raising a family or engaging with everyday life," he said.

"I take these intimate experiences and put them into the more general context of popular Australian culture so others can relate to them."

– Derek Brown

SHOW NOTES

What: *Rock the Boat*

When: Until 18 October

Where: Switchback Gallery, Gippsland campus

Who: For more information, contact the gallery on +61 3 9902 6261.

Opera in celebration of 'Merrie England'

The Alexander Theatre at Monash University will take on all the pomp and ceremony of Elizabethan England when a new comic opera opens at the university's Clayton campus this month.

Produced by the Gilbert and Sullivan Society of Victoria, *Merrie England* tells the story of Queen Elizabeth I as she seeks revenge after discovering her former admirer and royal courtier, Sir Walter Raleigh, is in love with her maid Bessie.

While not a Gilbert and Sullivan original, the play was written at the beginning of last century by esteemed musician Edward German during the hey-day of Gilbert and Sullivan productions.

And according to Gilbert and Sullivan Society publicity officer Dr Bernhard Boulton, the play, which includes a cast of more than 30 actors, follows in the traditions of all the great comic operas of that era.

"*Merrie England* has it all – from a storyline that includes secret liaisons and cunning plans, to period costumes and rousing songs," he said.

Dr Boulton said some of the songs featured in the production have become so familiar they have entered into Australia's cultural history.

"The very stirring and patriotic song found in the production 'The Yeoman



Royal capers: Cast from the Gilbert and Sullivan Society of Victoria's production of *Merrie England*, which opens at the Alexander Theatre on 31 October. Photo: Maurice Grant-Drew

of England' was taught to school children when I was young," he said.

"And 'Long Live Elizabeth', a song written for the production, was sung to Queen Elizabeth II by an Australian choir when she visited our nation after

her coronation in the 1950s."

The play was first produced in the Savoy Theatre in London in 1902, making the Monash production a celebration of the play's centennial year.

– Derek Brown

SHOW NOTES

What: *Merrie England*

When: 31 October to 2 November

Where: Alexander Theatre

Who: For tickets and more information, contact +61 3 9905 1111.

Exhibition brings environment to the fore

A new exhibition on show at Monash University's Caulfield campus this month reveals the environmental concerns of one of Australia's best-known installation artists.

According to artist Ms Janet Laurence, the exhibition, titled *Ferment*, provides an insight into how her art has been influenced by an awareness of nature.

"I have always been interested in the fragility of the natural world and our sometimes ambiguous relationship to it. As a result, each of the works on show is a thought experiment in how to portray this theme in a meaningful way," she said.

The exhibition includes a number of small sculptures or models, displayed on stands or shelves around the gallery or attached to the gallery walls. The sculptures are small-scale versions of works that Ms Laurence hopes to create as larger pieces in the future.

One of the sculptures included in the exhibition is designed as a tribute to extinct species of plants. The



Nature's influence: 'Greenspace III' from the *Ferment* exhibition now showing at the Faculty of Art and Design Gallery, Caulfield campus.

names of the species are engraved between sheets of glass, and the more names there are in any one section of the work, the harder it is to see

through the glass. Also on display is a model for an elixir bar where visitors will be encouraged to sample drinks of rare plant essences.

Having worked with environmental scientists in the past, Ms Laurence believes it is possible to use art and poetic language as a bridge between the scientific worldview and the concerns of the wider public.

"While not trying to preach, I feel my artworks are able to reveal a concern for the natural world which many people share," she said.

"I am terrified at the damage humans are causing to the natural ecosystems of our planet.

"I believe we cannot live without the balance a healthy environment provides us, or, at the very least, that it would be unbearable to do so."

– Derek Brown

SHOW NOTES

What: *Ferment*

When: Until 25 October

Where: Faculty of Art and Design Gallery, Caulfield campus

Who: For more information, contact the gallery on +61 3 9903 2707.

ARTS BRIEFS

Celebrating 41 years of collecting

A new exhibition opening at the Clayton campus this month celebrates the 41-year history of the Monash University Art Collection.

Running from 8 October to 14 December at the Monash University Museum of Art, the *People, Places + Ideas* exhibition will include some of the best works acquired for the collection over the past four decades.

For more information on the exhibition or the collection, contact +61 3 9905 4217 or visit www.monash.edu.au/muma/collection/

New piano strikes a chord

The Monash School of Music – Conservatorium has recently purchased an instrument crafted by one of the finest piano makers in the world, thanks to a donation from the Richard Pratt Foundation.

The foundation provided more than \$220,000 for the Steinway, known as the Rolls Royce of pianos.

School staff member Mr Kenji Fujimura and student Ms Jia Jia Yi will play the piano at a concert on 25 October at 8 pm in the Music Auditorium at the Clayton campus.

Ms Yi is one of seven students from the School of Music – Conservatorium who will tour throughout Asia at the end of November. The students will travel to Hong Kong, South Korea, Taiwan and Malaysia performing a range of styles and music periods.

For more information, contact the School of Music – Conservatorium on +61 3 9905 3241.

Monash Philharmonic Orchestra turns 20

Past and present musicians of the orchestra came together to celebrate the orchestra's 20-year anniversary during its annual spring concert last month.

The Monash Philharmonic Orchestra was formed in 1982 to promote orchestral music within the university and, according to concert manager Mr Nick Frampton, it has been an important part of the university's cultural life ever since.

For more information, contact Mr Frampton on +61 3 9565 0354 or visit www.monashphil.org

Young designers on RED alert

An emergency kit designed to help people displaced by natural disasters and conflict has won a Monash University lecturer the *Sydney Morning Herald* Young Designer of the Year award.

Mr Duncan Ward won the award last month with Ms Marnie Rudd, his business partner in their design company Satelight Design.

The winning design, called the Rapid Emergency Deployment pac (RED pac), includes a blanket, a small stove and cooking utensils in a bag that could double as a sleeping bag.

Mr Ward said the kit would be used during the initial stages of an emergency situation.

Monash ARC performance best in eight years

GRANTS

Monash researchers have pushed the university to its best performance in eight years of Australian Research Council grants.

Monash-led research projects attracted almost \$20 million in funding, including 56 Discovery grants – 14 more than last year. Monash was also granted funds for three professorial fellowships, one Queen Elizabeth II fellowship and seven Australian postdoctoral fellowships. The total value of 16 Linkage grants awarded to Monash also increased. Linkage grants are awarded to institutions for research involving industry partners.

Vice-chancellor Professor Peter Darvall said this year's result acknowledged outstanding successes in several faculties.

"There is a broadening of areas of Monash research excellence. We are determined to build on the ARC result to expand the base of our research strength," he said.

Monash is currently involved in some of Australia's most significant research endeavours, such as the \$157 million Australian synchrotron development and the \$43 million National Stem Cell Centre – a national centre of excellence.

In the ARC round, a research project seeking innovations in electrochemical processes led by Professor

Alan Bond, the head of the Department of Chemistry, was awarded a prestigious five-year grant totalling \$1.07 million.

The Faculty of Science was successful in gaining 13 Discovery grants, while the faculties of Engineering and Medicine, Health and Nursing Services both received 11 grants.

Seven of the 10 Monash faculties improved on last year's results with significant new funds going to Arts, Law and Business and Economics for new research into fields including linguistics, performing arts, history, philosophy, constitutional law, marketing, risk management and economics.

Other projects attracting grants include:

- \$450,000 over three years to Dr Stephen Bottomley from the Department of Biochemistry for a project on the structure, function and biology of serpents;

- \$710,000 over five years to a team led by Professor Gordon Lister, of the Department of Geosciences, on the evolution of the Alpine-Himalayan chain;

- \$539,000 over five years to Professor Simon Marginson, of the Faculty of Education, for a project on the Enterprise University;

- \$842,000 over five years for a team led by Dr Maria Forsyth, of the School of Physics and Materials

Engineering, for research into advanced polymer electrolytes;

- \$488,000 for a team led by Professor Barry Muddle, of the School of Physics and Materials Engineering, for research into nanostructures.

Deputy vice-chancellor (Research and Development) Professor Gary Bouma was pleased that the improvements were evident across most Monash faculties, with many cross-faculty and team-based applications being successful. "This ARC round has recognised both established and emerging researchers at Monash, which is a good indication of the depth and breadth of the applications coming from the university."

– David Bruce

Flexibility lures professionals into teaching, study shows

EDUCATION

A preliminary study into the reasons professionals are choosing to return to university to study teaching has found flexibility, security and an unfulfilled desire to teach is attracting people into the profession.

The study, 'A survey investigation of influences and choices in attracting graduates into teaching', was conducted by Dr Paul Richardson, associate dean (teaching) in Monash's Faculty of Education, and Dr Helen Watt from the Faculty of Education at the University of Sydney.

It aimed to determine the reasons that graduates of all disciplines decide to pursue teaching as a career.

Dr Richardson said the study, a preliminary investigation currently being further researched by the pair, was undertaken in response to the high number of professionals returning to university to study teaching.

"Every year at Monash we have people who come into the postgraduate course from very high-status occupations," he said.

"We have had lawyers, people who have medical degrees, people who have been engineers, lawyers, managers and chartered accountants – in fact people with careers that many teachers would aspire to."

The study identified five clusters of reasons for professionals choosing to change careers and become teachers – including more time for the family, financial security, enhanced social status, desire to work with adolescents and contribute to the community, and an unfulfilled aspiration to teach.

Dr Richardson said that while he was reticent about making generalisations from the preliminary study, it had identified interesting factors that could be investigated further. He said the study, which surveyed graduates



Call of the classroom: Monash's Dr Paul Richardson, right, and Dr Helen Watt from the University of Sydney have found that flexibility and security are luring professionals into teaching.

studying teaching at a Melbourne university, found that they wanted a career that provided flexible working hours and allowed for more time with the family.

"Interestingly, this was true for both males and females and for those with and without children," he said.

The broader study, which will survey education students from Victoria and New South Wales, will also look at

the differences in the reasons school leavers and mature-age students choose teaching as a career.

It will include tracking school leavers from the first year of their teaching degrees through to the start of their careers and will seek to identify which students carry on to become teachers and which do not.

Dr Richardson said the preliminary study showed that teaching could no

longer be seen as a career of last resort. "In fact it is a career of choice for many people, people who could well choose – and indeed have chosen – other career pathways," he said.

– Diane Squires

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Biodiversity centre plans for the future

SUSTAINABILITY

A research centre that aims to maintain environmental sustainability in Australia has been established at Monash University.

The Australian Centre for Biodiversity: Analysis, Policy and Management brings together Monash researchers with specialties in terrestrial and aquatic ecology and conservation biology; environmental policy formulation; impacts of invasive, exotic species; and conservation genetics.

Centre director Dr Ralph Mac Nally from the School of Biological Sciences said the centre would be multidisciplinary and would work with natural resource managers, private stakeholders and the community to find solutions to the global loss of biodiversity.

Dr Mac Nally said it had been predicted that 50 years from now, almost all plant production would be for the use of humans – either directly in the form of crops or indirectly in feedlot production and grazing.

"The implications for the fate of global biodiversity from such predictions are dire. We face the greatest mass extinction in the history of the Earth," he said.

"What we need is a much deeper understanding of the economic, social, legal, institutional and human behavioural barriers that are preventing us from moving from the current, much-degraded state of many of our landscapes and catchments to futures that have potential long-term sustainability."

– Penny Fannin

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