Barry Jones appointed Professorial Fellow

Autumn/Winter 1991
DRAFT OBJECTIVES APPROVED

A review from the Alumni Officer

It is time once again to bring you some stories about your University today, some articles which explore current topics of interest and of course a number of profiles of fellow graduates. Development of the University’s alumni operation continues. Last year receptions were held in Wagga Wagga, Canberra and overseas in Kuala Lumpur, Malaysia. A report on the last appears on page 20.

The formalisation of a structure for the Alumni Association, as sub-groups of alumni based on region and discipline begin to form, is a priority for 1991. This structure must allow for consultation by both the University and its alumni and necessitates the development of an appropriate constitution for the ‘umbrella’ Association, together with a set of guidelines and perhaps a sample constitution for the nascent Chapter groups.

Fundamental to this proposal is agreement on the aims and objectives of the Alumni Association. A draft set of objectives, outlined below, has recently been approved by the University Council, and will form the basis for further discussion on the drafting of a constitution and the subsequent appointment of a Board of Management, which will report to the University Council.

Draft objectives of the Association are:

i) To inform alumni on a regular basis about developments at the University and about the achievements of fellow alumni.

ii) To encourage alumni to be involved in the affairs of the University by providing the opportunity for interaction between alumni, and between alumni and current students and staff.

iii) To offer a range of services and benefits to alumni.

iv) To engender support for the interests, objectives and activities of the University of Wollongong from its alumni.

The 1991 Annual Meeting of the Australian University Graduate Council will be hosted by the University of Wollongong from Friday to Sunday October 11 to 13

This annual meeting brings together graduates representing universities from all over Australia and is open to anyone else with an interest in alumni affairs.

A wide range of topics will be discussed including the problems posed by the projected shortage of academic teaching staff, and strategies for the marketing of an alumni office.

Programme and registration details may be obtained from the Alumni Office at the University of Wollongong, PO Box 1144, Wollongong, NSW 2500.

Tel. (042) 21 3249, fax (042) 213128.

Juliet Richardson
Tel. (042) 21 3249; Fax (042) 21 3128
Law Faculty launched and Chancellor honoured

At the ceremony the Deputy Chancellor, Dr Brian Gillett, confers an honorary Doctor of Laws degree upon the Chancellor, the Hon R M Hope.

Graduate Profile

Beverley Lawson, highest ranking woman in the NSW Police Force and the first woman Superintendent

Two national issues

Professor Ron King, left, on a controversial educational topic, and Associate Professor Robert Castle on the implications for Australia of the proposed tariff reforms

Vice-Chancellor’s Awards for Excellence in Teaching

Barry Jones, Professorial Fellow

Graduates’ Grapevine Profiles

New Professors

First overseas alumni reception

ANZAAS conference

Remember to complete the alumni response form on page 23
Deputy Chancellor Dr Brian Gillett confers the honorary Doctor of Laws degree upon the Chancellor, the Hon R M Hope AC CMG QC.

MOVING and impressive ceremony was held in the University Union on the evening of February 19. Its purpose was to launch the newest faculty - and simultaneously to confer an honorary Doctor of Laws upon the Chancellor, the Hon R M Hope. Dignitaries from the legal and academic professions took part. The formal occasion was perhaps the most successful and colourful ceremony ever held on campus.

Among the 470 distinguished guests was the Chief Justice of the High Court of Australia, Sir Anthony Mason, who also gave the Occasional Address (see page 5). Also among those present were former Prime Minister Mr Gough Whitlam; the NSW Attorney-General, Mr John Dowd; Justice Michael Kirby, President of the NSW Court of Appeal and Chancellor of Macquarie University; Justice Gordon Samuels, NSW Supreme Court Judge and Chancellor of the University of New South Wales; and Professor Michael Birt, Vice-Chancellor of the University of New South Wales and Foundation Vice-Chancellor of the University of Wollongong. Other Chancellors and Vice-Chancellors from universities in several states were represented. An apology was received from the former Prime Minister of Papua New Guinea, Mr Michael Somare.

Wearing full academic dress, the Chancellors, Vice-Chancellors, judges and academics formed a highly colourful procession on their way to the Union. The medieval atmosphere was heightened by trumpet fanfares and choral music provided by the University Singers under the guidance of David Vance. The Chancellor's entry was marked by a special fanfare composed by Professor Barry Conyngham, Head of the School of Creative Arts. After the ceremony a reception was held on the lawn beside the duckpond.

The Chancellor initiated proceedings by formally inaugurating the Faculty of Law. Then, after a musical interlude, Professor John Goldring, Foundation Dean of the Faculty, delivered his address. He began by paying tribute to the many qualities of the Chancellor: 'Not only are you a broad-minded, tolerant and cultured person, but also a fine lawyer and a fine human.'

Professor Goldring remarked that learning law was a lifelong process but the undergraduate years were also the time for development of social and professional attitudes. 'The law faculties have a responsibility to ensure that the process of development takes place in an environment which embodies both the liberal and the professional traditions of the western university.'

He went on to say that the Faculty's educational objectives would be achieved through the use of teaching and learning techniques which centred on students and which enabled them to develop their learning skills in preparation for a lifetime of learning.

UNIVERSITY LAUNCHES NEW LAW FACULTY

...and Doctor of Laws conferred upon the Chancellor

'We shall not use traditional lecture-and-tutorial methods of teaching to any great extent,' he said. 'We do not see University teaching as the transfer of knowledge from teachers to students, but rather as a common endeavour where teachers and students together strive for better understanding of the object of attention - in this case the law.'

Professor Goldring's address was followed by the conferral of the honorary degree of Doctor of Laws upon the Chancellor, the Hon R M Hope, by the Deputy Chancellor, Dr Brian Gillett.

Dr Hope is the Foundation Chancellor of the University. He has served in that role for over 15 memorable years. During that time he has guided the University through its initial reputation-building stage, through the funding difficulties of the late seventies, through the amalgamation with the Wollongong Institute of Education in the early eighties and through more than a decade of rapid growth - all with great sensitivity, dignity and humour.

It is rare on a university campus to find unanimity of opinion. But members of the
New Law Faculty

Continued from page 4

University are united in their warm appreciation of Robert Hope. They like him as Chancellor. And they like him as an approachable and friendly person – one who might well have been an academic had he not opted for the law.

He has long served this University, as he has the law and the nation, with distinct and grace. Chancellerial impartiality he has always shown, but this characteristic is only one of many other profoundly important personal characteristics – generosity of spirit, compassion, personal warmth, dignity and consistent courtesy to all.

Although law has been taught at the University since the 1970s, when law subjects were first offered within the commerce degree, the Faculty of Law at the University of Wollongong was established much later – in 1990.

During 1990 the Faculty absorbed the existing Department of Legal Studies and its teaching as part of a continuing commitment to provide courses for students who do not seek full law degrees.

The major initiative of the Faculty is the introduction of the LLB course. This will provide a sound general education, as well as the study in depth of a major academic discipline and the foundation for a career in legal work.

The LLB course will have a strong clinical element and the Faculty plans to facilitate a flow of ideas and expertise between the academic and practising sectors of the law. It recognises that learning, especially learning law, is a lifelong process, and it will offer continuing education to the legal profession and the wider community.

The Faculty will focus its research and postgraduate activities in the fields of natural resources and mining law and court policy and administration.

T he Occasional Address was given by the Hon Sir Anthony Mason, Chief Justice of Australia. He congratulated the new Faculty on addressing the contemporary requirement to provide a breadth of education for law graduates by not depending solely on the combined degree structure for this input.

'What we want,' he said, 'is a law course that offers a broad and liberal education.

'I am glad to see that this Faculty aims to provide at undergraduate level, first, a broad general education; secondly, the foundation for a career in a broad range of legal work; and, thirdly, the study in depth of an academic discipline.'

He continued with a comment on the current tendency to focus solely on technical professional competence. 'Unfortunately, the practice of the law has tended to contract the horizons of many professional lawyers. Professional practice is demanding and can become all-consuming. The law schools, he said, must resist the temptation to become business schools which defer to the demands of large commercial practices.

'A law school must ensure that its charges consider not only the specifics of legal principle but also the larger questions with which the law is inevitably concerned: whether our laws are responsive to the needs of society; whether our legal system and our legal services are adequate, accessible and efficient.'

He called on academic lawyers to lead the debate on developing the law and not to leave it all to practising lawyers. 'We should aim to follow the United States' example in this respect. But we will succeed in doing so only if we give greater emphasis to the study of law as an intellectual discipline. More emphasis should be placed on problem-solving techniques.

'It is impossible to appreciate law as an intellectual discipline without, at the same time, understanding the processes by which results are achieved. It requires active cultivation of that spirit of inquiry which has been the touchstone of academic life'.

On the outlook for the profession, Sir Anthony noted that there had been an upsurge in the number of students wanting to study law at a time of limited employment opportunities. Yet there was a shortage of law teachers.

'The shortfall is due to the failure to maintain academic salaries at an adequate level. It has resulted in a steady drift, some say a flood, of academic lawyers into the professional ranks. The expansion in the number of Australian law schools demands the optimum use of resources. There is no sense in duplicating throughout Australia standard-form law courses.

'There is a depressing tendency towards uniformity of education in Australian tertiary institutions,' he said. 'In a country which has limited resources it makes no sense to insist on uniformity. What we should aim at is an expansion in the range of choice of courses so that, in the shaping of a particular course, regard is had to courses available elsewhere. And, in terms of using available resources, it may be possible to promote a greater exchange of lecturers and teachers between universities than has taken place hitherto.'

Sir Anthony concluded by congratulating the new Faculty on its initiative in establishing a course in Judicial Administration, the first of its kind in Australia.
Associate Professor Don Lewis, Department of Economics, Faculty of Commerce

DON LEWIS has for over 15 years been regularly rated by his students and his peers as an outstandingly effective teacher at all levels and in all contexts. He has routinely sought student reaction to his teaching and has shown a gratifying willingness to respond to their comments. He has also published on matters of particular relevance to other teachers of Economics at both secondary and tertiary levels and he has recently co-authored innovative textbooks in the fields of Mathematics and Statistics for Business and Economics.

Among his colleagues Don is seen as a valued source of advice and support in teaching-related matters. He has made major contributions to course design within his Department and to the integration of programs within the Faculty. He is widely perceived as not only a high-quality instructor but also an educator who is actively concerned about the effectiveness of student learning.

Ros Atkins, Department of Chemistry, Faculty of Science

ROS ATKINS teaches at what her Head of Department describes as the 'less glamorous but most challenging and critical end of Chemistry teaching', that is, at the 100-level and, more particularly, in the bridging and remedial courses specifically offered to overcome the heavy first-year failure rate among students lacking adequate preparation. In her role as First Year Chemistry Co-ordinator she has a special responsibility for and a personal commitment to the teaching of the innovative alternative 100-level strand which prepares these students for advanced study in Chemistry.

Highly regarded for her dedication and approachability, Ros has developed widely used software packages both for HSC chemistry teachers and for use in First Year Chemistry at the tertiary level. The recognition of her skills extends beyond the University. Ros has been invited to act as a Leader in a course on Accelerated Learning and to participate regularly in a variety of courses aiming to prepare disadvantaged students for university study.

continued opposite
Distinguished Visiting Professor for STS

WELCOME TO WOLLONGONG, PROFESSOR BARRY JONES

BRIILLIANT, eccentric, capricious. Dedicated to the pursuit of science and technology and their role in the future of Australia, as federal Minister for Science, Barry Jones worked at his portfolio with enormous enthusiasm and dedication. As minister, he made friends across the political spectrum. His reputation for direct speaking has earned him deep respect throughout Australia and overseas, particularly among academic communities.

It is appropriate that Barry Jones should have been drawn to the University of Wollongong – to a young university dedicated to the pursuit of excellence in teaching and research. Since November 1990 he has been a Visiting Professor in Science and Technology Studies.

On the announcement of his new role, Professor Jones said, 'The fellowship gives me an opportunity to use some of the energy that I would have expended as Science Minister. I couldn’t help being conscious of how often I’d received invitations to Wollongong to open seminars where they were talking about some new areas of industrial development. There is an enormous amount of activity here and the area of interest coincides to an uncanny degree with my own interests.'

Announcing the appointment, the Vice-Chancellor, Professor Ken McKinnon, said, 'I am delighted that the University has been able to negotiate an arrangement which allows us to use, on an intermittent basis, the scholarship and special skills of Barry Jones. This University especially emphasises, in its courses and research activities, the comprehension, critical evaluation and application of science and new technologies to society.

Barry Jones’ extensive expertise will enrich the work being done at this University to develop a better understanding of the good management of science and technology. His energy and communication skills are bound to enthuse our students. We are looking forward to a stimulating relationship.'

Professor Jones will give lectures to undergraduates and supervise some postgraduate students. He will give two public lectures or workshops a year and play a role as a member of the Science and Technology Research Program.

A full house heard Barry Jones’ views on Science and Technology and the Australian Society: Key Changes for the 1990s, the first seminar given in his new role, on March 20. On May 6 he gave the University Day address entitled Universities – are they viable for the year 2000?

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Yvonne Kerr, Faculty of Education

YVONNE KERR is regarded by her peers as a leading professional in the field of Physical and Health Education in NSW. This standing is reflected in her appointment as Chair of the NSW Department of Education’s Committee to write the Physical and Health Education syllabus for Years 7-10, numerous consultancy appointments and many invitations to conduct staff development workshops.

Colleagues and students agree that, in addition, Yvonne is a truly outstanding teacher who is closely attuned to the needs of her students, innovative in her teaching strategies, always demanding, continuously constructive in her evaluation of students’ performance, active in seeking and responsive to feedback and above all personally approachable.

Within the Faculty Yvonne currently coordinates five subjects and team-teaches eight courses. Yvonne routinely schedules ‘progress interviews’ to monitor student work and development. She also conducts assignment preparation workshops.

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Tracey McDonald, Department of Nursing, Faculty of Health and Behavioural Sciences

TRACEY Mc DONALD is heavily involved in teaching at a variety of levels in the Nursing programs and is also much sought after as a contributor in the in-service and other educational programs of hospitals and professional associations. She has gained an enviable reputation among her peers and students for her ability to create lively, challenging, engaging, entertaining and highly effective teaching environments; her creative use of a repertoire of teaching and learning strategies; and her friendly, open, responsive and individually supportive approach to students.

Tracey contributes frequently to the professional development literature of her field, has co-authored a textbook and is currently trialling with her students a ring-bound, edited set of readings (many of them her own) – 'Perspectives on Ageing in Australia' – that can be supplemented as appropriate new material comes to hand. She is widely regarded by colleagues and students not merely as a dedicated educator of the highest quality but also as an excellent nursing role model.

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The SEARCH FOR EXCELLENCE deserves your participation

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BEVERLEY LAWSON
AssocDipAdmin

BEVERLEY Lawson is Police Patrol Commander in charge of Wollongong. She is the highest ranking woman in the NSW Police Force and the first woman to be promoted to the rank of Superintendent.

New South Wales' first female patrol commander holds sway over 140 square kilometres and manages 132 staff members. She is a tall, solidly built woman with large and alert dark eyes. Her manner is unaggressive and friendly but she gives the impression that it would not be easy to put anything over her.

Superintendent Lawson joined the New South Wales Police Service in 1964 after having worked in a clerical capacity for eight years at the Port Kembla steelworks. She spent six years in Traffic and thirteen as a Detective in the CIB, then worked as a lecturer at the Police Academy before transferring to general duties/training and education in Wollongong.

In 1986 she became the first female Licensing Sergeant in New South Wales, a job which included supervising the medical examinations and weighing in of boxers, and in 1988 she was appointed Inspector, Patrol Commander, Engadine, again first for women in a command position.

In 1988 Bev Lawson gained an Associate Diploma of Administration at the University of Wollongong and has since begun studying towards a Graduate Diploma in Commerce with the Department of Management — a move which has recently been put on hold because this year she is taking part in an Executive Development Programme at Sydney University's Graduate School of Management. She was recently made an Associate Fellow of the Australian Institute of Management.

The New South Wales police force is now divided into administrative regions. At the moment Superintendent Lawson is part of a task force assessing the kind of support needed by the 180 patrols that make up the state's police service. Directives are no longer issued from head office and command procedures have been 'flattened out', with local patrol commanders deciding on the appropriate action to be taken according to the needs and idiosyncrasies of their region, and based on their own knowledge of local politics and pressures. This is called community-based policing and is, she says, the department's major strategy.

'One of our tasks has been to break down the barriers between the community and the police; the 'them' and 'us' effect. But the majority of the community have no qualms about the police. Only those who have had a bad experience.' By that expression, she agrees, she means criminals with a dislike of being caught.

Her special interest at present is car theft, which is one of New South Wales' biggest 'growth industries'. She is considering an undercover operation to try to discover whether there is a car racket in the Wol-
PETER Abbott does not consider himself to be a particularly special person - he does not, for example, have a long list of letters after his name. But after enrolling at the University of Wollongong under the mature age entry program, where last year he completed a Graduate Diploma in Commerce (Occupational Health and Safety), Peter believes he is one of the proudest people in the workforce.

Like many people, after leaving school Peter went straight into the workforce with no formal training. He spent many years working in the mines and recognised eventually that, if he wanted to continue working in the occupational health and safety area, he could only benefit by gaining a formal qualification.

So Peter returned to the education system 25 years after first leaving it, and describes his period of study at Wollongong as being high on his list of 'best experiences'. It was not easy for him to adapt to university level study and he attributes much of his success in persevering to the encouragement he received from his wife and family. But for him the effort was well worthwhile in the end, and he is extremely proud of the testament which now hangs on his study wall.

Peter is employed as the Occupational Health and Safety Officer for the Metropolitan Colliery at Helensburgh. His duties at the mine include a number of other roles: Fire Officer, Training Officer, Rehabilitation Coordinator and Dust Sampler. He describes himself as a family man with an interest in Morris cars - he drives a 1958 Morris 1000 between work and his home in southern Sydney.

Of his occupation Peter says, 'I believe that you cannot be involved in this type of work and be successful, unless you truly believe that what you are doing is of benefit to other people at your workplace.' He adds that communication skills are essential: 'You must have compassion and understanding, and a fair but strong approach to the people who work around you.'

He thinks that one of the greatest assets of Wollongong University is its integration within a community which is continually subjected to economic pressures, as a result of its industrial basis. He says, 'The University is a lifeline for people who would otherwise have no way of understanding, for example, economic and financial changes. Through this lifeline people's lives can change and they are able to reach new levels of understanding.'

Peter is justifiably proud of his success in his studies, and he is especially proud to be the first member of his family to have studied at university. There is another area in his life where Peter and his family have conquered the odds - Peter has had cancer, and beaten it....
1986
Leonie Short
BA

While working as a Dental Therapist Tutor at the Shellharbour School of Dental Therapy, Leonie Short completed a Bachelor of Arts degree with a double major in sociology and education at the University of Wollongong. She is now a senior lecturer in Health Management in the Department of Nursing at the University of New England, Armidale.

In November 1990 Leonie received a $40,000 grant from the National Health Promotion Program of the Commonwealth Department of Community Services and Health. In conjunction with Dr. Alan Patterson, the Principal Dental Officer for the New England Health Region, she is involved in a 'Teeth for Keeps' project which aims to promote oral health and prevent dental disease in infants and primary school children in the Moree district of New South Wales.

A survey of about 800 schoolchildren in the Moree district carried out early in 1990 found that these children required treatment at a rate two and a half times higher than that of children in Tamworth. Furthermore, Aboriginal children were five times more likely to need treatment than children in Tamworth and at a rate nearly four times greater than in New England as a whole.

The 'Teeth for Keeps' project includes an oral health education and promotion program, a school canteen program, a toothbrushing and mouthrinse program, and a survey of plaque and dental disease. Pre-test screening was carried out in February and in April the 'Teeth for Keeps' coordinators began work on the various programs.

Leonie has also initiated and participated in the filming of a segment for the new ABC TV 'Everybody' show which was screened in March. The ABC filmed a dental health pantomime, a screening program for dental disease, a toothache clinic in the 'Molar Patrol' and a dental brush-in at Boggabilla Central School.

Apart from her academic position at the University of New England, Leonie is also the Consumers' Health Forum representative on the National Advisory Committee for the early detection of breast cancer.

Leonie has been encouraged and helped in her career by Dr. Jenny Jones in the Department of Education and by Stephanie Short in the Department of Sociology at Wollongong University. She says, 'Jenny and Stephanie have been of invaluable assistance to me and for that I will always be grateful'.

1990
Brian Chun-fai Leung
BE

After completing his degree in electrical engineering at the University of Wollongong, Brian Leung returned to Hong Kong. In March 1990 he began work as an electronics development engineer with Philips (Hong Kong) Ltd.

His responsibilities include programming an HP 9000 series 300 personal computer and an HP 3562A digital signal analyzer to measure the electrical and acoustical characteristics of an electronic consumer product such as a telephone set. This is called computer-aided testing (CAT).

Since these products are destined mainly for the European and Australian markets, Brian has to build different controller cards for each country as each has its own standard for any Telecom product available.

Cycling across the world...

Tony Iskra (BEd 1989), a Wollongong graduate with a particular interest in physical education, is undertaking a solo charity bicycle ride from London to Wollongong in order to raise funds for AIDS research.

Tony left London in April and hopes to arrive in Sydney by mid-February 1992. The University, the Friends of the University and Wollongong City Council have done what they can to assist him. Anyone interested in contributing financially to this highly worthwhile project should contact ISFIT Ltd, 29 Grandview Parade, Lake Heights, NSW 2502 (tel. 042 742998). All profits will go towards AIDS research.

We wish Tony all the best in this venture and look forward to hearing about it next year.
1990
Caroline Vaughan-Reid
MBA

1984
Peter Vaughan-Reid
BA

CAROLINE and Peter Vaughan-Reid have recently established a small business in Wollongong which is both unusual and, by all accounts, highly successful. They have set up 'Two's Company', an introduction agency; and they attribute their success at least in part to the skills they acquired from their studies. 'We are both very grateful to the University of Wollongong because the knowledge and skills we gained in our courses in management and psychology have been invaluable to us in setting up this enterprise.'

Both Caroline and Peter were employed in very different areas before starting their business. Caroline holds a Diploma in Institutional Management from Elizabeth Gaskell College in Britain and has spent over five years working as a health administrator. Peter holds a Diploma in Teaching from the former Goulburn College of Advanced Education and has been teaching at Holy Spirit College, Bellambi, since 1979.

When asked what had prompted them to set up an introduction agency, Caroline and Peter said they first saw the need for a personal introduction service among people they knew. 'Single friends complained about the decreasing opportunities available to meet new and interesting people.' These friends encouraged them to use their joint expertise in psychology and business to establish a professional and reliable system for matching individuals with similar personalities, lifestyles and expectations.

So Caroline and Peter have combined their skills to offer an introduction service based on careful assessment, efficient matching and confidentiality. They report that business is booming and that they are looking forward to expanding within Australia and, they hope, overseas. They believe that all Australian businesses, including those in the service industry such as their company, should endeavour to export their product or expertise to countries outside Australia, a philosophy which can only be of benefit to the Australian economy.

Doctors of Civil and Mining Engineering

At the October graduation ceremony Shu Zhang, Monica Buih, Yong Hong Wu, Hua Guo, John Hui and Masood Falamaki (pictured on page 13) all graduated as Doctors of Civil and Mining Engineering. A report on the ceremony appears on page 21. Profiles of the six doctors follow.

Shu Zhang
BE CSU Tech, PhD

SHU Zhang was a farmer in the early 1970s and a miner in an underground coal mine from 1974 to 1978. His opportunity for tertiary study came five years after graduating from high school and he obtained his first degree in mining engineering in 1981. He then worked for more than two years as a mining engineer before coming to Australia to study for a higher degree in 1985.

He says he was accepted by three Australian universities and does not really know why he chose Wollongong. He quickly adds that he is happy with his choice. 'My work at the University of Wollongong and the cooperation with my supervisor, Associate Professor Chowdhury, were very successful. My achievements have been recognised by various experts around the world.' As a result of his research efforts, Shu Zhang in 1987 was appointed senior research assistant in the Department of Civil and Mining Engineering.

Shu Zhang now works as a lecturer in the School of Mining, Geology and Materials at Ballarat University College in Victoria. He has published more than 20 research papers and was invited by the American Society of Mechanical Engineers to participate in the ASME 1991 Annual Confer-

continued on page 12
At the age of 16 Monica Bufill decided she would become an engineer. She felt strongly that a woman would have greater freedom of choice if she were economically self-sufficient. So she enrolled in the civil engineering course at the University of Buenos Aires, in her home country, Argentina. She remarks that her parents were initially concerned at her choice of a traditionally male profession, but they supported her throughout her studies in the belief that a professional qualification was the best personal asset they could give her.

Monica remembers the difficulties of transition from a small suburban school to a Faculty of Engineering with a student population of 8,000. But she completed the six-year course in five years of hard work and her determination was rewarded when she was offered a position in the surface hydrology section of Argentina's National Water Research Institute. Monica held this position for the next ten years.

Her desire for knowledge led Monica to seek higher education opportunities and in 1980 she was granted a scholarship to undertake a Master of Science in engineering hydrology at Imperial College, University of London. She recalls her experience at Imperial College as being both stimulating and highly productive, and it was at this time that she decided on her next professional goal: to complete a doctorate in engineering.

The opportunity to realise this goal came in 1986 when Monica was offered a scholarship by the University of Wollongong. Under the supervision of Dr Michael Boyd, she completed her PhD in 1990, becoming the first woman at this University to obtain a doctorate in civil engineering.

Monica holds her student years at Wollongong very close to her heart. She enjoyed the friendly atmosphere of the University and found the Department of Civil and Mining Engineering to be very helpful and supportive of her work. The results of her research with Dr Boyd have been published in journals and conference proceedings.

In 1989 the Australian Water Resources Advisory Council granted Monica three years’ funding to continue her research in the hydrology of urban areas, involving both the study of floods and water quality problems as a consequence of urbanisation. The Department of Civil and Mining Engineering hosted her work under the Water Engineering and Geomechanics Research Program.

Research work has given Monica much satisfaction, but she is now ready for a challenging career change into consulting engineering. She has recently accepted a position as Hydrology and Hydraulics Consultant with the Snowy Mountains Engineering Corporation, an Australian consulting firm renowned for the quality of its work both locally and overseas. Monica hopes her success as a civil engineer may encourage other women to join her in the field of engineering.

Yong Hong Wu
ME UST Beijing, PhD

While lecturing at UST (Beijing) in 1986, Yong Hong Wu accepted a scholarship to undertake a doctorate within the Department of Civil and Mining Engineering at Wollongong.

Wu obtained his PhD in 1990 with a thesis which examined the static and dynamic behaviour of the flows of bulk materials through silos. His special area of interest is mathematical modelling in continuum mechanics and geomechanics. During his PhD studies Wu developed a couple of novel numerical models for the dynamic analyses of granular material flows and structure stability, and he published 12 research papers in cooperation with his supervisor, Professor Lewis Schmidt.

Wu enjoyed his period of study at Wollongong and says, 'The environment and management of the Department of Civil and Mining Engineering have been most helpful to my studies, and I was also impressed by the warm and friendly relationship between the staff and the postgraduates'. He says that he also appreciated the assistance and encouragement he received from his supervisor.

Wu is currently employed as a postdoctoral research fellow in the Department of Mathematics where he is working with Professor James Hill. He is enjoying his new job enormously.
one of these operations (Pasminco Mining, Broken Hill) as a rock mechanics engineer. Hua Guo joined Pasminco at the end of 1989 after seven years of research work in the field of rock mechanics. He completed his first degree and then his masters in mining engineering at NEUT, in 1982 and 1984 respectively, and then worked for one year as a lecturer. He came to Australia in 1985 and, after a year at the BHP Central Research Laboratories in Newcastle, he began studying for his PhD with the Department of Civil and Mining Engineering at the University of Wollongong.

Hua Guo's current work for the company involves ground stability analysis, ground displacement and stress measurement and monitoring, and ground support and reinforcement. He says he finds the work, 'in the real world', is interesting and challenging. He adds that he greatly benefited from his early research work and strict analytical training, and he also particularly benefited from his three years of PhD work at Wollongong.

Hua Guo has always wanted to contribute to improvements in technology in the mining industry. So his current work, where he initiates improvements in technology, safety and productivity, is a source of great satisfaction to him.

In addition the unique outback environment around Broken Hill constantly fascinates him. Endless land dotted with bush, inland rivers and kangaroos, is, he says, in great contrast with sea, beaches and modern cities.

Hua Guo has wonderful memories of Wollongong, Mount Keira, North Beach and, above all, the University, which has become a part of his life. Wollongong will always be special to him.

While undertaking his doctoral studies, John was a tutor for various student classes and he also worked as an engineering consultant. He obtained his PhD in 1990 with a thesis on the development and use of coal washery refuse for strata control in Australian coal mines. His research work has been commended for its contribution to knowledge of the potential use of waste materials from the mining industry.

John was impressed by the broad mix of backgrounds of the student body and the warm, informal relationships between students and staff at the University of Wollongong. Now employed by Unicon Engineering Consultants, he says: 'The course stimulated me to work to my full capacity. It gave me research skills, knowledge of where to go for information when I need it, and a good base of contacts. I know the knowledge I acquired and the friendships I made have served me and my company very well.'

Masood Falamaki
BSc Shiraz, MSc Manc, PhD

MASSOOD Falamaki completed his first degree in civil engineering at Shiraz University, Iran, in 1976. The following year he completed a Masters degree at the University of Manchester Institute of Science and Technology (UMIST), in Britain, before returning to Iran to work as a lecturer.

Over a period of five years he wrote a book in Persian on the analysis and design of reinforced concrete structures. His lecturing work and research were interrupted by the Iranian Revolution, which forced the closure of Iran's universities for a number of years. Among other temporary jobs during this time Masood was employed as the Secretary of the High Technical Council of the Ministry of Roads and Transportation of Iran.

Masood spent the 1980s in Australia first working on his PhD at the University of Wollongong and subsequently undertaking postdoctoral work in the Department of Civil and Mining Engineering. He says that he had not expected the PhD to be as hard as it was, with a wife and three children to look after as well. When he returned to Iran earlier this year he hoped to resume his work as a lecturer.
Senior academic appointments

The

NEW PROFESSORS

Gary Anido

Professor Gary Anido has taken up his appointment to the new Chair in Telecommunications Engineering within the Department of Electrical and Computer Engineering. He was previously with the research and development laboratories of OTC Ltd. There he was a group manager with specific responsibilities in the high-speed telecommunications area, including network architecture, performance analysis, and development of fast packet switching technologies.

One of the outcomes of his work at OTC has been the establishment of an experimental ATM (asynchronous transfer mode) network which has been successfully field tested over the international satellite network.

Professor Anido has over 15 years' experience in the Australian telecommunications industry. Since 1975 he has been employed by Telecom Australia and OTC and has obtained the Electronics and Communications Certificate (North Sydney Technical College) in 1978, and BE and PhD degrees (University of New South Wales) in 1984 and 1988, respectively. His doctorate was awarded for a thesis entitled Design, Analysis and Implementation of a Fully Distributed Local Area Network for Integrated Voice and Data Communications. A worldwide patent was subsequently granted on this work.

Philip Broadbridge

The new Professor of Applied Mathematics, Philip Broadbridge, at 36 the youngest professor in the University, has first-hand experience of education systems in five states and the ACT. Educated in state schools in north-western Adelaide, he completed a first-class honours degree in the Faculty of Mathematical Sciences at the University of Adelaide in 1975. He then accepted a bonded studentship from the Education Department of Tasmania, completed a DipEd and served as a secondary teacher for two years. His first published mathematical paper was written and submitted from his home address in Tasmania. In 1979, Philip returned to the University of Adelaide and completed the material for his PhD in Mathematical Physics well ahead of three years' full-time enrolment.

In 1982, as a tutor at WAIT (now Curtin University), Philip developed a new course in digital signal processing and lectured in various physics courses. At this time, he admitted to being an applied mathematician and moved to the CSIRO Division of Environmental Mechanics, Canberra, where he worked for four years. His research in porous media led to an interest in industrial mathematical modelling, which he developed further as a senior lecturer in Mathematics at La Trobe University. His published work deals with the application of mathematics to a wide variety of topics.

David Farrier

David Farrier took up his position as Professor of Law in February. He taught previously in Law Schools at the University of New South Wales, the University of Warwick in the UK and (as a visitor) the University of Ahmadu Bello in Nigeria.

He graduated from the London School of Economics in 1969 with first-class honours in Law. He also holds a Diploma in Criminology from the University of Cambridge and an LLM from Columbia University in New York, where he was a Ford Foundation Fellow.

David Farrier's academic interests lie in the fields of Criminal and Resources/Environmental Law. He is especially interested in the role of criminal law in the area of environmental regulation and the implications for criminal law arising from its use in the environmental context. His current field of research, supported by a grant from the Australian Research Council, involves an examination of legal strategies designed to conserve vegetation on private land in the light of pressures from broadacre agricultural land clearing and non-sustainable private forestry.

Senior academic appointments

**Sid Morris**

Professor Morris, who has published more than 100 research publications and two books on mathematics, took up his appointment as Dean of the Faculty of Informatics in May 1991.

His latest book is entitled *Abstract Algebra and Famous Impossibilities*. His most recent paper is on sudden cardiac arrest. Professor Morris won the Mathematical Association of America's Lester R Ford Award for the exposition of mathematics. He also writes articles on information science for popular computer magazines. He is Editor-in-Chief of a series of books published by Cambridge University Press, and an Associate Editor of the largest Australian mathematics journal. He has been a member of the Council of the Australian Mathematical Society for the past 15 years.

Born in Brisbane in 1947, he graduated with honours in Mathematics from the University of Queensland and a year later received a Doctor of Philosophy from Adelaide University. He lectured at the University of Adelaide before spending a year in America as a postdoctoral fellow. Over the next five years he was at the University of New South Wales as a Lecturer and Senior Lecturer. During that time he accepted a United Kingdom Science Research Council Senior Visiting Fellowship at the University of Wales. He then moved to a Readership at La Trobe University where he spent 12 years before moving to the University of New England as Professor of Mathematics and Head of the Department of Mathematics, Statistics and Computing Science. At UNE he served as Deputy Chair of the Academic Senate.

**Fergus O'Brien**

Fergus O'Brien joined the University as Professor of Computer Science towards the end of 1990, and was appointed Head of Department in January 1991. He was educated at the University of Cambridge and Imperial College London, receiving his PhD from the University of London in 1970.

After a period designing guided weapons, Professor O'Brien worked as a computer consultant in the USA, Europe and Scandinavia, culminating in a six-year period with LM Ericsson and associated companies in Stockholm.

At the end of 1976, he moved to Australia and opened the Canberra office for a major Japanese computer supplier, specialising in large-scale networked systems. This was followed by his appointment as Associate Head, School of Computing Sciences, New South Wales Institute of Technology (now the University of Technology, Sydney), with responsibilities for the College's overall computing and network strategies.

Returning to the consulting industry, Professor O'Brien worked on the development of real-time command and control systems in the transportation arena, and on the development of government offset programs. This work led to a continuing research interest in the software engineering aspects of complex systems.

**Tibor G Rozgonyi**

Professor Rozgonyi was appointed as University Professor and Dean of the Faculty of Engineering at the University of Wollongong in July 1990. He gained his academic qualifications in Hungary where he received a BSc in Mathematics and Physics, BE and ME in Mining Engineering and a Doctoral degree in Mining Engineering (Field Instrumentation) from the Technical University of Heavy Industry, Miskolc. He worked at his alma mater for 13 years, which included teaching, research and administration in different capacities. He spent shorter periods as a visiting scientist in Germany, Poland and the Soviet Union, and three years as an academic staff member at the University of Tripoli, Libya.

Tibor Rozgonyi emigrated to the United States where he gained citizenship and spent 14 years at different universities. From 1981 to 1987 he served as Professor in the Department of Petroleum Engineering and later in the Department of Civil Engineering at the Texas A & M University (TAMU). In 1987 he became Director of the Coal and Lignite Research Laboratory of TAMU.

Concurrently with his appointment, he served as a visiting professor at the University of Texas at Austin where he taught graduate subjects in Mining Engineering and Mineral Processing and supervised graduate research at both Universities. He has acted extensively as a consultant in both North America and Europe and is a registered Professional Engineer (US Utah). In the United States he was Chairman of different educational committees of his professional society and, in 1988-90, he served as Chairman of the Educational Council of the SME-AIME.
Teachers – an executive-laden future?

AWOKE recently possessed of an awful feeling. It was the feeling that, like the king in Danny Kaye’s song version of an ancient tale, our great ship Education had been caught ‘in the altogether’. I have been trying to nod approval in the direction had been caught ‘in the altogether’. I have an ancient tale, our great ship Education arrival of a new strain of executive ethos. As such people in reality but the fact that it dubious route of a snatch from a song may indicate goal approach conflict – in this case most likely attributable to the fact that many of my colleagues in Education will think me guilty of a sizeable calumny in what follows. So I had best come straight to the point.

Schooling as a managerial activity

The prevailing perceptions regarding reform of schooling in this country seem to be dominated by – my lips can’t frame the word so it is as well that my fingers can tap it into the computer – Corporatisation.

Executives abound. And warning bells go off in my head whenever I trip over a lot of anything. It seems as if almost everybody involved in the schooling of our children is an executive.

If I were to seek out a collective noun to describe the phenomenon, I would go for a ‘spray’ of executives. There are Senior Executives, Regional Executives, School Executives, Faculty Executives and School Council Executives. For executives, interchange as required, managers and directors. There may or may not be more of such people in reality but the fact that it seems as though there are more signals the arrival of a new strain of executive ethos. As the ‘owner’ of small children my attention is now focused on this issue in a way that mere professional curiosity could not achieve. Don’t get me wrong. Executing, directing and managing are not to be sneezed at, requiring as they do a considerable level of education and training in order to foster acceptable levels of proficiency. In Australia, however, we seem to have adopted the tactic of carpet bombing with executives rather than working carefully through from fundamental questions about enabling and motivating learning (thus clarifying purpose) to organisational questions about delivering quality educational services and environments to the point of contact with learners (thus clarifying support structures related to purpose). More of this later. Sufficient to assert for the moment that many individuals employed in school-level education are effectively forced to see schooling more as a managerial activity than as an educational activity. This has to do with performance indicators that shape their minds to their jobs. Education executives are, of course, not alone in this role enforcement process.

The push from inside the education systems

Long before the recent round of reviews, management consultancies and structural changes in public sector schooling in Australia, there had been recognised a need for political intervention to help public education break open a few of its more intractable problems, prime among which were the appearance and the fact of promotion by seniority as the key to advancement. But there were three problems buried here, not one. The first was the obvious problem, in which promotion substantially determined by seniority persistently stifled the achievement of work-place efficiencies and a genuinely innovative edge to the profession of teaching. The second was that for most of those selected through the old promotion procedures, little or no serious attempt was made to educate and train them properly for executive and management roles. System maintenance was the cornerstone of their roles. We should marvel that many of them did well. The third and, in many ways, the most elusive to deal with was an ingrained or entrenched view, supported by the salary structures, that administration was a substantial step ‘up’ rather than a branching out. This was a critically important part of the troublesome ethos, leading to a relative debasement of real talent at the aforementioned point of contact with learners. It has still not been dealt with properly anywhere in Australia despite recent upheavals, so far as I can judge. The various forms of super-teacher grades should be seen as a start, not as a final, comforting solution.

The push from external forces

It is almost axiomatic in organisations with no profit motive or with an indefinable or multiple goal base, that ease of control and the exigencies of administrative convenience will leapfrog and displace the primary organisational goals. Indeed, the three problems just outlined have often reinforced this goal displacement process in school-level education.

Politicians, along with many others inside and outside the ranks of professional educators, have sensed this to be the case. So, one might expect that if there were to be a single test to apply to any proposed program of change, it would surely be the test of whether marked improvements occurred at the business end – so to speak – with learners and learning. That is, a test involving the primary goals. Is that what we have seen from the latest half-decade of interventions? I think not.

What seems to have happened is this. A spring tide of discontent about stultifying central control, inefficient management practices, lack of public accountability, promotion by seniority, school discipline problems and claims of some quality control problems in teaching has been triggered through the context of a changing business sector ethos. (This is not to discount the importance of international trends in education overseas, nor is it to make light of the well established choruses of complaint within Australia. These factors, however, were only likely to generate incremental change, as we have seen more than that in the field of educational management.) Educational reform is now contemplated differently.

EDUCATION REFORM
SETS ALARM BELLS RINGING
by Ron King
In commerce and industry, market deregulation has served to highlight the need for a management cadre whose orientation is plainly international and opportunistic. Systems management alone, especially as practised in protected and regulated environments, is properly seen as inadequate and inappropriate for the kind of thinking and behaviour that would allow opportunities to be recognised, planned in substance and in accounting terms and then executed at international standards.

The turnaround in industry and commerce is slow enough in coming, the first stage being characterised more by the spectacular business failings of the merger men (they were all men!) who were supported by a re-shaped banking sector, than by a successful new economic machine. That many executives lacked the training and, particularly, the wisdom to manage well in a reconstructed environment is now painfully clear, as bottom-line performance evaluations easily attest. Nevertheless educational reform is now contemplated in similar or parallel terms.

Finding appropriate criteria to judge change

If the new environment in public education should prove as troublesome to Education’s administrative nouveau riche as the business environment did to the merger men, we might not even find out about it for a long time, and then only with the assistance of history. For the ultimate measure of success of management in schools and systems is the performance of the students. This, as I have suggested earlier, is not where a credible performance evaluation is being made. Industry and commerce at least have their more readily countable goods and services in the context of the sometimes elusive bottom line. In Education, although the names of office-holders can be changed very quickly along with the organisational structure, the relevance of those two factors to real children daily facing real teachers may be indirect or marginal.

Problems in performance evaluation of executives in school education are compounded because attendance of students through the whole of primary schooling and more than half of secondary schooling is compulsory. Retention rates can’t help much except in the upper reaches of the secondary school. Even then, general economic conditions seem to be more telling than the drawing power of most system and school executives. There is a risk that performance evaluation of school and system executive behaviour will, of itself, sidetrack the primary goals if it is not well thought out. Performance evaluation within the lifespan of a limited tenure employment contract is likely to fix mainly on things that are readily countable: how many staff consultancies by a Principal, how many school visits by a Cluster Director, how many courses organised by a Curriculum Manager, and so on.

It is true that we have some public testing of cohorts (Years 3 and 5 in NSW Primary Schools for example). But there has been no demonstrated connection between what happens to learners in classrooms and the raft of changes in management ranks.

The claim that the proponents of change in educational administration are proceeding to use the business sector as a model without sufficient thought given to the appropriateness of that model is neither unfair nor trivial; it is of central importance. In New South Wales for example, it is unlikely that the first Education Minister in the Greiner Government, Terry Metherell, could have generated a fraction of the organisational and administrative change that eventuated, in the absence of a context. This context was the creation of the Senior Executive Service to lie parallel to executive structures in the business sector. Limited tenure, remuneration packages and performance evaluation were adopted into public sector terminology across many government departments, boards and authorities. Administration in the Education portfolio was only one of a family of dinosaurs slated for extinction. The story is similar elsewhere in Australia. Yet the parallel with the business sector should have been seen to survive only as a dubious comparison at the level of bottom-line evaluation.

I am reminded of an experience from years gone by. I was commissioned to undertake research for government on the usefulness of migrant education television in Australia and on the effectiveness of language education programs for new arrivals. On the face of it, the key tests should have been about how much of the English language was learnt how well by how many immigrants over what time in the context of which elements of the dominant culture(s). In lay terms, did programs aiming to teach people a second language succeed in doing so? This type of test, however, was not especially wanted and would have been rather more expensive than the budget allowed, so we were asked to find out how people felt about the various programs. Important, but not the stuff of policy (as distinct from political) decisions.

Is something similar happening with school education? Is it transforming from a rather stodgy past to an executive-laden future? Changes in the management of schools and schooling have been introduced, and there ought to be a way of showing the nature, extent and success of the connection between these changes and student learning. It is a responsibility of politicians in government to demonstrate this connection or to say clearly whether they are working only to an agenda of organisational issues not directly connected to student learning.

It is a responsibility of those of us with professional and research interests (not to mention children!) in education to provide a comprehensible means of analysis to judge the direction, efficacy and pace of the changes. We need a framework of questions that are directly relevant to the primary goals of improved student learning and quality teaching. A happiness test of whether we liked the changes and became inured to them and would like to see an increasing amount of educational activity gathered under the ubiquitous brolly of executive behaviour, will not suffice.
THE END OF PROTECTION

by Robert Castle

The author is an Associate Professor and Head of the Department of Economics. His special areas of research are Labour Economics and the History of Economic Thought. He is a former joint editor of Unemployment in the Eighties. A textbook by Professor Castle, entitled Evaluation of Economic Ideas, is to be published soon by the Oxford University Press.

Max Corden began to evaluate the need for excessive protection and suggested reductions in protection for the most highly protected industries. Alf Rattigan, the Chairman of the Tariff Board (designed to advise the Government on protection), also questioned excessive protection and at times recommended reductions. Affected firms and unions protested loudly, but the days of unquestioned protection were at an end.

The Whitlam Government in 1973, confronted with a wages boom and inflation, reduced tariffs across the board by 25 per cent and encouraged the Tariff Board to review tariffs systematically, industry by industry. Rising unemployment forced the abandonment of the twenty-five per cent cut, but the process of industry review accelerated. However, there was more community awareness of the adverse impact of tariffs on consumers and of the failure of most firms set up behind the tariff to ‘grow up’ and become internationally competitive. The Fraser Government tried to encourage the car industry to export by giving manufacturers duty-free imports if they exported from Australia. This led to GMH using Australia as a production centre for engines for its so-called world car project.

The Hawke Government came to power committed to an interventionist industry strategy through the Accord. It recognised that industries with high protection earned high profits, but also that this had not prevented job losses in industries such as textiles and clothing. It sought performance guarantees in areas such as investment, employment and industrial relations in return for increased assistance to the steel, motor vehicle and heavy engineering industries. Yet, despite the clear success of the Steel Plan and some improvement in the performance of the car industry, over the past three years the

We are ... exposing the nation to market forces with few of the support policies needed to cushion the pain.
Hawke Government has moved away from this type of targeted intervention towards free trade.

For the first time in our history, we are reducing protection in a time of rising unemployment and reductions in prices for our traditional rural and mineral exports. Why has the Government done this when excessive imports have weakened the balance of trade and led to high levels of foreign debt?

Tariff protection has been reduced throughout the Western development economies over the past 30 years as a result of negotiations through the General Agreement on Tariffs and Trade (GATT). Average tariffs on industrial products in the EEC and USA are now around five per cent, although there are additional non-tariff barriers against some goods from developing countries and Japan. Free trade within the EEC and between the USA and Canada has increased market size and encouraged specialisation. Foreign trade as a proportion of GDP has increased in nearly all Western countries — Australia is very much the exception in that our openness to trade has remained low and stable over the past 20 years. The spread of modern industry to the newly industrialising Asian countries (Taiwan, Hong Kong, South Korea and Singapore) has led to these countries dominating world production in many items. Their combination of low wages and modern technology has given them a sharp competitive edge and at the same time made many firms in Australia to change from a protected to an export-orientated culture. Australia has one of the highest levels of foreign ownership of its industry in the world. Many foreign firms will simply relocate to factories overseas — Australia’s high costs and distance from major markets will make it unattractive for them to continue here. Many Australian-owned firms are in desperate financial condition following the end of the debt-driven boom of the late eighties. They are unable to borrow to invest and will either sell out to foreign firms or collapse. Major exporters such as BHP will continue to expand in areas where Australia has a comparative advantage, such as mineral processing, but the size and range of Australian manufacturing will contract sharply. There will be some long-term advantages, but the costs will be high.

Many questions the wisdom of moving unilaterally to a level playing field approach when many of the most successful economies internationally are using ‘smart’ forms of new protective policies to target growth industries and manage change in their economies. Active, performance-orientated protection could still play a role in the development of a stronger and more diverse Australian economy; but for the time being we are belatedly exposing the nation to market forces with few of the support policies needed to cushion the pain. Even if we have little choice but to move to a more open economy, we need to think more carefully about ways to manage the change so as to minimise the human and economic costs of becoming a cleverer and more competitive economy.

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Malaysia the Venue for First Overseas Alumni Reception

The first reception for graduates from the University of Wollongong living in Malaysia was held on 24 November 1990 in the Pan Pacific Hotel, Kuala Lumpur. The evening was jointly organised by the Alumni Officer and a Wollongong graduate now living in Kuala Lumpur, Miss Nur Azlin Abdul Manaf, and it was considered a great success.

Over 70 graduates attended, many travelling long distances from areas such as Penang, and even from as far away as Perlis in the north and Johore in the south, both about eleven hours by coach. Several of the graduates brought partners. Together with the special guests, over 100 people were present.

The official guests included a number of high-ranking members of Malaysia’s Ministry of Education and the Dean of the Faculty of Education Studies from the Universiti Pertanian Malaysia. One of the official guests, Mr Sulaiman Abdul Rahman, gave a speech which was supportive of the importance of forming a Wollongong alumni group in Malaysia and he offered his help and encouragement in achieving this aim.

The graduates themselves had a marvellous evening catching up with old friends and they decided there and then to form a group of Wollongong alumni. A second gathering was held in March 1991, this time at Miss Azlin Manaf’s house in Kuala Lumpur, and this was attended by 44 graduates. A committee has now been formed with representatives from all regions of Malaysia. Their third meeting was scheduled for early May.

The Alumni Office warmly congratulates the Malaysian graduates for their continues on page 21
Record number of doctorates at October ceremony

At the October graduation ceremony, 300 students in the faculties of Arts, Commerce, Education, Engineering, Health and Behavioural Sciences, Informatics and Science received degrees and diplomas from the Chancellor, the Hon R M Hope.

The successful development of postgraduate studies and research at the University was seen in the conferral of a record number of 18 doctorates.

Contributions to the University and to the Illawarra by four Italian immigrants, now prominent citizens, were recognised by three fellowships and one Doctor of Science degree. Mr and Mrs Efrem and Giulia Bonacina, first husband-and-wife team to be admitted as Fellows of the University, were awarded their honorary degrees for their promotion of the Italian people in Wollongong, and for their work with the Friends of the University; Mr Franco Belgirno-Nettis, Chairman of Transfield Limited, a distinguished engineer and patron of the arts, received an honorary degree of Doctor of Science for his part in the development of Transfield Limited as a centre of employment; his support of Italian migrants, his role as a member of the Visiting Committee for the Faculty of Engineering and his patronage of the arts; Ferdinando Lelli’s Fellowship was awarded for his achievements as a community leader and for his work, as secretary of the Port Kembla Branch of the Federated Ironworkers’ Association, on behalf of the individual.

Another former immigrant, internationally-acclaimed artist and recently retired lecturer in the School of Creative Arts, Bert Flugelman, was awarded his Fellowship in recognition of his artistic talents and of his efforts to pass on his knowledge and technique.

Mrs Franca Arena, member of the NSW Legislative Council and active campaigner for ethnic groups in Australia, delivered the Occasional Address. Mrs Arena praised Wollongong students for recognising Australia’s need to be an educated country. She declared, ‘We need to continue to obtain and upgrade our skills so that we can be better prepared for the challenges that the next century will bring.’

As noted in the Graduates’ Grapevine (page 12), Wollongong University’s first woman Doctor of Civil and Mining Engineering was among those who graduated. Monica Bufill, who obtained her Masters degree at Imperial College, London, before coming to Wollongong, has an international reputation in civil engineering for her work on problems of urban flooding in Sydney, Melbourne and Canberra.

Alumni Reception

from page 20

initiative and enthusiasm and looks forward to maintaining contact in the future as their alumni group grows.

Juliet Richardson, the Alumni Officer, also extends particularly warm thanks to Miss Azlin Manaf and her friends for the assistance given so willingly in organising the reception last year and in continuing to maintain the momentum of that meeting. She also thanks Miss Sean Hamzah, who is a final-year student in mechanical engineering, for her invaluable help at the Wollongong end.

The Malaysian alumni group may be contacted through the Alumni Office at the University.

Further receptions are planned in the future for other overseas countries, with the next likely venue Hong Kong. Alumni interested in assisting with the organisation of a reception in their home countries are invited to contact the Alumni Officer.

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TROPICAL WETLANDS INVADED

THE extensive freshwater wetlands of the Top End and their prolific wildlife have been threatened by a series of invasions. First, feral animals, such as buffalo introduced from Southeast Asia, invaded and devastated the wetlands; secondly, exotic weeds, such as Mimosa pigra and Salvinia molesta, invaded floodplains and choked waterways. More recently, salt water has invaded these fragile areas causing extensive die-back, tidal creek extension and the spread of mangroves.

The Quaternary Environmental Change Research Program has a very active research strategy investigating the plains of the Mary River, 200 km east of Darwin, in collaboration with and funded by the Conservation Commission of the Northern Territory.

Dr Monica Mulrennan, from Ireland, has just completed a postdoctoral fellowship with the Department of Geography where she has been involved in coastal and estuarine research on the Mary River and associated wetlands for the past year. The Irish recipient for 1990 of the Australian European Awards Program, she selected the Department of Geography at the University of Wollongong as the host institution for her studies so that she could work with Dr Colin Woodroffe, who has an international reputation for his research work in tropical estuarine environments.

Dr Mulrennan has spent several months in the Northern Territory carrying out a major drilling program, involving continuous coring of the lower alluvial and estuarine plains of the Mary River. Stratigraphic and radiometric analysis of these data is beginning to unravel the sedimentary history and changes in the extent of mangrove and wetland habitats of the plains over the last 8000 years. Pollen analysis and radiocarbon dating indicate a widespread mangrove swamp phase throughout the lower Mary River around 6000 years ago. Mangroves disappeared from the plains around 4000 years ago and were replaced by meandering tidal channels and grass and sedge covered floodplains. Freshwater plains are presently reverting to the estuarine conditions that existed in the past.

Over the past 50 years there has been dramatic extension of tidal creeks and consequent intrusion of salt water into many of the low-lying freshwater wetlands of the Mary River plains; 10,000 ha. of paperbark have already suffered die-back. The cause of these changes is difficult to isolate and the research team is examining the evidence for sea-level rise or increase of tidal range, or some independent mechanism of tidal channel initiation such as saline invasion via buffalo swim channels.
University hosts ANZAAS Conference

An inaugural regional ANZAAS conference, held over two days, was hosted by the University in February. The meeting was also unique in being the first ANZAAS conference to focus on the research interests of a particular university.

The first day was directed at members of the public, academics and other staff of the University, while the second was intended for school students. A group of 220 students from Canberra, Goulburn and the Wollongong area (mainly from the private secondary sector) visited the campus to hear lectures about state-of-the-art scientific research by some of the University's most prominent and dynamic academics.

Professor Howard Womer, an eminent researcher who, in his retirement, heads the Microwave Applications Research Centre, was largely responsible for attracting the conference to the University.

The Executive Director of ANZAAS, Dr Dan O'Connor, said the two days were a feast of science and technology that provided staff, students and members of the public with very comprehensive information about a variety of research interests at the University. Some of the papers from the conference are available. These include:

- Building Options in an Uncertain World - Australia's Research Policy in the 1990s, Professor Stephen Hill, Director, National Centre for Research Policy; Health Implications of the Greenhouse Effect, Professor Christine Ewan, Dean, Faculty of Health and Behavioural Sciences; Ignored Opportunities Beneath Our Feet, Mr Paul Howlett, General Manager, Resources Division, Illawarra Technology Corporation; From Thick Skies to Thinking Plastics, Professor Gordon Wallace, Department of Chemistry; The Interactive Science Centre at Wollongong - The Explainer Program, Mr Glen Moore, Director, Science Centre.

Copies of these papers may be obtained from Planning and Marketing Branch at the University. A full list of all the papers presented at the Illawarra Innovations conference appears on the reverse of the address sheet which accompanies all mailed copies of Wollongong Outlook. In most cases an abstract only is available.

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