

Computer adds new weapon in fire battle

Firefighters of the future could use laptop computers to help battle bushfires in the Adelaide Hills.

A team of researchers from the University of Adelaide has developed a computer bushfire simulation which is accessible via the internet.

The bushfire model contains detailed information about the terrain of the Adelaide Hills, vegetation type, land usage and fire histories. It also takes into account such factors as wind speed, wind direction, temperature and humidity, which influence the growth and intensity of a fire.

Firefighters in the field can access the computer model by using a laptop computer and a mobile phone. They can start a simulated fire on the computer, see what conditions are influencing its movement, and within minutes see where the "bushfire" is likely to spread.

In a real life situation, firefighters could use the model to determine how best to combat an actual blaze, by creating a fire on the simulator that matches the dimensions and location of the real one.

This could provide valuable information about where to deploy resources and which routes through the hills are safest for personnel and appliances.

"We believe this kind of computer simulation, especial-



Aftermath - the devastating effects of bushfire. Photo courtesy of the SA Country Fire Service.

ly with its internet interface, will become critical to the future of emergency services not just in Australia but the rest of the world," said Dr Peter Eklund, senior lecturer in the Department of Computer Science and one of the leaders of the computer simulation project.

"Currently, the measuring of fire fronts is all done by aerial surveys in helicopters, and the observers mark dots on a map to show where the fire is.

"What we're talking about is the firefighters being on the ground, using their computers to continually update the information about the changing fire front. That information would then be fed back to the central command so that decisions can be made immediately about the best approach to tackle the fire."

The bushfire model is based on a computer simulation designed by the CSIRO. With Geographical Information Systems (GIS) technology and

spatial computer software designed by Adelaide-based company Maptek Pty Ltd, the model uses data from State Government departments to accurately recreate the Adelaide Hills environment.

Working on the model with Dr Eklund is Dr Steve Kirkby from the University's Key Centre for GIS, who was previously involved in an earthquake simulation for the Japanese city of Okayama. Computer Science Honours student Mr Jonathan Mann

designed the internet interface for the model, which allows firefighters to access the bushfire simulation from the field.

The project is funded by several grants, including a collaborative grant from the Australian Research Council.

Dr Eklund said although the model could already be used via the internet to run simulations, there was still more work to be done to realise its full potential.

"The next step is to render it in three dimensions, so that means you'll be able to look at the terrain in different ways and see much better how the fire is affecting that land," Dr Eklund said.

"We'd also like to develop the simulation further, to make it a strategy support system for firefighters.

"So the simulation will actually suggest what the best procedure is to fight a fire on any given front, where to deploy the resources, and what the quickest route is through the terrain."

Dr Eklund said computer models of this kind had many important applications for the military and emergency service areas, and there were currently plans to develop a computer simulation to help deal with flooding situations.

—David Ellis

Careful discussion of Penington draft report as Vice-Chancellor makes key administrative changes

Council and Academic Board have begun to consider the draft report on the University of Adelaide's senior management structure and administrative processes submitted recently to the Vice-Chancellor by Professor David Penington.

The draft report makes fifteen recommendations concerning, *inter alia*, the role and membership of the Senior Management Group and the Academic Board, the role of the Council in governance, the nature of Divisional and Faculty structures, and the University's financial management function and systems.

The Vice-Chancellor said she was very pleased with the Council's discussion of the draft report on 14 February, and the debate at Academic Board.

"It is very healthy for the University as a community to discuss these major issues in such a considered way," she said.

Convener of Academic Board, Professor Doug McEachern, said the Board's meeting on 12 February to discuss the draft report was well attended.

"There was a careful, thoughtful discussion in the Academic Board about the broad issues raised by the Penington draft report," he said.

"It was significant to note how seriously the Board took the need to link academic policy formation to questions of resource availability and the limitations imposed by resource constraints."

Professor Penington's draft report is available from the Vice-Chancellor's Office. Comments on it may be addressed directly to the Vice-Chancellor or to Professor David Penington (through Rex Hanney on ext. 35668).

Meanwhile, the Vice-Chancellor has gained Council endorsement for key changes to the University's administration following the retirement of Professor Ian Falconer as Deputy Vice-Chancellor (Academic).

Professor O'Kane has begun the recruitment process for three senior management positions for five-year terms. One is the current position of Deputy Vice-Chancellor (Research), which has been filled in

an acting capacity by Professor Ieva Kotlarski since 1 July 1996.

The others are new positions — a Deputy Vice-Chancellor, operating from the Vice-Chancellor's area, and a Manager, Finance and Systems.

Professor O'Kane has appointed Professor Doug McEachern to act concurrently as Deputy Vice-Chancellor and Mr Bryan Scherer (Director, Finance) as Acting Manager, Finance & Systems while the recruitment process is taking place.

The position of Deputy Vice-Chancellor (Academic) will no longer exist. The Vice-Chancellor has also changed some reporting lines following Professor Ian Falconer's retirement as DVC(A).

The Academic Services Registrar (with Student Administration and Student Services) now reports to the Registrar, as do International Programs, the Centre for Physical Health and the Office of Continuing Education.

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Hearing Voices

One of the great pleasures of the last couple of weeks has been hearing the debate, hearing the voices contributing to discussion of the Draft Report reviewing our management and administration submitted to me by Professor Penington. The excellent discussion at both Academic Board and Council, and the more informal debate that has raged across the whole University have been vigorous and helpful in shaping a vision of how we might better manage the affairs of our University, conduct the core business of teaching and research and continue to develop appropriate administrative structures to support these activities.

The notion that the Academic Board must function as the central forum for the discussion of all academic matters has been widely supported and it was good to see that the Board acted in this way at its first meeting of the year. There will be a continuing need for the Board to sustain this high quality of debate throughout the year. It will need to tackle big issues, in particular the changes we will have to make in order to manage our educational activities so that this University is attractive to Australian students and to those from overseas. It will need to embrace policies to deal with full-fee paying students and what their inclusion in our community will mean for academic standards and progression. It will need to debate and discuss a reshaped University Plan that details our objectives and activities for the coming years.

Student voices are an important part of this process. It has been heartening to hear those voices ringing out loud and clear in the current debates. It is important that we remember that their contribution is absolutely vital to all major debates on our future.

It seems to me that we have a dauntingly long agenda this year but I have every confidence that all issues will be tackled effectively. Some might be tempted to think that there could be many sore throats in the University by the end of 1997 but given the professionalism of this University and especially the lecturing capabilities of its academic staff that seems most unlikely.

MARY O'KANE

VC Quibbles



May I suggest that the *Adelaidean* minds its p's and q's? Let p represent 'university teaching should inspire' and let q represent 'university teaching should be useful'. The latest Voice of Logic correctly notes that I have argued widely for p; but tacks on the statement $p \Rightarrow q$. My position remains $p \wedge q$.

An old amphisbaenic vice

John Truran questions the new Doctor of Nursing degree ...



Your report of the new DNurse [sic] (*Adelaidean* 10 Feb 97) is worrying. How a degree examined with half a dozen 5000 word essays done in six month chunks can be equivalent to a thesis of some 100,000 words which is the result of three years reflection has never been satisfactorily explained. I know no-one who believes the two to be equivalent, I know many who have cynically decided to give in and many of these, in the current university climate, are too frightened to speak out openly.

When we consider that the DNurse was rushed through Academic Board in defiance of policies for professional doctorates laid down just some 10 minutes earlier we must wonder what is going on in the university's corridors of power.

If professionals need further degrees then let them have them. But do not call them doctorates. The rape of this term to describe learning of an entirely different form is one more nail in the coffin of university integrity.

Universities are dedicated to critical thought. It is time that the *Adelaidean* reflected these aims by making its reports more balanced

and independent. It should not be a tool of the decision makers.

John Truran
Education

... and Alan Pearson replies



As a group of some 140 academic staff and clinical title holders, members of the Department of Clinical of Nursing, like Mr Truran, subscribe to those values which are associated with the traditional university and are committed to a spirit of openness and debate. We therefore welcome vigorous, constructive critique and invite John Truran to join us at any time in the Department of Clinical Nursing to enter into debate with us.

Our only demand would be that his contribution be characterised by the "dedication to critical thought" he refers to in his letter. Critical thought is, by definition, based on the honest use of accurate information and we feel it is important to correct the inaccuracies in Mr Truran's letter:

1. The assessment of the course is not '... half a dozen 5000 word essays done in six month chunks ...'. There are a number of different assessment components within the DNurs program, including the submission of a number of research-oriented extended essays, some of 6,000 words in length. However, the central component of the work to be examined for the degree is a research portfolio in which candidates are expected to report on a substantial program of research carried out during their candidature which represents an original contribution to nursing knowledge. This portfolio, consisting of not less than 70,000 words, will be examined externally in exactly the same way as a PhD thesis. If words are to be the measure of doctoral work then these students will be writing over 100,000. We would how-

ever prefer the emphasis to be upon originality and scholarship that contributes to knowledge.

2. From our perspective, the DNurs was not 'rushed through. . .'. Indeed, the process from the time the curriculum was first presented to the Departmental Committee until its approval took 18 months. During this time the proposed curriculum was approved by the External Advisory Committee for Nursing Studies; the Faculty of Medicine; ACUPS; Academic Board; Council; and the University Senate. Debate was spirited at some of these meetings but, at all of them, a decision was made to endorse the offering of the degree through the use of the democratic process.

3. There is disagreement within any academic community — both between and within disciplinary fields — about standards and their interpretation. In our field, a doctoral degree represents the successful completion of a substantial piece of academic work which makes, in the view of acknowledged scholars in the field who act as examiners, an original contribution to knowledge. Although the structure of the DNurs is different to that of the traditional PhD, it is of an equivalent academic standard and will be examined with equal rigour.

The introduction of professional doctorates within the Australian university system is still a topic of much debate, and rightly so. We are keen to participate in, and learn from, such debate so that academic standards are not compromised and the status of doctoral degrees is maintained through the offering of the DNurs. We do demand, however, that the ongoing debate be grounded in openness, accuracy and a genuine pursuit of quality in research and knowledge development rather than half truths, sweeping judgements and an adherence to a fixed position.

Alan Pearson
Professor of Clinical Nursing

GUEST COMMENTARY

The place of Humanities and Social Sciences in the new style university

In recent years the situation of Australian universities has been profoundly transformed by policies following on from economic rationalism that have altered, in ways not yet fully developed or understood, the composition of the student body, the processes of selection, the relationship between student and teacher, and the understanding of what a tertiary qualification means.

The current strong emphasis on the articulation of higher education and the workplace reflects a widespread assumption that the purpose of universities is to produce workers to fit employment opportunities and industrial needs.

The commercialisation of research, and the financial and political encouragement accorded to research that can be presented as bearing immediate and calculable relevance to desired economic goals, have worked to alter significantly the models of intellectual enquiry with which we have long worked. Further, there is every indication that we are only part of the way through a period of restructuring and reorientation which it is hard

by
Professor Penny Boumelha
Head, Humanities and
Social Sciences

to imagine ever being fully reversed.

For many in the Humanities and Social Sciences the new style university can be characterised in the gloomiest of terms:

"Higher education is no longer about imparting high aesthetic and moral values, tutors no longer develop minds. Rather, universities have become large, bureaucratic, disciplinary machines that process human subjects as units of consumption or utility; lecturers have become technicians who programme students with a number of 'transferable skills' available for purchase and employment on the job market.¹"

Change is not in itself a bad thing, though, and we should also remember the genuinely beneficial transformations undertaken within the tertiary sector in such matters as equity and access, greater support for students, greater clarity and reflectiveness in formulating our aims in teaching and research, and responsiveness towards both student evaluation and community concerns.

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Cyclists gear up for language learning

A team of cyclists from the Australian Institute of Sport (AIS) will find communicating in Europe just a little easier thanks to Continuing Education at the University of Adelaide.

Continuing Education has offered language course to the public for many years, but has recently branched into specialised courses for business purposes.

Recently, the AIS approached Continuing Education to organise a "Survival/Conversational" Italian course specifically designed for the needs of 11 cyclists travelling to Europe in March.

The course, which runs for four weeks, is now underway at the AIS headquarters at Henley Beach. It introduces the students to basic Italian to help them deal with media questions and generally be understood off the track.

Continuing Education also recently completed an Indonesian Language, Business and Culture course organised for SA and United Water employees, who had a need for an insight into Indonesian language, culture and business eti-



AIS cyclists currently undertaking the Continuing Education Italian course. Photo courtesy of Continuing Education.

quette to help them in their dealings with Indonesian business colleagues.

The Program Co-ordinator, Languages at Continuing Education, Melissa Portelli, says the course had excellent feedback from both the students and tutor, with reports so far indicating it has "proved invaluable".

• If you require a specific language course designed to your needs or general language information, contact Melissa Portelli at Continuing Education on 8303 4777.

Academics call for national overdose database

Drug overdoses should be monitored in a national database to help give a better picture of the illicit drug problem in Australia, according to a group of drug experts at the University of Adelaide.

The call follows recent media attention given towards deaths in Australia from the so-called "designer drugs" MDMA (ecstasy) and PMA.

Ecstasy can cause serious toxic reactions in users, including hyperthermia, raised blood pressure, increased heart rate, stroke, dehydration and renal failure.

There have been 12 known ecstasy-related deaths in Australia over the past two years.

Writing in the *Medical Journal of Australia*, Dr Jason White, Professor Felix Bochner and Dr Rodney Irvine from the University's Department of

Clinical and Experimental Pharmacology outlined a number of recommendations aimed at preventing deaths from drug overdoses.

One of these was to implement a "central collection of information" on drug overdoses in Australia, which would help to accurately determine the number of deaths from overdoses as well as non-fatal overdoses which required some form of medical treatment.

"We... need to know what drugs are available in the illicit market and the toxicity of each," they wrote.

"The magnitude of the problem can be accurately assessed only if there is a national coordinating body to collate information from each of the State and Territory jurisdictions."

Although the death rate from

ecstasy was relatively low compared with the frequency of its use — and extremely low compared with the hundreds of deaths each year from heroin overdoses — Dr White, Professor Bochner and Dr Irvine said ecstasy deaths were "particularly puzzling as they are unpredictable".

They said more research into ecstasy and PMA was needed to help understand why the drugs led to the death of some users, while others suffered only minor toxic effects.

Further recommendations included creating guidelines for ecstasy use (for those people who continued to ignore the warnings) and the provision of suitable "cooling-off" areas in nightclubs, where the use of ecstasy and related illicit drugs was at highest risk.

—David Ellis

VC makes key admin changes

Continued from page 1

The Advisory Centre for University Education, the executive assistant for Departmental Reviews and some staff of the DVCA's Office now report to the Convener of the Academic Board.

Professor O'Kane has also established a new Secretariat within her office under the direction of Ms Susan Graebner.

The new Secretariat will provide support for Council, the Vice-Chancellor's Management Committee, Academic Board and a number of other Council and standing committees.

—John Edge

Teaching year off to an early start in Enterprise Education program

What do students and graduates from disciplines such as Science, Industrial Design, Music, Arts, Chemistry and Engineering have in common?

Answer: An interest in setting up and running their own businesses.

About 20 people from these diverse fields attended "An Introduction to Small Business Management" — a one-week course at the University's Thebarton Campus from 20-24 January.

The course was held to give support and training in small business management to this year's group of Business Initiatives from Graduates (BIG) candidates, who are in the process of setting up their businesses at the Thebarton Campus.

Also taking part were PhD candidates, and participants in the Graduate Business Support Scheme (GBSS), the Graduate Industry Linked Entrepreneurial Scheme

(GILES) and the Graduate Diploma in Business Enterprise.

The course represents a head-start for the participants, who needed the training in January rather than waiting until March when the academic year commences.

Presentations by guest speakers were a highlight of the five-day program, involving organisations such as Coopers & Lybrand and PriorityOne Financial Services. Other contributors included entrepreneurs who have already started their own businesses through the University's BIG scheme.

"It's pleasing to see students and graduates from all three South Australian universities, and from a diversity of disciplines, come together to learn about self-employment and how to manage their own enterprises," said Ms Joanne Pimlott, Coordinator of Industry Linked Education at the Thebarton Campus.

The News IN BRIEF

APPOINTMENT TO COASTAL COMMITTEE

Associate Professor Nick Harvey (Director, Environmental Studies) has been appointed as the Australian representative on the International Scientific Steering Committee of LOICZ (Land-Ocean Interactions in the Coastal Zone).

The LOICZ project has its central office in the Netherlands and is part of the International Geosphere-Biosphere Programme run under the auspices of the International Union of Scientific Unions. Thirteen countries are represented on the LOICZ Scientific Steering Committee which conducts meetings and special projects around the world.

Associate Professor Harvey has published extensively in coastal research and planning and was the convener for last year's Australian National Coastal Management Conference sponsored by the University of Adelaide.

ENVIRONMENT SEMINARS

The USERP (United Scientists for Environmental Responsibility and Protection) Agriculture Working Group will be holding a new series of seminars at the Waite Campus this year.

The aim is to promote discussion and debate about the environmental impact of agricultural chemicals, alternative and low input methods of pest, disease and weed control, feeding the world's increasing population, the impact of biotechnology on agriculture, and corporate control of food production.

The first seminar takes place in the Charles Hawker Conference Centre on Thursday 6 March at 12noon, and features Associate Professor Mike Tyler (Zoology) and Dr Joe Bidwell (Pharmacology & Medical Sciences, UniSA), on the topic, "Environmentally friendly?: the impact of herbicide on frog populations".

MAWSON BOOKLET

The Vice-Chancellor, Professor Mary O'Kane, will launch the booklet *Douglas Mawson - Explorer/Scientist* at the South Australian Museum on Wednesday 26 February.

The booklet is a fund-raising initiative of the Mawson Antarctic Collection Appeal and is a joint project of the University of Adelaide and the South Australian Museum. It was funded by a grant from the University's Quality Funds (Community Service).

APPLE UNIVERSITY GRANTS

Four University of Adelaide staff have been successful in the latest round of Apple University Development Fund (AUDF) Grants.

They are Dr Murray Barclay (Clinical & Experimental Pharmacology), Dr Glenys Bishop (Statistics), Associate Professor Peter Devitt (Surgery), and Associate Professor Edward Cleary (Pathology). Between them, they were awarded a total of \$33,693 in Apple and third party products, services and software.

The AUDF is a fund for the Apple University Consortium, created and financed by Apple Computer Australia, which supports software, hardware and development resources on participating campuses.

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Internet trail to Oxford scholarship

University of Adelaide Geology & Geophysics graduate Mr Darren Gröcke has been awarded a prestigious scholarship funded by Esso UK to study for a DPhil (PhD) at the University of Oxford.

His research at Oxford, under the supervision of Dr Stephen Hesselbo and Dr Hugh Jenkyns, deals with strontium and carbon isotopes found in marine fossils from the Jurassic and Early Cretaceous periods, 205-110 million years ago.

Mr Gröcke will be collecting samples from Europe, Canada and Argentina to investigate a possible link between the fossils from different parts of the globe during those time periods.

The results will provide a tool which can be used to correlate geological sequences in North America, South America and Europe, thereby providing a better understanding of the evolution of life at that time in the world.

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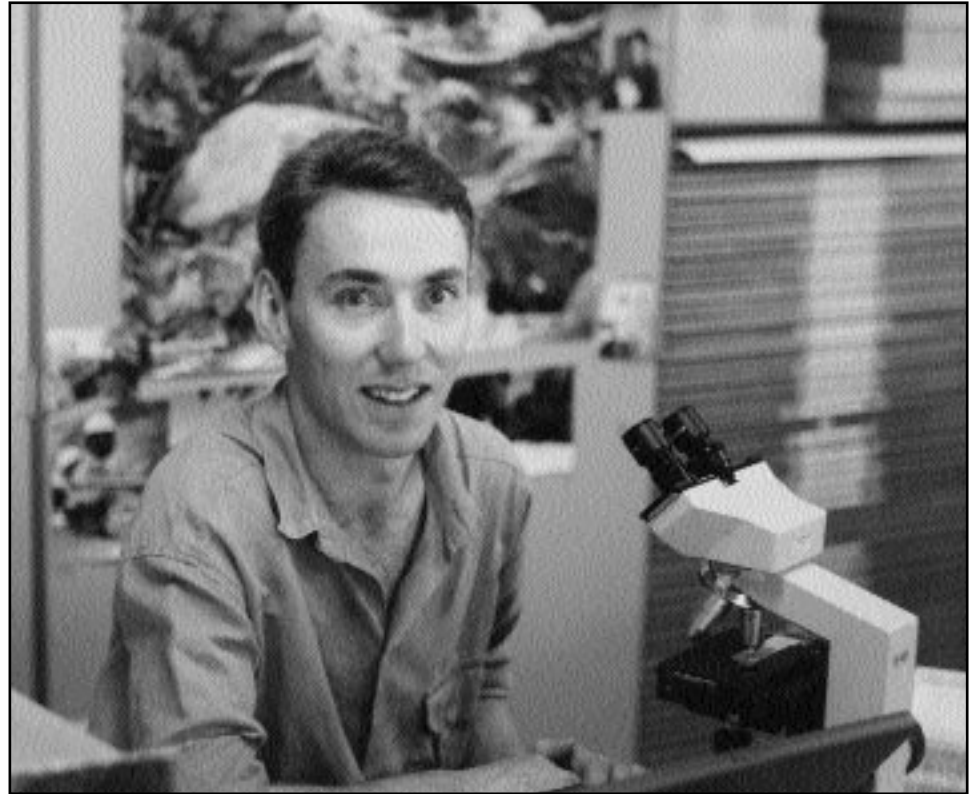
The University of Oxford advertised the scholarship extensively in the UK and on the internet, which is how it came to Mr Gröcke's attention. He emailed a letter of enquiry and a brief resumé including his published research. This was followed by references from academics in Paris, the Australian National University and the University of Adelaide. Soon after, a letter of acceptance was on his desk.

"I was over the moon about it. It was almost like a fairytale," Mr Gröcke told the *Adelaidean*, just before leaving for the UK on New Year's Day.

"When I entered my Masters one of my main aims was to go on and do a PhD overseas. This is probably a once-in-a-lifetime opportunity, and I've worked hard to get it so I'm going to make the most of it," he said.

Mr Gröcke completed his Bachelor of Science degree at the University of Adelaide in 1994, specialising in geology. He then went on to start a Master of Science at Monash University, focusing initially on the geochemistry of fossil dinosaur bones. His work on extracting and analysing proteins from fossilised bones led him to present lectures at conferences around the world, including Paris and Heidelberg.

His research then took a different turn — the analysis of fossilised plants instead of bones.



Darren Gröcke: Esso scholarship supports study in Oxford. Photo: David Ellis

"The material in plants is more stable during the burial process. And, because the isotopes in fossilised plants behave in a similar manner to modern plants, inferences can be made about the nature of the world's environment hundreds of millions of years ago," Mr Gröcke said.

"Part of my research at Monash involved looking at what kind of environmental changes occurred 135-100 million years ago, which was a time when the Early Cretaceous shifted towards a greenhouse climate. By looking at the carbon isotopes in fossilised plants, I was able to get a clearer picture of the changes in carbon dioxide levels during that time period."

Like his previous research, this work was presented at an international conference in Phoenix, Arizona. Soon after he returned to the University of Adelaide as a visitor, where he conducted research on fossil plants from South Australia under the supervision of Dr David Christophel in the Department of Botany.

Since Mr Gröcke's graduation from the University of Adelaide he has published two research papers, with another five due to be published this year. He has also been awarded several grants and conducted research with palaeontologists throughout

Australia, Europe and the US.

Mr Gröcke has wasted no time starting his latest research project since leaving Adelaide. On the way to Oxford he stopped off at Vancouver to collect samples vital to his research. He will return in June to collect more samples from the Rocky Mountains.

"And since Esso UK is part of the EXXON Group, I'll be visiting their labs in Houston, Texas, to present my data and continue my research there," Mr Gröcke said.

He said he was very pleased, and grateful to Esso UK, to have been awarded the scholarship. As for the future, when his three years at Oxford are over and his DPhil is completed, Mr Gröcke is leaving his options open.

"Apart from the knowledge gained from the research about the fossils and the state of the Earth environment in that time period, there may be other things to come out of this," he said.

"In particular, there's the possibility of employment with Esso or EXXON, so I may move into industry instead of pursuing an academic career. But whatever I do, I'd like to continue doing research," he said. "It's what I've got accustomed to, and it's what I really enjoy."

—David Ellis

Popular Opera for a night in the park

Performing Arts graduate and recent Zonta Fellowship winner Catriona Barr is among the cast of State Opera's opening production in the 1997 season.

Ms Barr plays the part of Giovanna in Verdi's *Rigoletto*, which will be performed in a concert version for Opera in the Park in Elder Park on Saturday 8 March.

The popular opera will feature performances by four singers from the State Opera's Young Artists Program — among them Catriona Barr. The 1997 Young Artists Program, sponsored by Esso Australia Ltd, is designed to give South Australians with outstanding potential the opportunity to develop their skills from within a major performing arts company.

Catriona Barr, a mezzo-soprano, performed the lead role in Kidney Art Ensemble's Barossa Music Festival production of *Alma*, and has toured extensively with Adelaide's touring company Co*Opera.

—John Edge

Women's network launches 1997 program

The University of Adelaide's professional development group for women general staff at all levels has launched a program of high profile speakers and career development discussion opportunities for 1997.

The Vice-Chancellor, Professor Mary O'Kane, will be the first speaker at this year's Women's Professional Development Network lunchtime forums.

Professor O'Kane will address the group on 5 March at 12.30pm in the National Australia Bank Seminar Room, 5th floor, 233 North Terrace.

An address by Equal Opportunity Commissioner Linda Matthews and a discussion panel involving leading personnel consultants are also scheduled for later in the year.

Convenor Kathie Hurst, Personnel Services Branch, said a survey of WPDN participants last year revealed considerable interest in activities which supported career development.

She said the WPDN's lunchtime networking forums were extremely popular, and there was also considerable interest in a trial mentoring program now in its final stages.

Membership of the Women's Professional Development Network is open to all women general staff. The WPDN's purpose is to foster within the University an environment in which women achieve their personal and professional potential. Further information can be obtained from Kathie Hurst, ext 33277.

—Pat Cree

French connection benefit to food industry

When French PhD candidate Mlle Marielle Gay defended her thesis in a gruelling three-hour oral examination in Paris last December, the Department of Chemical Engineering's Dr Ken Davey could feel for her.

"The French *vive voix* system is very tough, and it's difficult to camouflage deficiencies," says Dr Davey, a member of the University of Adelaide's Food Technology Research Group (FTRG). His group co-supervised Mlle Gay's thesis with the Paris-based Institut National de la Recherche Agronomique (INRA).

Dr Davey was one of a seven-member panel examining the thesis — on the pathogenic, food-borne bacterium *Listeria monocytogenes* — which was presented for a degree in L'Ecole Nationale Supérieure des Industries Agricoles et Alimentaires (ENSA).

The joint project, and its successful outcome — Mlle Gay was awarded the degree with honourable mention — continues an increasingly fruitful linkage between Adelaide and French scientists in the field of food technology, in particular the development of mathematical models to predict the rate at which bacteria in processed foods grow, die and survive under given environmental conditions (known as microbiological process modelling).

The multi-disciplinary FTRG — involving staff from Chemical Engineering, Microbiology & Immunology and Statistics — was established in 1993. That same year — with support from the University, INRA and the Department of Industry, Science and Technology (DIST) — Dr Davey visited France and the joint PhD project got under way.

Dr Davey then spent four and a half



Dr Ken Davey is pictured left with members of the thesis jury in Paris. Mlle Gay is fourth from left. Photo courtesy of Dr Davey.

months as a Senior Visiting Research Fellow at INRA in 1995, while on the Adelaide side his group has hosted visits from senior French scientists Dr Olivier Cerf (head of INRA's Laboratory of Hygiene Engineering and Food Processing), and Professor Claude Bourgeois from the Université de Bretagne Occidentale, director of the industry-funded French food research association ADRIA.

Dr Cerf and Professor Bourgeois jointly run France's predictive microbiology program.

Last year, the Food Technology Research Group also hosted two French masters students on a trial exchange for supervision of project work; this was partly funded by the French Embassy in Canberra. This year, the FTRG is sending one of its own PhD students to France in April.

Microbiological process modelling is still a very new field — Dr Davey helped organise its second internation-

al congress in Hobart last year — and the Adelaide group is one of only six in the world (all necessarily multidisciplinary).

"The collaboration with France works extremely well for both partners," Dr Davey says.

"France makes a major contribution in the form of large and very costly databases for the effect of environmental factors on a range of micro-organisms of significance to public health, while Adelaide provides an internationally recognised framework of developing theory and mathematical skills, analysis and model formulation."

Dr Davey believes that his group's work, and its collaborative links not only with France but with US and UK researchers, have the potential to be of great benefit to Australia's food industry — the country's largest manufacturing industry.

"At present, food processing is generally over-conservative, with some-

thing like a 600% over-treatment in sterilisation. This wastes energy and denatures the vitamin content," he said.

"The idea now is to use predictive modelling rather than relying on downstream analysis. The key to our work is understanding the kinetic behaviour of bacteria under given environmental conditions and we do that by developing rigorous mathematical models for computer simulation."

Dr Davey says the long-term aim of such research is computer control of food processing.

"The country that gets there first will have enormous advantages," he said, citing the massive research funding provided by Unilever in the UK as an example of the economic importance attached to the field.

While overseas for the thesis examination, Dr Davey also presented a paper in the Department of Chemical Engineering at Cambridge University. He hopes to give a public lecture later this year to discuss an unexpected correlation from his work "which may flag a new law of bacterial growth, death, and survival".

The group is also trying to organise a visit from one of France's most senior scientists, Mme Professeur J Rocourt, Chef de Laboratoire of the Institut Pasteur in Paris, who was one of the examining jury for Ms Gay's thesis.

"Given France's very important position within the EC, its large food industry and the opportunities for developing further collaboration, we are very keen to maintain continued excellent relations and see flow-on benefits to the food industry in both countries," Dr Davey said.

—John Edge

VC tours Waite nature reserve



L to R: Mary O'Kane, contract vegetation manager Phil Shearman and Waite Arboretum manager Jennifer Gardner. Photo by CSIRO's Peter Martin

The Vice-Chancellor, Professor Mary O'Kane joined CSIRO and Waite staff on a walking tour of the Waite Conservation Reserve on a sunny Saturday in January.

The Reserve occupies 160ha of Hills Face land, with superb views of the Adelaide Plains. The guides were able to show the Vice-Chancellor evidence of koalas and kangaroos living on University land, and an array of now uncommon native plants. Since sheep were removed five years ago, regeneration of native trees and shrubs has been impressive, as are the effects of a comprehensive olive clearing program.

A new group, "Friends of the Waite Conservation Reserve", is now being formed, and plans a series of guided walking tours and other events to brief participants on the Reserve and some of its management issues and to encourage volunteer assistance with maintaining and developing the walking trails. The first guided walk will be held from 5.00 to 7.00pm on Thursday 27 February [see Coming Events].

For further details call Jennifer Gardner (8303 7405), Peter Martin (8303 8723, email: pgm@adl.dwr.csiro.au), or Greg Rinder (8303 8514, email: Greg.Rinder@adl.soils.csiro.au)

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• If you can't get to WOMADelaide turn into the special programs at 6.30pm each night (28 Feb, 1 & 2 Mar) on 5UV (on ZAP FM 100.5 MHz) for the best of the festival. These programs won a national award in 1995 and are syndicated to over 40 community radio stations around Australia.

• For updates on 5UV programming specials check out the Bulletin Boards on CC Mail occasionally.

• 5UV has recently produced a document which outlines the services we can provide for academic departments within the University. For a copy contact Jeff Langdon on ext. 35000.

• For interviews and views about University life tune in to On Campus at 6.00pm (5.30pm from March) Fridays and 2.00pm Saturdays.

• 5UV's broadcast on the Internet continues to attract comment from all over the world. Recently an academic from Wisconsin wanted us to interview his brother who was on sabbatical at the University of Adelaide. We obliged. Listen at www.adelaide.edu.au/5UV.

Advertisement

Adelaidean Interview

PROFESSOR LEE PARKER is the newest member of the University of Adelaide's Department of Commerce, having been appointed to the second Chair in Commerce and to the position of Associate Dean (Research). Professor Parker, who was formerly with Flinders University's School of Commerce for more than eight years, spoke with *Adelaidean* reporter David Ellis about his new role.

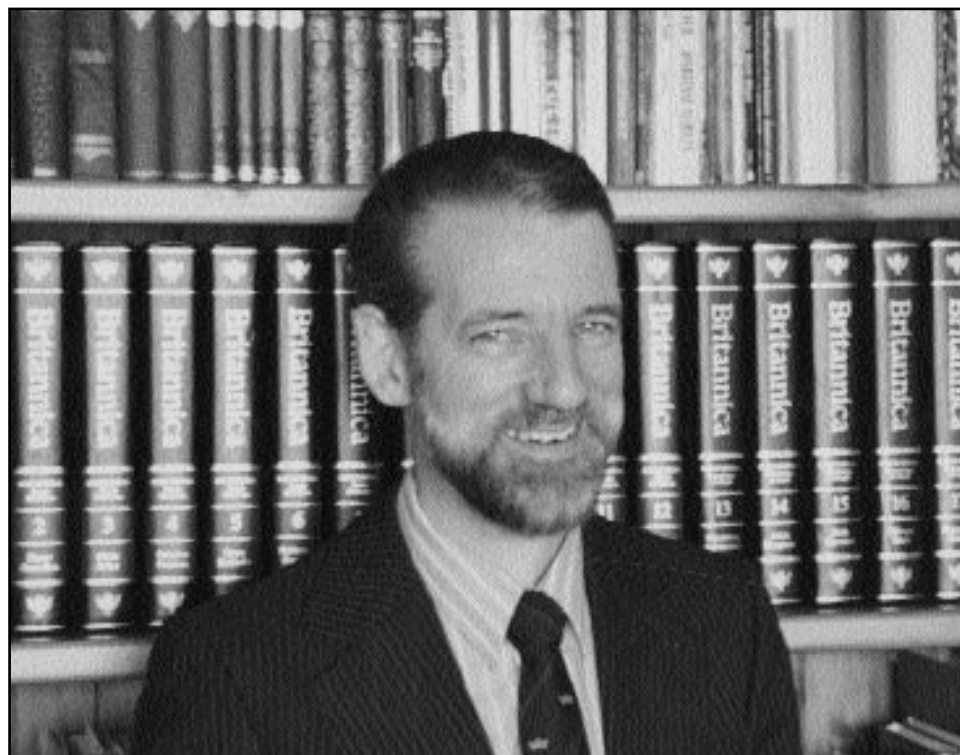
DAVID: Why have you been brought on board, and what are you hoping to achieve in the Department of Commerce?

LEE: The main role of the new Chair is to put a strong emphasis on research in the School of Commerce, to lift the research effort and research output. Commerce has planned a build-up of research, which I'm expected to lead, and I'll also be supporting the total postgraduate student research effort.

I'm heavily research oriented and I'm a founding co-editor of an international research journal that's been running for 10 years now. I'm on several international research journal editorial boards worldwide, so I'm what you might call a "research animal".

DAVID: What attracted you to the University of Adelaide?

LEE: The University and our new Vice-Chancellor have a strategic focus on two things: research pre-eminence and internationalisation. I'm very strongly drawn to those, because I'm involved in a lot of international research, conferences and networks. I was also attracted by the inclusion of management programs in the Bachelor of Commerce, making it more of a multidisciplinary degree.



Lee Parker — "an exciting time". Photo courtesy Commerce School

So there's the big research push within Commerce, which I think I can contribute to, the increasing internationalisation of its programs and activities, and the strong developments going on in management education. And, of course, I was attracted by Adelaide University's ranking as one of the top four research universities in the nation.

DAVID: What kind of research areas are you involved in?

LEE: My primary areas, in terms of teaching and research, are management planning and control, management accounting, and strategic management. Some other key areas include environmental accountability and audit, management of the public and non-profit sectors, business and professional ethics, and the history of management and accounting.

Much of my research tackles cur-

rent business problems and tries to reevaluate how some of these problems, practices or policies have arisen, why they are like they are now, and what we can do to improve them in the long term, rather than taking short-term bandaid approaches.

This covers not just the corporate sector but also the public sector and the non-profit sector, which is actually large in terms of employment, contribution to economy, and social impact.

DAVID: Professor Parker, welcome to the University of Adelaide... and thanks for talking to the *Adelaidean*.

LEE: My pleasure. I think this is an exciting time for the School of Commerce and the University, in terms of its ongoing research impetus and the internationalisation of its programs, and I'm glad to be a part of that.

GUEST COMMENTARY CONTINUED

The place of Humanities and Social Sciences in the new style university

And whatever the problems of the institutional context, intellectual debate and research in the Humanities and Social Sciences have in recent years been exciting and productive, in Australia as well as in the international framework.

It would be a mistaken strategy to dwell too nostalgically on other versions of the university. There is no benefit in our simply pitting an intractable rhetoric of culture, personal development and ethical values against an equally intransigent language of utility, vocation and marketability.

In our current circumstances, a Division of Humanities and Social Sciences must have recourse to 'soft instrumentalism'.²

What this means is that it is not only expedient but accurate to accept that the kinds of courses we teach have some vocational function and content, while also arguing for the intrinsic social and individual benefit of our disciplines.

The time has come to campaign effectively for the rehabilitation of the generalist degrees, building on the respect within the community for the intellectual skills embedded in them.

The Division must work to build up its

public profile in vocational skills and professional expertise. At the same time, we must insist within and beyond the University on the worth of our disciplines.

Terms like 'culture', 'citizenship' or 'values' often sound unfashionably, embarrassingly large in the claim they stake. Nevertheless I think we must be prepared to make that claim, drawing attention, for example, to the fact that many of the debates preoccupying Australian society (say, racism and multiculturalism, republicanism, environmentalism, the ethics of genetic manipulation or euthanasia) are conducted with concepts, values and arguments stemming from the Humanities and Social Sciences.

These, pre-eminently and beyond vocational skills, are what we have to contribute, and their value to our society is not limited to academics, but is general.

The same kind of dual focus must guide the Division's pursuit of shared goals in research.

Following the 1994 Review of the Humanities and Social Sciences, we set about implementing a more systematic and co-ordinated approach to the creation of a strong and diverse research culture.

There has already been real improvement in research management, and in the number and quality of research grant applications and publications. These improvements are a significant beginning.

If the task of building upon them sometimes seems to take on Sisyphean dimensions, though, it is because the current Composite Index parameters, even as they are being progressively adjusted, systemically disadvantage the Social Sciences and, most especially, the Humanities.

The disparity between the weighting of financial inputs and that of research outputs inevitably serves to entrench the position of those disciplines in which research is more resource-intensive. (As a recent ARC report puts it, this is the 'Matthew Principle': 'to him who hath shall be given').

Each replication of the Research Quantum system of distribution within the University or the Division widens the internal divides, and it is hard to see how this is to be overcome unless by accepting the necessity of some degree of cross-subsidy.

Research funding poses in its most acute form a question becoming increasingly urgent: given that both the University and the Division have determined that they wish to retain a signifi-

cant presence of the Humanities, how, in this inhospitably utilitarian and economic climate, are they to be funded?

Of course, scholars in the Humanities cannot be exempted from the responsibility to become as canny and professional as possible in their approach to self-sufficiency, but it would surely be wrong to seek to remodel entirely their long-standing and worldwide traditions of research.

The Division will press for greater flexibility in the assessment of research performance, even as it continues to respond to the urgency of the demand for growth in measurable outcomes.

In its current University Plan, the University of Adelaide claims among its core values its dedication to 'the values of a humane and just society'.

This is a claim that those of us in the Humanities and Social Sciences must take seriously, and it underpins the most distinctive contribution we seek to make to the education we offer our students and the research we pursue.

1 Scott Wilson, *Cultural Materialism: Theory and Practice* (Cambridge, Mass.:Blackwell, 1995), pp. 258-59.

2 Simon Marginson, *Education and Public Policy in Australia* (Melbourne:CUP, 1993), passim.

Alumni IN BRIEF

Science/Math Sciences Chapter AGM

Members are advised that the Science and Mathematical Sciences Chapter will hold its Annual General Meeting on Wednesday 26 March at 5:30pm. All graduates and friends of the Faculty of Mathematical and Computer Science and the Faculty of Science are invited to attend. Those who are members of the Alumni Association may nominate for the Chapter Committee or vote in the election. Further details from Adrienne Eccles, Alumni, 8303 3196.

John Bray Law Chapter wine tasting

The John Bray Law Chapter extends an invitation to wine lovers to join them at 5:30pm on Thursday 6 March at the Samuel Way Building, Victoria Square for their third Adelaide Hills Wine Tasting.

The very best of Adelaide Hills wines will be available for tasting; orders can be arranged with the winemakers present.

Admission: \$7.50 for students, \$12.00 for others. Bookings and payments to the Alumni Office, 8303 4275. Law alumni and interested members of other chapters are all invited to attend.

AW Jones Lecture

The South Australian Chapter of the Australian College of Education invites members of the University community and the general public to the 1997 AW Jones Lecture, to be held in Elder Hall at 6:30pm on Wednesday 26 March.

Peter Sheldrake, Chief Executive Officer of the Australian Institute of Management, will deliver the lecture. He has chosen as his title "Great Expectations: Education and the world of work".

The biennial AW Jones lecture was named in honour of Dr Alby Jones, a former Director-General of the SA Education Department and graduate of The University of Adelaide who was awarded a Distinguished Alumni Award in 1992 for his services to education as a teacher and administrator.

The lecture is sponsored by the SA Institute of Senior Education Officers Trust, Radio 5UV and Satisfac Credit Union.



Oliviers arrive from Yale

Readers may remember the photograph of Sir Laurence Olivier and Vivien Leigh which appeared in the *Adelaidean* on 18 November 1996.

We asked if there were other alumni who remembered the Oliviers' visit in June 1948 and Brian Skinner (BSc 1950) sent this photo from Yale University where he is Eugene Higgins Professor of Geology and Geophysics.

Brian says that the photograph was taken by Keith Stevens, "a photographer student who seemed to be present at all university events in those days".

Brian Skinner is second from right next to David Waugh (BE 1959) at the photo's edge.

AFUW moves to Cafe Isabella

The Australian Federation of University Women SA Inc Breakfast Club will hold its first meeting for 1997 on Monday 3 March in its new home at Cafe Isabella, 202 Hutt Street.

Breakfast Club Coordinators Judy Francis and Adrienne Eccles said that Cafe Isabella offers a friendly atmosphere and has the added advantage of street-level access.

Meetings this year are planned in two blocks: an Autumn Series (March, April, May) and a Spring Series (September, October, November).

The March meeting features Viv Szekeres, Director of the SA Migration Museum, on "Helping our community to understand itself".

Veteran actor and entertainer Phyl Skinner will speak at the April meeting, and in May architect Deborah White discusses energy-efficient housing, sustainable living, and permaculture.

Doors open at 7:15am. Admission is \$12, to be paid on arrival. Please call 8303 3196 (work hours) 8272 5073 (evenings) to book.

Arts Access Program

Alumni seeking intellectual stimulation or wishing to indulge their special interest should speak to the Faculty of Arts about their Community Access Program.

The Community Access Program enables people to enrol to attend normal lectures without assessment. Participants do not need to have matriculated or to have any formal qualifications.

Whether your passion is Classical Mythology, Moral and

Social Philosophy, Structural Geomorphology, or Comparative Politics, there will be something for you among the hundreds of courses available.

Community Access subjects cost \$60 per semester. All subjects available in 1997 are listed in the Community Access Program pamphlet available free of charge from the Faculty of Arts Office. Phone 8303 5245; fax 8303 4382.

For further information, ask to speak to Mr Robert Ewers.

Alumni Breakfast with the VC

The Alumni Association invites members and friends to Breakfast with the Vice-Chancellor on Tuesday 11 March, when alumni will have a special opportunity to hear Professor Mary O'Kane speak about the future of our University.

The Breakfast is in The University of Adelaide Club, at 7:15 for 7:30am. Please call 8303 4275 to book your place. Cost: \$15.00.

OBITUARY: CHRIS WATERS

Members of the University community will be saddened to hear of the death of Chris Waters (formerly Hone) on 22 January. She had retired from the Barr Smith Library about two and a half years ago due to ill-health. For much of that time her condition, although fragile, enabled her to enjoy life to the fullest extent possible. She only had a few days in hospital before she passed away. She is survived by her husband, Rev. Kyle Waters.

Chris joined the Barr Smith Library in March 1978 after over 15 years in the Cataloguing Department of the University of Auckland Library, where she had risen to the position of Deputy Head Cataloguer, and after a year at the University of New South Wales, School of Librarianship, where she acquired her second master's degree.

In her initial appointment as Training Librarian, concerned with staff training and development, Chris ran in-house training for technical staff as at this time library technicians' courses did not exist. She also assisted staff as TAFE courses were developed, showing great understand-

ing and practicality. When the Library Technicians course was located at Kilkenny in the late 70s she campaigned long and hard to have Barr Smith Library staff in the same classes and time slots, thus making travel easier for the students.

Chris's other training side was related to the then new world of electronic database searching. She trained and assisted many of the subject librarians in this area which we now take so much for granted. And for many library staff, Chris was the person who introduced them to the Barr Smith Library and helped them settle in.

Chris always showed a capacity and willingness to take on much more work than her duty statement specified. She willingly accepted heavy extra administrative duties in 1980 as Assistant to Ira Raymond, the then University Librarian. It was at this time that cancer was diagnosed. Nevertheless, she went on accepting increases to her administrative load for several years and was appointed to various committees of the Library and the wider University. She was a foundation member of the University Staff Development Committee and became Deputy Administrative Services Manager in 1983.

Chris was also active in the Library

Association of Australia as it was then known and helped plan their seminal and very successful 1982 National Conference. She also acted as joint editor of a festschrift in honour of Ira Raymond following his retirement. In 1984 she was awarded a prestigious study tour by the Library Association of Australia, with further funding from the University, and spent seven weeks pursuing her research on staff development in large American libraries.

In 1987 Chris moved from Library Administration to Information Services finding a new challenge in becoming the subject librarian for Anthropology and Women's Studies and later Geography. She set very high standards and aimed for excellence in her preparation and presentation of subject guides and seminars. She also renewed her interest in database searching.

Chris was determined to return to work following major surgery in 1990 and worked from home several months on a half time basis, cataloguing and relying on a computer link to the library and a regular courier delivery of books. With an indomitable spirit Chris returned to the Library in mid-1991. At her request, in 1992 she transferred to cataloguing.

Although absent during the years

that had seen the introduction of ISBD, AACR2 and the many implications of cataloguing in an online world, Chris was not daunted. She applied the cataloguer's skills of patience and curiosity as well as her wide background knowledge to the detailed and formal analysis required to provide bibliographic access at national standards to research material.

Her direct but kindly manner ensured that she was a well respected member of the team. Her maturity, intelligence and experience lent support and encouragement to many, from the technical staff to the head of the department. In October 1994, her health steadily declining, Chris embarked on invalidity leave and although thereafter she kept in contact with her many friends in the Library, she never returned to work.

Chris had extremely high standards in her professional and personal life and her similar expectations of those around her always made us strive to do better. Her career, although tragically shortened was still one of wide and varied experience in the main areas of librarianship. Her life was full and busy, with many achievements to her credit. She was a true colleague and friend.

—Staff of the Barr Smith Library

Taking a fresh young look at a sexy old classic

Sex is a weapon in the Classic Greek comedy *Lysistrata*, the first of four entertaining University of Adelaide Theatre Guild productions scheduled for its 1997 season.

Lysistrata, written by Aristophanes more than 2000 years ago, tells the tale of the women of Athens who are sick and tired of their men constantly going off to war. So the women decide to stop making love to them, in a bid to force them to sign a peace document and keep them at home. Needless to say, this causes more than a few grumbles among the love-starved soldiers.

"It's all about relationships, about men and women, and it's about how central sex is in our relationships," said the play's Director, Mr Peter Dunn, from the Centre for the Performing Arts.

"In modern terms, it would be like the wives of government Ministers refusing their husbands until they stopped closing schools, selling off hospitals and talking of cashing in Telstra. Or, more locally, like the wives and girlfriends of the Adelaide Crows footy club wearing chastity belts until the boys win in Melbourne.

"These are very universal themes, and it's one reason why *Lysistrata* is appealing to a modern audience," he said. "It's very much about women taking control and taking over their own lives. That's something that has only really been happening in our society over the last 20 years or so. In that sense it's a very, very modern play."

There were other modern elements

in this version of *Lysistrata* that would appeal to contemporary audiences, Mr Dunn said.

"We haven't intentionally modernised anything for the sake of modernising it. But we know there's going to be a wide range of people in the audience, from upper secondary school kids right through to the normal Theatre Guild audience, and we'd like everybody to understand everything that's happening," he said.

"Some references about Greek gods that Classics students would understand clearly, but nobody else, we've changed around and found some sort of modern equivalent that makes sense of the line and the scene itself. So it's not really an attempt to modernise the play, but it makes it accessible and understandable to the whole audience."

Mr Dunn said another of the play's main features was its youthful cast, headed by Ms Billie-Joe Cook in the title role of *Lysistrata*.

"It's a very young cast, and we're going to exploit that. Certainly it's a look at Classics with fresh young eyes, and I think that's going to bring something new and original to the play."

Among the thirty-strong cast and crew are students and graduates from Law, Arts, Science and Performing Arts faculties at the University of Adelaide, as well as both other South Australian universities, and TAFE.

"We were delighted with the response to auditions, and the wide variety of people attracted by the play and the chance of working with some-



Billie-Joe Cook — looking at the Classics with fresh young eyes. Photo: Andy Rasheed

one like Peter Dunn," said the Guild's Administrator, Christine Schloithe.

"We have every intention of being as silly as we can, and having as much fun as we can, and I'm sure the audience will respond to that," Peter Dunn said.

"So if you want to have a good, fun night in the theatre, if you want to be laughing nearly all the time and

thinking for a bit of it, I think it's a show you should come and see," he said.

—David Ellis

Lysistrata opens in the Little Theatre at 8pm on Monday 3 March and runs until 15 March. Tickets are \$16 (\$10 concession). Phone 8303 5999 for bookings, or BASS 131 246.

ACCOMMODATION

ADELAIDE CITY: SE Cnr - Furn apartment in quiet garden setting. Suit single person, walk to Uni. \$95 pw (incl elec & phone). Avail now. Ph 8223 2707.

AVAIL: Roomy Victorian cottage, walk to Parklands and O'Connell St, open fires, polished floors, large garden, parking. \$185 pw. Ph Jim (02) 9953 4349.

AVAIL: Small renovated Bluestone, walk to Parklands and O'Connell St, quiet location, sunny courtyard, covered parking. \$125 pw. Ph Jim (02) 9953 4349.

BROADVIEW: 2 br flat, sep dining and lounge, gas heater and cooker, air cond, just painted, very close to shops and transport. \$90 pw. Ph 8267 4446.

GILBERTON: 10 mins from Uni, 2 br townhouse with carport in beautiful garden setting. Close to transport, avail early March - 6 or 12 mths. \$140 pw (incl garden maint). Ph 8223 2366.

HAWTHORN: 1 br unit, b-in wardrobe, lge rms, close to transport. \$85 pw. Ph 8331 6088.

HAZELWOOD PK: 2 br, fully furn & equipped house, on bus route to city. Incl linen, lge garden, sleepout. Near schools. \$210 pw (neg). Ph Mary Anne 8379 2715.

HENLEY BEACH: Federation style house, 2 floors. Downstairs - lounge, dining, family, kitchen, laundry, 2 dble br (main with w-i-r) & bathroom; Upstairs - study/3rd br overlooking

family rm. Close to shops, restaurants & beach. \$200 pw + bond. Ph 8235 0289.

LOIRE VALLEY: Apartment sleeps 2/5. Sep entrance above owner's 18th century antique shop in French market town of Liqueil. Studio flat ideal for couples, lge bedsitting rm, shower and kitchen/dining with sth facing balcony. Optional mezzanine has bathroom, br and spare rm for larger group. Fully equipped kitchen, central heating. Walk to shops, cafes, pool; drive to nearby chateaux, vineyards, tourist sights. From £180-£330 pw. Ph John 8303 4030 for info.

MIDDLETON: Lovely beach house avail weekends or longer periods. Good seaweeds. Suit couple, or sleep up to 8. Ph 8331 7887.

NORTH ADELAIDE: Architect-designed house with 4 br, 2 bathrooms, study, living, dining rms. Walking distance to Uni. Avail now fully furn incl linen, utensils, etc. \$350 pw. Ph Walter Dobkins 8267 6044.

NORTH ADELAIDE: 1 br flat, pool, garden. \$110 pw (incl gas & elec). Ph 8267 1081.

PAYNEHAM: Person to share 3 br home with 1 male. Close to facs. \$60 pw + exp. Ph Tony Crescitelli 8222 3659 (w).

SOMERTON PARK: Fully furn bungalow mins to beach. 3 br, study, formal lounge (or 4th br), large mod Mediterranean family rm with facs, ducted gas heating. Patio and lge garden with outdoor furn. Furn garden

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studio. Avail May - July 97. \$300 pw (neg). Ph 8294 7988 (h) or 8302 1586 (w).

ST PETERS: Lge, 2 br flat in quiet group, close to Uni, transport, off-street parking. Avail 1 April. \$110 pw. Ph Graham 8363 3485 (h) or 8237 7609 (w).

VIVONNE BAY: Holiday house, beautiful beach, bush, wildlife, self-contained, architecturally-designed, sleeps 5. Ph 8388 6404.

WANTED: Mature lady from US seeking house sitting for up to 3 mths. Pets okay, anything considered. Arrives in Adelaide 10 March. Ph Jenny Nairn 8204 6257.

FOR SALE

CAMERO: Strada 2000 Mercruiser 5.7 comp ski engine, centre pole, black with gold & red trim, galvanised trailer, 250 hours. \$18,500. Ph Russell 8387 4482.

COMPACT DISKS: Madonna's "Evita", \$17. Donna Lewis' "Now in a Minute", \$17. Michael Jackson's "History Past, Present and Future", \$29. Brand new. Ph 8337 0189.

FORD METEOR: 1983, auto, air cond, 1.5 ltr, exc cond. ULS 513. \$4,100 ono. Ph Sharam 8303 3106 or 8336 1903.

HOUSE: Gilberton - 3 br (main with ensuite & b-ins), sep lounge and dining, 2

bathrooms, kitchen with new fittings & dishwasher, r/c air cond, lock-up garage, easy care garden. Ph 8267 4446.

MOVING SALE: Piano, microwave, bike, bookshelves, kitchen wares. Ph Keyu 8303 4290 or 8267 1354, email: liuk@ncpgg.adelaide.edu.au

NISSAN MICRA: 1995 LX, silver, 9,500km, immac cond, under factory warranty, RAA best family car under \$25,000. VTZ 735. \$12,500 ono. Ph 8201 3852 or 8293 1158 (ah).

SOFA: 2 1/2 seater with cushions (material, 'song haven' pattern) very good cond, strong frame. \$250 ono. Ph TW 8222 3545.

SUZUKI VITARA: JLX 1990 hardtop, manual, air cond, power steer, elec windows, metallic charcoal, exc cond. VBM 888. \$14,500 ono. Ph 8336 8000 or 8336 2057 or 018 856 387.

WASHING MACHINE: Malles Regal 1160 HD auto, 5kg, exc working cond, very clean, only 5 yrs old. \$250 neg. Ph 8337 0189.

DEPARTMENTAL

TENDER - MITSUBISHI EXPRESS: Van, 1994, white, VRT 679, 5 spd man, air cond, tow bar, cargo barrier, 68,600km. Ph Margaret Hague, 8303 7892 to arrange inspection. Tenders in a sealed envelope marked Tender No 97/01 to Mr B

Michels, Manager, Property Services, Roseworthy Campus, Roseworthy SA 5371 by Mon 3 March 1997.

TENDER - MITSUBISHI TRITON UTE: Double cab 4x4, 1995, white, VST 044, 43,000km, air cond, manual, mud flaps, tow pack. Inspection Wed 26 Feb, 10am-4pm, ph L Schmidt or S Sanford, 8303 7894. Tenders in a sealed envelope marked Tender No. W200 to the Purchasing Manager, Waite by Mon 3 March 1997.

TENDER - MITSUBISHI TRITON UTE: Single cab, 4x4 tray top ute, 1994, white, VOM 571, 27,000km, manual, mudflaps, tow pack. Inspection Wed 26 Feb, ph L Schmidt or S Sanford, 8303 7894. Tenders in a sealed envelope marked Tender No. W198 to the Purchasing Manager, Waite Campus by Mon 3 March 1997.

TENDER - MITSUBISHI TRITON UTE: Single cab, 4x4 tray top ute, 1994, white, VOM 572, 34,000km, manual, mudflaps, tow pack. Inspection Wed 26 Feb, ph L Schmidt or S Sanford, 8303 7894. Tenders in a sealed envelope marked Tender No. W199 to the Purchasing Manager, Waite Campus by Mon 3 March 1997.

TENDER - MITSUBISHI PAJERO: 4 door, 3.0 ltr GLX, 1995, white, VST 042, 47,000km, air cond, immobiliser, manual, mudflaps, tow pack. Inspection Wed 26 Feb, ph John Setchell, 8303 5050. Tenders in a sealed envelope marked Tender No. W197 to the Purchasing Manager, Waite by Mon 3 March 1997.

TENDER - PHOTOCOPIER: Toshiba BD-7910 incl 20 bin sorter (470,000 copies). Tenders in a sealed envelope to Peter Wilton, 8303 7947, Dept of Agricultural Business, Roseworthy Campus by Fri 7 March 1997.

TENDER - TOYOTA HILUX UTE: 1994, white, VOR 985, manual, mudflaps, tow pack, 26,000km. Inspection Wed 26 Feb, ph L Schmidt or S Sanford, 37894. Tenders in a sealed envelope marked Tender No. W201 to the Purchasing Manager, Waite by Mon 3 March 1997.

MISCELLANEOUS

HOUSE CLEANING/IRONING: Only \$25 for an introductory clean on an average 3 br home. Nth Adelaide & eastern suburbs only. Ph Louise or Neil 8363 2663.

WORDPROCESSING: \$2.75 per page, after hours service, professional formatting of WP on disk. Ph Anne Every 8212 6869 or 8415 7866, fax 8212 6662.

WANTED

GOLDEN RETRIEVER: For very good home on spacious country property. Prefer at least 2 yrs old. Ph Vicki or Gloria 8303 3410.

VOLUNTEERS: People 18-39 are invited to participate in a study on the structure of cognitive abilities being conducted within the Dept of Psychology. The study involves a 2-hour visit to the Dept. Ph Nick Burns 8303 5849 or 8303 5093. Participants will be reimbursed.